UIC Graduate Catalog 2012–2014

The University
Graduate Study
Degree Programs
Colleges & Schools
Course Descriptions
Graduate College
Links

Important Note: This is the archived version of the 2012–2014 Graduate Catalog. The information on these pages was archived on August 22, 2012 and will not be updated as requirement and/or program changes are approved.

The archived online catalog is a record of the 2012–2014 academic years. It is for informational purposes only and does not constitute a contract. Faculty assignments and programs listed are subject to change, and individual departments and units should be consulted for further information. Courses are not necessarily offered each term or each year. Individual departments or units should be consulted for information regarding regularity of course offerings.

The archived online catalog includes a comprehensive list of Degree Programs and Minors by college.

The archived versions of the *UIC Graduate Catalog 2010-2012*, *2008-2010 Graduate Catalog (PDF)*, *2006-2008 Graduate Catalog (PDF)*, and Archive of previous catalogs (PDFs) are available by clicking 'Links' above on the right.

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The online catalog is updated as degree programs, courses, and requirements change.

How to Use the Online Catalog

This is the the University of Illinois at Chicago *2012–2014 Graduate Catalo*g. The online catalog is an academic planning tool for graduate students. The online catalog is divided into six major sections:

- The University
- Graduate Study
- Degree Programs
- Colleges and Schools
- Links
- Course Descriptions

Each section of the online catalog provides information necessary for the academic planning process. A brief description of each section is provided below.

The University

The University section provides an overview of the University of Illinois at Chicago.

Graduate Study

The Graduate Study section outlines admissions, application, degree requirement, and university information pertinent to all Graduate College students. This section also contains a list of graduate faculty.

Degree Programs

The Degree Programs section lists all graduate and professional degree programs and certificate programs available at UIC. It also provides a list of program updates and changes.

Colleges and Schools

The Colleges and Schools section describes graduate degree programs and their requirements in detail. Students use this section of the catalog to ensure that they understand and meet all requirements for their degree program.

Links

The Links section lists additional documents and Web sites that are useful in the academic planning process.

Course Descriptions

The Course Descriptions section lists all the graduate courses at UIC. The course descriptions are arranged alphabetically by subject area. Each course description includes a rubric (subject area abbreviation), course number, course title, semester hours, prerequisites (if any), and course content. A list of rubrics may be found at the beginning of the Course Descriptions section.

The online catalog includes all courses at UIC. However, not all courses are offered during a given semester. Students will find current course offerings in the *Schedule of Classes*, which is published online https://ossswebcs.admin.uillinois.edu/PORTAL_UIC/classsch.html before registration begins.

2012–2014 Graduate Catalog
Published by:
Office of Academic and Enrollment Services (MC 158)
University of Illinois at Chicago
1200 West Harrison Street
Chicago, Illinois 60607

Nondiscrimination Statement. The commitment of the University of Illinois to the most fundamental principles of academic freedom, equality of opportunity, and human dignity requires that decisions involving students and employees be based on individual merit and be free from invidious discrimination in all its forms.

The University of Illinois will not engage in discrimination or harassment against any person because of race, color, religion, sex, national origin, ancestry, age, marital status, disability, sexual orientation including gender identity, unfavorable discharge from the military or status as a protected veteran and will comply with all federal and state nondiscrimination, equal opportunity and affirmative action laws, orders, and regulations. The nondiscrimination policy applies to admissions, employment, access to and treatment in the University programs and activities.

University complaint and grievance procedures provide employees and students with the means for the resolution of complaints that allege a violation of this Statement. Members of the public should direct their inquiries or complaints to the appropriate equal opportunity office.
Policy Council

Revised May 31, 2005

Chancellor's Statement of Commitment to Persons with Disabilities. Guided by the belief that people with disabilities are assets to the University, UIC is committed to full inclusion and participation of people with disabilities in all aspects of University life. We seek to provide an academic, social, and physical environment that makes disabled people integral to the diversity of perspectives that is vital to an academic community.

UIC supports the principles of universally accessible design, alternative communication formats, and the expression of disability community and pride. At all levels of the University, UIC promotes equal opportunity, fair treatment, and the elimination of barriers for qualified individuals with disabilities.

Office for Access and Equity. For additional information or assistance with the equal opportunity, affirmative action, and harassment policies and procedures of the University of Illinois at Chicago, please contact:
Office for Access and Equity
Title IX, ADA, and 504 Coordinator
717 Marshfield Building (MC 602)
809 South Marshfield Avenue
Chicago, Illinois 60612-7207
http://www.uic.edu/depts/oae
(312) 996-8670

Public Formal Grievance Procedures
University of Illinois at Chicago

I. Introduction
These procedures have been implemented to address complaints of discrimination on the basis of age and/or disability in any activity, policy, rule, standard, or method of administration that is related to the operation of University's programs.

II. Eligibility
These procedures may be used by any member of the public who alleges age (Under the Age Discrimination Act) or disability (Under Title II of the Americans with Disabilities Act) discrimination on the basis of class. However, anyone who wishes to challenge a decision made about them by an agent of the University of Illinois at Chicago (UIC) in the course of their employment or enrollment at UIC must utilize the UIC Academic Grievance Procedures.

III. Definitions
A. Grievance: A written statement submitted by a Grievant identifying the activity, policy, rule, standard or method of administration he/she claims to be discriminatory on the basis of age and/or disability and explaining the manner in which that activity, policy, rule, standard or method of administration discriminates. All Grievances must be signed by the Grievant and must outline the Grievant's allegations in as much detail as possible.
B. Grievant: Any member of the public who submits a Grievance.
C. Grievance Officer: The assigned investigator of the UIC Office for Access and Equity can be contacted at the address below:
Office for Access and Equity (MC 602)
809 South Marshfield Avenue, Room 718
Chicago, IL 60612-7207
(312) 996-8670 Fax (312) 413-0055
http://www.uic.edu/depts/oae
D. Appeals Officer: The Associate Chancellor for Access and Equity or

UIC Graduate Catalog | The University

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- Academic Calendar
- Welcome to UIC
- The Graduate Student's Guide to UIC
- Campus Maps
- Travel Directions and Visitor Parking

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Academic Calendar 2012–2014 with Graduate College Dates

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Fall Semester 2012

Spring Semester 2013

Summer Session 2013

- Summer Session 1 (4-Week Session)
- Summer Session 2 (8-Week Session)

Fall Semester 2013

Spring Semester 2014

Summer Session 2014

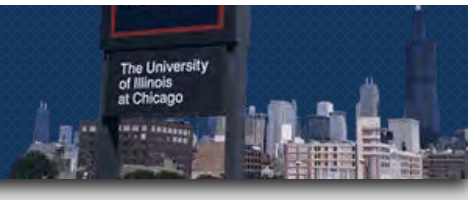
- Summer Session 1 (4-Week Session)
- Summer Session 2 (8-Week Session)

Fall Semester 2012	
August 27, M	Instruction begins.
September 3, M	Labor Day holiday. No classes.
September 7, F	Last day to complete late registration; last day to add a course(s) or make section changes; last day to drop individual courses via Student Self-Service without receiving W (Withdrawn) grade on academic record. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees.
September 12, W	Deadline to submit CampusCare waiver forms.
September 14, F	Last day to file for graduation this term.
November 2, F	Last day to submit approved thesis/dissertation to Graduate College for graduation this term.
November 22–23, Th–F	Thanksgiving holiday. No classes.
December 7, F	Instruction ends.
December 10–14, M–F	Final examinations.
December 14, F	Last day for Graduate College to receive certificates of approval for master's and professional doctorate projects for graduation this term.
Spring Semester 2013	
January 14, M	Instruction begins.
January 21, M	Martin Luther King, Jr., Day. No classes.
January 25, F	Last day to complete late registration; last day to add a course(s) or make section changes; last day to drop individual courses via Student Self-Service without receiving W (Withdrawn) grade on academic record. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees.

February 1, F	Last day to file for graduation this term.
March 22, F	Last day to submit approved thesis/dissertation to Graduate College for graduation this term.
March 25–29, M–F	Spring vacation. No classes.
May 3, F	Instruction ends.
May 6–10, M–F	Final examinations.
May 10, F	Last day for Graduate College to receive certificates of approval for master's and professional doctorate projects for graduation this term.
May 9–12, Th–Su	Commencement ceremonies by disciplinary college.
Summer Session 2013	
Summer Session 1 (4-Week Session)	
May 20, M	Instruction begins.
May 22, W	Last day to complete late registration for Summer Session 1; last day to drop or add a course(s) online or make section changes for Summer Session 1; last day to drop individual courses via Student Self-Service without receiving W (Withdrawn) grade on academic record for Summer Session 1. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees.
May 27, M	Memorial Day holiday. No classes.
June 13, Th	Instruction ends for Summer Session 1.
June 14, F	Final examinations for Summer Session 1.
Summer Session 2 (8-Week Session)	
June 17, M	Instruction begins.
June 21, F	Last day to complete late registration for Summer Session 2; last day to drop or add a course(s) online or make section changes for Summer Session 2; last day to drop individual Summer Session 2 courses via Student Self-Service without receiving W (Withdrawn) grade on academic record. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees if registered only for Summer Session 2.
June 28, F	Last day to file for graduation this term.
July 4, Th	Independence Day holiday. No classes.
July 26, F	Last day to submit approved thesis/dissertation to Graduate College for graduation this term.
August 7, W	Instruction ends for Summer Session 2.
August 8–9, Th–F	Final examinations for Summer Session 2.
August 9, F	Last day for Graduate College to receive certificates of approval for master's and professional doctorate projects for graduation this term.
Fall Semester 2013	
August 26, M	Instruction begins.
September 2, M	Labor Day holiday. No classes.
September 6, F	Last day to complete late registration; last day to add a course(s) or make section changes; last day to drop individual courses without receiving W (Withdrawn) grade on academic record via Student Self-Service. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees.
Semptember 13, F	Last day to file for graduation this term.
November 1, F	Last day to submit approved thesis/dissertation to Graduate College for graduation this term.
November 28–29, Th–F	Thanksgiving holiday. No classes.
December 6, F	Instruction ends.
December 9–13, M–F	Final examinations.

December 13, F	Last day for Graduate College to receive certificates of approval for master's and professional doctorate projects for graduation this term.
Spring Semester 2014	
January 13, M	Instruction begins.
January 20, M	Martin Luther King, Jr., Day. No classes.
January 24, F	Last day to complete late registration; last day to add a course(s) or make section changes; last day to drop individual courses without receiving W (Withdrawn) grade on academic record via Student Self-Service. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees.
January 31, F	Last day to file for graduation this term.
March 21, F	Last day to submit approved thesis/dissertation to Graduate College for graduation this term.
March 24–28, M–F	Spring vacation. No classes.
May 2, F	Instruction ends.
May 5–9, M–F	Final examinations.
May 9, F	Last day for Graduate College to receive certificates of approval for master's and professional doctorate projects for graduation this term.
May 8–11, Th–Su	Commencement ceremonies by disciplinary college.
Summer Session 2014	
Summer Session 1 (4-Week Session)	
May 19, M	Instruction begins.
May 21, W	Last day to complete late registration for Summer Session 1; last day to drop or add a course(s) online or make section changes for Summer Session 1; last day to drop individual Summer Session 1 courses via Student Self-Service without receiving W (Withdrawn) grade on academic record. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees.
May 26, M	Memorial Day holiday. No classes.
June 12, Th	Instruction ends for Summer Session 1.
June 13, F	Final examinations for Summer Session 1.
Summer Session 2 (8-Week Session)	
June 16, M	Instruction begins.
June 20 , F	Last day to complete late registration for Summer Session 2; last day to drop or add a course(s) online or make section changes for Summer Session 2; last day to drop individual Summer Session 2 courses via Student Self-Service without receiving W (Withdrawn) grade on academic record. Last day to submit Withdraw from Term request via Student Self-Service and receive 100% cancellation of tuition and fees if registered only in Summer Session 2.
June 27, F	Last day to file for graduation this term.
July 4, F	Independence Day holiday. No classes.
July 25, F	Last day to submit approved thesis/dissertation to Graduate College for graduation this term.
August 6, W	Instruction ends for Summer Session 2.
August 7–8, Th–F	Final examinations for Summer Session 2.
August 8, F	Last day for Graduate College to receive certificates of approval for master's and professional doctorate projects for graduation this term.

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The University

Mission

UIC provides the broadest access to the highest levels of intellectual excellence. UIC's mission is:

- To create knowledge that transforms our views of the world and, through sharing and application, transforms the world.
- To provide a wide range of students with the educational opportunity only a leading research university can offer.
- To address the challenges and opportunities facing not only Chicago but all Great Cities of the 21st century, as expressed by our Great Cities Commitment.
- To foster scholarship and practices that reflects and responds to the increasing diversity of the U.S. in a rapidly globalizing world.
- To train professionals in a wide range of public service disciplines, serving Illinois as the principal educator of health science professionals and as a major healthcare provider to underserved communities.

History and Overview

The University of Illinois at Chicago is the largest institution of higher education in the Chicago area with 26,000 undergraduate, graduate, and professional students. Through its 15 colleges and professional schools, UIC offers 75 undergraduate, 85 master's, and 61 doctoral programs in architecture, art, applied health sciences, business administration, dentistry, education, engineering, humanities, mathematics, medicine, movement sciences, nursing, performing arts, pharmacy, public administration, public health, sciences, social sciences, social work, and urban planning. The University's programs are enhanced by a variety of research centers and institutes that cover areas such as community improvement, developmental disabilities, energy, gerontology, robotics, urban economic development, and urban transportation. UIC consistently ranks among the top 50 out of more than 637 national universities in federal research funding.

In 1946, an undergraduate division of the University of Illinois was established at Navy Pier. This facility, renamed the University of Illinois at Chicago Circle, moved to its present location in 1965, when it opened its doors as a four-year university. By 1982, it had grown to include eight academic colleges offering degree programs at both the undergraduate and graduate levels.

The University of Illinois at Chicago was formed by the consolidation, in the fall of 1982, of the two Chicago campuses (formerly known as the University of Illinois at the Medical Center and the University of Illinois at Chicago Circle) into a single institution of higher learning. The University's facilities for medical instruction date back to 1894, when the Chicago College of Pharmacy became the School of Pharmacy of the University of Illinois. In 1897, the independent College of Physicians and Surgeons of Chicago became the ''Department of Medicine'' of the University; in 1901, the Columbian Dental College became the University

School of Dentistry; and in 1925 the University Hospital opened. Programs in nursing education under University auspices began in the 1940s, becoming the School of Nursing in 1951 and, in 1959, the College of Nursing. Other health sciences units of the University of Illinois at Chicago include the College of Applied Health Sciences, the School of Public Health, and over 50 clinics and research facilities. A new $60 million University of Illinois Hospital was completed in 1981.

To learn about UIC's leadership and role as one of three campuses of the University of Illinois, please consult the following Web pages: Chancellor and Leadership http://www.uic.edu/uic/about/leadership/index.shtml and the University of Illinois Web site http://www.uillinois.edu/.

Accreditation

The University of Illinois at Chicago is accredited by the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools (NCA), 230 South LaSalle Street, Suite 7-500, Chicago, Illinois 60604-1413, (312) 263-0456, (800) 621-7440, http://www.higherlearningcommission.org. The Higher Learning Commission is recognized by the U.S. Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA). In 2007, HLC voted to continue accreditation of UIC for the maximum period of 10 years. The next comprehensive evaluation of UIC is scheduled for 2016–2017. Verification of accreditation status is available in the Office of the Chancellor (312) 413-3350.

The graduate academic degree programs described in this catalog have been approved by the Illinois Board of Higher Education, 431 East Adams, Second Floor, Springfield, Illinois 62701-1404, (217) 782-2551, (888) 261-2881 (TTY).

In addition to institutional accreditation, certain individual programs are accredited by the following organizations:

College of Applied Health Sciences

Biomedical Visualization (MS)
Commission on the Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
(727) 210-2350
http://www.caahep.org/

Health Informatics (MS)
Commission on Accreditation for Health Informatics and Information Management (CAHIIM)
233 North Michigan Avenue, 21st Floor
Chicago, IL 60601-5800
E-mail: info@cahiim.org
http://www.cahiim.org/

Human Nutrition – Coordinated Program (MS)
Accreditation Council for Education in Nutrition and Dietetics (formerly: Commission on Accreditation for Dietetics Education)
American Dietetic Association
120 South Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
(800) 877-1600
(312) 899-0400
http://www.eatright.org/ACEND/

Occupational Therapy—Professional (MS)
Accreditation Council for Occupational Therapy (ACOTE)

The American Occupational Therapy Association, Inc.
4720 Montgomery Lane
PO Box 31220
Bethesda, MD 20824-1220
(301) 652-2682
(800) 377-8555 (TDD)
http://www.aota.org/

Doctor of Physical Therapy Program is accredited by
Commission on Accreditation in Physical Therapy Education (CAPTE)
1111 North Fairfax Street
Alexandria, VA 22314-1488
(703) 706-3245
E-mail: accreditation@apta.org
http://www.capteonline.org/

College of Architecture and the Arts

Architecture (MArch)
National Architectural Accrediting Board (NAAB)
1735 New York Avenue NW
Washington, DC 20006
(202) 783-2007
E-mail: info@naab.org
http://www.naab.org/

Graphic Design (MFA)
Industrial Design (MFA)
National Association of Schools of Art and Design (NASAD)
11250 Roger Bacon Drive, Suite 21
Reston, VA 20190-52448
(703) 437-0700
E-mail: info@arts-accredit.org
http://nasad.arts-accredit.org/

College of Business Administration

Accounting (MS)
Business Administration (MBA)
Business Administration (PhD)
Management Information Systems (MS)
Management Information Systems (PhD)
Real Estate (MA)
AACSB International—The Association to Advance Collegiate Schools of Business (AACSB)
777 South Harbour Island Boulevard, Suite 750
Tampa, FL 33602
(813) 769-6500
http://www.aacsb.edu/

College of Dentistry

Dental Medicine (DMD) (formerly: Dental Surgery (DDS))
Commission on Dental Association (CODA)
American Dental Association
211 East Chicago Avenue, Suite 1900
Chicago, IL 60611-2678
(312) 440-4653
Email: accreditation@ada.org
http://www.ada.org/

College of Education

Education-Urban Education Leadership (EdD)
Instructional Leadership (MEd)
Special Education (MEd)
Illinois State Board of Education (ISBE)
100 North 1st Street
Springfield, IL 62777
(866) 262-6663
(217) 782-4321
http://www.isbe.state.il.us/
Note: The ISBE approves programs for certification.

College of Liberal Arts and Sciences

Psychology (PhD)
American Psychological Association
750 First Street NE
Washington, DC 20002-4242
(800) 374-2721
(202) 336-5500
(202) 336-6123 (TDD/TTY)
http://www.apa.org/

College of Medicine

Medicine (MD)
Liaison Committee on Medical Education (LCME), sponsored by the Association of American Medical Colleges and the American Medical Association
Association of American Medical Colleges
2450 N Street NW
Washington, DC 20037
(202) 828-0596
And
American Medical Association
515 North State Street
Chicago, IL 60654
(312) 464-4933
http://www.lcme.org/

College of Nursing

Nursing Science (MS)
Nursing Practice (DNP)
Commission on Collegiate Nursing Education (CCNE)
American Association of Colleges of Nursing
One Dupont Circle NW, Suite 530
Washington, DC 20036
(202) 463-6930
http://www.aacn.nche.edu/accreditation/

College of Pharmacy

Pharmacy (PharmD: Doctor of Pharmacy)
Accreditation Council for Pharmacy Education (ACPE)
135 South LaSalle Street, Suite 4100
Chicago, IL 60603-4810

(312) 664-3575
http://www.acpe-accredit.org/

School of Public Health (SPH)

Public Health (DrPH)
Public Health (MPH)
Public Health (MS)
Public Health (PhD)
Public Health (MS-MD)
Healthcare Administration (MHA)
The Council on Education for Public Health (CEPH)
800 Eye Street, NW, Suite 202
Washington, DC 20001-3710
(202) 789-1050
http://www.ceph.org/

Public Health—Industrial Hygiene (MS, MPH)
Accreditation Board for Engineering and Technology, Inc.
111 Market Place, Suite 1050
Baltimore, MD 21202-4012
(410) 347-7700
http://www.abet.org/

Jane Addams College of Social Work

Master of Social Work (MSW)
Council on Social Work Education (CSWE)
1701 Duke Street, Suite 200
Alexandria, VA 22314
(703) 683-8080
E-mail: info@cswe.org
http://www.cswe.org/CSWE/

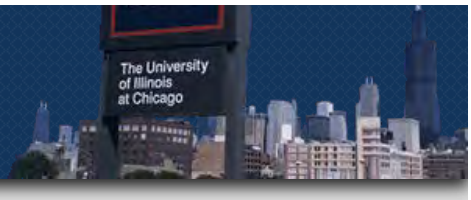
College of Urban Planning and Public Affairs

Public Administration (MPA)
National Association of Schools of Public Affairs and Administration (NASPAA)
1029 Vermont Avenue NW, Suite 1100
Washington, DC 20005-3517
(202) 628-8965
http://www.naspaa.org/

Urban Planning and Policy (MUPP)
Planning Accreditation Board (PAB)
53 West Jackson Boulevard, Suite 1315
Chicago, IL 60603
(312) 662-1440
http://www.planningaccreditationboard.org/

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Resources and Services

UIC Home Page

http://www.uic.edu

Academic Center for Excellence (ACE)

2900 Student Services Building
(312) 413-0031
http://www.uic.edu/depts/ace/

Admissions, Office of

1100 Student Services Building
(312) 996-4350
http://www.uic.edu/depts/oar/

African American Academic Network

2800 Student Services Building
(312) 996-5040
http://www.uic.edu/depts/aaan/index.shtml

African American Cultural Center

209 Addams Hall
(312) 996-9549
http://www.uic.edu/depts/aacc/

Applied Health Sciences, College of

169 College of Medicine East Tower
(312) 996-2079
http://www.ahs.uic.edu/

Architecture and the Arts, College of

303 Jefferson Hall
(312) 996-3351
http://www.aa.uic.edu/

Asian American Resource and Cultural Center

101 Taft Hall
(312) 413-9569
http://www.uic.edu/depts/aarcc/

Athletics

Intercollegiate Athletics
240 Flames Athletic Center
(312) 996-4639
http://www.uicflames.com

Bookstores

UIC Bookstore
Student Center East
(312) 413-5500
http://www.uicbookstore.org

UIC Medical Bookstore
Student Center West
(312) 413-5550
http://uicmedbooks.mybooksandmore.com

Bursar's Office

See *Student Financial Services and Cashier Operations*

Business Administration, College of

1118 University Hall
(312) 996-2700
http://www.uic.edu/cba/

Business, Liautaud Graduate School of

110 Douglas Hall
(312) 996-4573
http://www.uic.edu/cba/lgsb/index.html

Campus Advocacy Network

802 University Hall
(312) 413-8206
http://www.uic.edu/depts/owa/advocacy.html

***CampusCare* Student Health Benefit Program**

Clinical Sciences North, Suite W310
(312) 996-4915
http://www.uic.edu/hsc/campuscare/

Career Services, Office of

3050 Student Services Building
(312) 996-2300
http://careers.ocs.uic.edu

Child Care

Children's Center
116 Applied Health Sciences Building
(312) 413-5330
http://www.uic.edu/depts/children/

Commuter Student Resource Center
Student Center East, Room 245
(312) 996-4500
http://www.uic.edu/depts/sldvs/commuter_pages/sldvs_csrc.html

Computing

Academic Computing and Communications Center (ACCC)
2267 Science and Engineering Laboratories
(312) 413-0003
consult@uic.edu
http://www.accc.uic.edu

Counseling Center

2010 Student Services Building
(312) 996-3490
http://www.counseling.uic.edu/

Dean of Students

3030 Student Services Building
(312) 996-4857
http://deanofstudents.uic.edu

Dentistry, College of

102 College of Dentistry
(312) 996-7555
http://dentistry.uic.edu/

Disability Resource Center

1190 Student Services Building
(312) 413-2183 (Voice)
(312) 957-4822 (Video Phone)
http://www.uic.edu/depts/oaa/disability_resources/index.html

Education, College of

3004 Education, Performing Arts, and Social Work
(312) 996-5641
http://education.uic.edu/

Engineering, College of

123 Science and Engineering Offices
(312) 996-2400
http://engineering.uic.edu

Financial Aid Office

1800 Student Services Building
(312) 996-3126

http://www.uic.edu/depts/financialaid/

Financial Services

See *Student Financial Services and Cashier Operations*

Gender and Sexuality Center

1180 Behavioral Sciences Building
(312) 413-8619
http://www.gsc.uic.edu

Graduate College

606 University Hall
(312) 413-2550
http://grad.uic.edu/

Graduate Student Council

Student Center East, Room 380K
(312) 355-5102
http://www2.uic.edu/stud_orgs/gsc/

Health Insurance

See *CampusCare Student Health Benefit Program*.

Health Services

Student Health at the Family Medicine Center

Outpatient Care Center
1801 West Taylor Street, Suite 4E
(312) 996-2901
http://chicago.medicine.uic.edu/departments___programs/departments/fammed/

University Village
722 West Maxwell Street, 2nd Floor
(312) 996-2901
http://chicago.medicine.uic.edu/departments___programs/departments/fammed/

Campus Housing Office

220 Student Residence Hall Building
(312) 355-6300
http://www.vcsa.uic.edu/MainSite/departments/campus_housing/home/

ID Center

ID Center-East
1790 Student Services Building
(312) 413-5940
http://www.uic.edu/depts/idcenter

ID Center-West
241 UIC Student Center West
(312) 413-5944
http://www.uic.edu/depts/idcenter

International Services, Office of

2160 Student Services Building
(312) 996-3121
http://www.ois.uic.edu/

Latino American Recruitment and Educational Services

2640 Student Services Building
(312) 996-3356
http://www.lares.uic.edu

Latino Cultural Center

Rafael Cintrón-Ortiz Latino Cultural Center
Lecture Center B2
(312) 996-3095
http://www.uic.edu/depts/lcc/

Liberal Arts and Sciences, College of

409 University Hall
(312) 413-2500
http://www.uic.edu/las/index.html/

Libraries

Richard J. Daley (Main) Library
Circulation desk: (312) 996-2724
Reference desk: (312) 996-2726
http://library.uic.edu/daley

Library of the Health Sciences
Circulation desk: (312) 996-8966
Reference desk: (312) 996-9163
http://library.uic.edu/lhs-chicago

Medicine, College of

131 College of Medicine West
(312) 996-3500
http://chicago.medicine.uic.edu/

Native American Support Program

2700 Student Services Building
(312) 996-4515
http://www.uic.edu/depts/nasp/

Newspapers

UIC News
1320 University Hall
(312) 996-7758
http://www.uic.edu/htbin/cgiwrap/bin/uicnews/index.cgi

Nursing, College of

102 College of Nursing
(312) 996-7800
http://www.uic.edu/nursing/

Parking Administration

122 Wood Street Parking Structure
(312) 413-5800
http://www.uic.edu/depts/avcad/parking/

Customer Service—East
2620 Student Services Building
(312) 413-9020
http://www.uic.edu/depts/avcad/parking/

Customer Service—West
Student Center West, Room B5W
(312) 413-5850
http://www.uic.edu/depts/avcad/parking/

Pharmacy, College of

145 College of Pharmacy
(312) 996-7240
http://www.uic.edu/pharmacy/

Photo ID

See ID Center

Protection of Research Subjects, Office for the

203 Administrative Office Building
(312) 996-1711
http://tigger.uic.edu/depts/ovcr/research/protocolreview/

Public Health, School of

1168 School of Public Health and Psychiatric Institute
(312) 996-6620
http://www.uic.edu/sph/

Recreation

Sport and Fitness Center
(the west side of campus)
(312) 413-5260
http://www.uic.edu/depts/recreation/facilities_sfc.shtml

Student Recreation Facility
(the east side of campus)
(312) 413-5150
http://www.uic.edu/depts/recreation/facilities_srf.shtml

Registrar's Office

Office of the Registrar
1200 Student Services Building
(312) 996-4350
http://www.uic.edu/depts/oar/

Research Services, Office of

304 Administrative Office Building
(312) 996-2862
http://tigger.uic.edu/depts/ovcr/research/proposals/

Social Work, Jane Addams College of

4145 Education, Performing Arts, and Social Work
(312) 996-7096
http://www.uic.edu/jaddams/college/

Student Affairs, Vice Chancellor for

3010 Student Services Building
(312) 996-7140
http://www.vcsa.uic.edu/

Student Centers

Student Center East
(312) 413-5112
http://www.uic.edu/depts/studentcenters/

Student Center West
(312) 413-5112
http://www.uic.edu/depts/studentcenters/

Student Development Services

1600 Student Services Building
(312) 996-3100
http://www.uic.edu/depts/sds/

Student Financial Services and Cashier Operations

1900 Student Services Building
(312) 996-8574
http://www.usfsco.uillinois.edu/

Student Health Insurance

See *CampusCare Student Health Benefit Program*.

Technology Management, Office of

446 College of Medicine West Tower
(312) 996-7018
http://www.otm.uic.edu/

Testing Services, Office of

1070 Student Services Building
(312) 996-0919
http://www.uic.edu/depts/counselctr/testing/OTSHome.htm

Urban Health Program

Administrative Office
173 College of Medicine East Tower
(312) 996-7727
http://www.uic.edu/depts/uhealth/

Urban Planning and Public Affairs, College of

115 College of Urban Planning and Public Affairs Hall
(312) 413-8088
http://www.uic.edu/cuppa/

Women's Leadership and Resource Center

802 University Hall
(312) 413-1025
http://www.uic.edu/depts/owa/

Veterans Affairs

Student Veteran Affairs
3030 Student Services Building
(312) 996-4857
http://www.uic.edu/depts/dos/veteranaffairs.html

Vice Chancellor for Research, Office of

310 Administrative Office Building
(312) 996-4995
http://tigger.uic.edu/depts/ovcr/research/

List and links to UIC Research Centers and Institutes:
http://tigger.uic.edu/depts/ovcr/research/centers.shtml

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Graduate Faculty

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Find Faculty by College

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- College of Nursing
- College of Pharmacy
- School of Public Health
- Jane Addams College of Social Work
- College of Urban Planning and Public Affairs

College of Applied Health Sciences

Biomedical and Health Information Sciences	
Daugherty, John M.	MS, University of Michigan
Dieter, Michael	PhD, University of Illinois at Chicago/Dominican University
Pawola, Larry	PharmD, Shenandoah University of Virginia
Valenta, Annette L.	DrPH, University of Illinois at Chicago
Wencel-Drake, June D.	PhD, University of Illinois at Chicago
Disability and Human Development	
Balcazar, Fabricio E.	PhD, University of Kansas
Davis, Lennard	PhD, Columbia University
Fujiura, Glenn T.	PhD, University of Illinois at Urbana-Champaign
Gill, Carol J.	PhD, University of Illinois at Chicago
Heller, Tamar	PhD, University of Illinois at Chicago
Parker, Sarah	PhD, University of Sydney
Politano, Patricia	PhD, University of Illinois at Chicago
Rowland, Jennifer	PhD, University of Kansas
Sandahl, Carrie	PhD, University of Wisconsin-Madison
Sufian, Sandra M.	PhD, New York University
Kinesiology and Nutrition	
Baynard, Tracy	PhD, Syracuse University
Braunschweig, Carol Arbron	PhD, University of Michigan

Corcos, Daniel M.	PhD, University of Oregon
Fantuzzi, Giamila	PhD, Universitá degli Studi di Milano (Italy)
Fernhall, Bo M.	PhD, Arizona State University
Grabiner, Mark D.	PhD, University of Illinois at Urbana-Champaign
Hasan, Ziaul	PhD, Massachusetts Institute of Technology
Haus, Jacob M.	PhD, Ball State University
Horgan, James S.	PhD, University of Iowa
Koh, Timothy J.	PhD, University of Calgary
Marquez, David X.	PhD, University of Illinois at Urbana-Champaign
Odoms-Young, Angela M.	PhD, Cornell University
Song, Zhenyuan	PhD, University of Arkansas
Tate, Charlotte A.	PhD, University of Texas at Austin
Troy, Karen	PhD, University of Iowa
Varady, Kristina	PhD, McGill University
Walter, Charles B.	PhD, University of California, Los Angeles
Occupational Therapy	
Barnekow, Kris	PhD, University of Wisconsin-Madison
Finlayson, Marcia	PhD, University of Manitoba (Canada)
Hammel, Joy M.	PhD, University of California, Berkeley and San Francisco
Peterson, Elizabeth W.	PhD, Karolinska Institutet
Suarez-Balcazar, Yolanda	PhD, University of Kansas
Taylor, Renee R.	PhD, DePaul University
Physical Therapy	
Aruin, Alexander	PhD, Institute of Traumatology and Orthopedics (Latvia)
Bhatt, Tanvi S.	PhD, University of Illinois at Chicago
Bulanda, Michelle	DPT, MGH, Institute of Health Professions
Courtney, Carol A.	PhD, PT, University of Miami
Hornby, Thomas George	PhD, University of Arizona
Hui-Chan, Christina Wan-Ying	PhD, McGill University
John, Demetra	PhD, University of Illinois at Chicago
Madhavan, Sangeetha	PhD, University of Iowa
Pai, Clive Yi-Chung	PhD, University of Iowa
Phillips, Shane	PhD, Medical College of Wisconsin
Straube, Don	MS, University of Illinois at Chicago

College of Architecture and the Arts

Architecture	
Ast, Bruno	MArch, University of Illinois at Urbana-Champaign
Brown, David	MArch, University of California, Berkeley
De Jong, Judith	MArch, Harvard Graduate School of Design
Dean, Penelope	PhD, University of California, Los Angeles
Dunn, Sarah	MArch, Columbia University
Feldman, Roberta M.	PhD, City University of New York
Gelick, Michael S.	MArch, Massachusetts Institute of Technology

Haar, Sharon H.	MArch, Princeton University
Lally, Sean	MArch, University of California, Los Angeles
Lehnerer, Alexander	PhD, Eidgenoessische Technische Hochschule (Switzerland)
Lyster, Clare	MArch, Yale University
Pedret, Annie	PhD, Massachusetts Institute of Technology
Preissner, Paul	MArch, Columbia University
Rocah, Louis	MS in Architecture, Illinois Institute of Technology
Rois, Juan	MArch, University of Illinois at Chicago
Rubio, Elva	MArch, Washington University in St. Louis
Somol, Robert	PhD, University of Chicago
Vendrell, Xavier	Titulo de Arquitecto, Escola Tècnica Superior d` Arquitectúra de Barcelona
Wheeler, Daniel H.	BArch, Rhode Island School of Design

Art and Design

Becker, Joerg	MFA, AKV / St. Joost (The Netherlands)
Bracamontes, Linda	Diploma, Schule fur Gestaltung (Switzerland)
Browning, Drew	MFA, School of the Art Institute of Chicago
Burton, Philip C.	BFA, Philadelphia College of Art
Fish, Julia	MFA, Maryland Institute
Fraser, Pamela	MFA, University of California, Los Angeles
Frid, Dianna	MFA, School of the Art Institute of Chicago
Gaynor, Matthew	MFA, Yale University
Geissler, Beate	Diploma, HFG / ZKM Karlsruhe (Germany)
Gude, Olivia	MFA, University of Chicago
Ischar, Douglas	MFA, California Institute of the Arts
Kirshner, Judith Russi	MA, Bryn Mawr
Lausen, Marcia	MFA, Yale University
Malagrino, Silvia A.	MFA, University of Illinois at Chicago
Manglano-Ovalle, Inigo	MFA, School of the Art Institute of Chicago
Minnix, Gary	MFA, Temple University
Montgomery, Jennifer	MFA, Bard College
Munson Tharp, Stephanie N.	MID, Rhode Island School of Design
Oiga, Sharon	MFA, Yale University
Peterman, Dan	MFA, University of Chicago
Raaf, Sabrina	MFA, School of the Art Institute of Chicago
Reeder, Jennifer	MFA, School of the Art Institute of Chicago
Sauter, Daniel	Diploma, HfG / ZKM Karlsruhe (Germany)
Starr, April	MDes, Illinois Institute of Technology
Stratman, Deborah	MFA
Tasset, Anthony G.	MFA, School of the Art Institute of Chicago
Tsoupikova, Daria	MFA, Syracuse University

Art History

Akcan, Esra	PhD, Columbia University
Becker, Catherine	PhD, University of California, Berkeley
Dubin, Nina	PhD, University of California, Berkeley

Grossman, Heather	PhD, University of Pennsylvania
Higgins, Hannah B.	PhD, University of Chicago
Kirshner, Judith Russi	MA, Bryn Mawr
Miller, Virginia E.	PhD, University of Texas at Austin
Pollak, Martha	PhD, Massachusetts Institute of Technology

College of Business Administration

Accounting	
Das, Somnath	PhD, Carnegie Mellon University
Kim, Kyonghee	PhD, University of Pittsburgh
Kirschenheiter, Michael	PhD, Northwestern University
Lee, Sung-Han (Sam)	PhD, University of Southern California
Li, Siyi	PhD, Columbia University
Mashruwala, Raj	PhD, University of Texas at Dallas
Pandit, Shailendra	PhD, University of Rochester
Ramakrishnan, Ram T.S.	PhD, Northwestern University
Wen, Xiaoyan	PhD, Carnegie Mellon University
Business Administration	
Barnum, Darold T.	PhD, University of Pennsylvania
Bhattacharyya, Siddhartha	PhD, University of Florida
Binder, John	PhD, University of Chicago
Bondarenko, Oleg P.	PhD, California Institute of Technology
Brickson, Shelley	PhD, Harvard University
Chandrasekaran, Ranganathan	PhD, Indian Institute of Management
Chen, Hsui-lang	PhD, University of Illinois at Urbana-Champaign
Cherian, Joseph	PhD, University of Texas at Austin
Chirinko, Robert	PhD, Northwestern University
DeBerry-Spence, Benet	PhD, Northwestern University, Kellogg School of Management
Gillespie, James	JD, Harvard University
Guo, Re-Jin	PhD, University of Minnesota
Hills, Gerald E.	DBA, Indiana University
Ho, James K.	PhD, Stanford University
Hoobler, Jennifer (Jenny)	PhD, University of Kentucky
Hu, Xiaoqing	PhD, Northwestern University
King, Charles W.	DBA, Harvard University
Lee, Yew Sing (Thomas)	PhD, Yale University
Liden, Robert	PhD, University of Cincinnati
Malter, Alan	PhD, University of Wisconsin-Madison
Manheim, Mary Beth Watson	PhD, Georgia Institute of Technology
Marinova, Sophia	PhD, University of Maryland
McWilliams, Abagail	PhD, Ohio State University
Murtha, Thomas	PhD, New York University
Nakata, Cheryl	PhD, University of Illinois at Chicago
Ouksel, M. Aris	PhD, Northwestern University
Pagano, Anthony M.	PhD, Pennsylvania State University

Page, Albert L.	PhD, Northwestern University
Potter, Richard	PhD, University of Arizona
Ramaprasad, Arkalgud	PhD, University of Pittsburgh
Renko, Maija	PhD, Florida International University
Rosenthal, Dale	PhD, University of Chicago
Sclove, Stanley L.	PhD, Columbia University
Shanley, Mark	PhD, University of Pennsylvania
Shrader, Rodney (Rod)	PhD, Georgia State University
Sinha, Nitish Rajan	PhD, University of Maryland
Spanjol, Jelena	PhD, University of Illinois at Urbana-Champaign
Stokes, Houston	PhD, University of Chicago
Wang, Fangfang	PhD, University of North Carolina at Chapel Hill
Wang, Hefei (Faye)	PhD, Stanford University
Wayne, Sandra	PhD, Texas A&M University
Westland, J. Christopher	PhD, University of Michigan
Zhang, Lan	PhD, University of Chicago

Information and Decision Sciences

Bhattacharyya, Siddhartha	PhD, University of Florida
Chandrasekaran, Ranganathan	PhD, Indian Institute of Management
Ho, James K.	PhD, Stanford University
Lee, Yew Sing (Thomas)	PhD, Yale University
Manheim, Mary Beth Watson	PhD, Georgia Institute of Technology
Ouksel, M. Aris	PhD, Northwestern University
Potter, Richard	PhD, University of Arizona
Ramaprasad, Arkalgud	PhD, University of Pittsburgh
Sclove, Stanley L.	PhD, Columbia University
Wang, Fangfang	PhD, University of North Carolina at Chapel Hill
Westland, Christopher	PhD, University of Michigan

College of Dentistry

Oral Science

Adami, Guy	PhD, University of Connecticut
Afshari, Fatemeh	DDS, Harvard School of Dental Medicine
Alapati, Satish B.	PhD, Ohio State University
Bagchi, Srilata	PhD, University of Calcutta
Bedran-Russo, Anakarina	PhD, State University of Campinas (Brazil)
BeGole, Ellen	PhD, University of Pittsburgh
Bolden, Aljernon J.	MPH, Harvard University
Briggs, Charlotte L.	PhD, University of Michigan
Califano, Joseph	PhD, Virginia Commonwealth University
Campbell, Stephen D.	DDS, Medical College of Virginia
Colvard, Michael D.	DDS, Loyola University Dental School
Crawford, John M.	PhD, University of Connecticut
Crowe, David	DMSc, Harvard University
Diekwisch, Thomas G.H.	PhD, Philipps-University of Marburg (Germany)

Dipietro, Luisa	PhD
Engleland, Christopher	PhD, University of Western Ontario
Epstein, Joel B.	MSD, University of London
Evans, Carlotta (Carla) A.	MD, Harvard University
Fadavi-Rudsari, Shahrbanno	DDS, University of Tehran
Fischer, Dena J.	MSD/MS, University of Washington
Gajendrareddy, Praveen	PhD, Ohio State University
Galang, Maria	MS, University of Illinois at Chicago
George, Anne	PhD, University of Madras (India)
Heffez, Leslie	MS, Tufts University
Johnson, Bradford R.	DDS, Virginia Commonwealth University
Kaste, Linda M.	DDS, MS, PhD, University of North Carolina at Chapel Hill
Kelley, John Jay	PhD, DMD, Yale University
Klasser, Gary	DMD, University of Manitoba
Knoernschild, Kent	MS, University of Iowa
Koerber, Anne	PhD, Northwestern University Medical School
Kolokythas, Antonia	DDS, University of Thessalonica (Greece)
Kusnoto, Budi	DDS, University of Indonesia
Lakars, Thomas C.	DDS, MS, University of Illinois
Lee, Damian	DDS, University of Michigan
Li, Jianxun	PhD, City University of New York
Luan, Xianghong	MD, Harbin Medical University (China)
Marucha, Phillip T.	PhD, University of Connecticut
Miloro, Michael	DMD/MD, Tufts University / Medical College of Pennsylvania
Obrez, Ales	PhD, University of Illinois at Chicago
Olson, Steven	PhD, University of Michigan
Patston, Philip A.	DPhil, University of Oxford
Punwani, Indru	LOdont, University of Bergen (Norway)
Radosevich, James	PhD, University of Illinois at Chicago
Schwartz, Joel	DMSc, Harvard University School of Medicine
Sroussi, Herve	PhD University of California, San Francisco
Steinberg, Arnold D	MS, University of Illinois
Sukotjo, Cortino	PhD, University of California, Los Angeles
Tao, Lin	PhD, University of Connecticut
Tsay, Tzong Guang (Peter)	PhD, Northwestern University
Vergotine, Rodney (Rod)	DDS, University of Western Cape (South Africa)
Wang, Chiayeng	PhD, University of Calgary
Watanabe, Keiko	DDS, MS, PhD
Wu, Christine D.	PhD, Loyola University
Yuan, Judy Chia-Chun	PhD, State University of New York at Buffalo
Zhou, Xaiofeng (Charles)	PhD, Boston University

College of Education

Curriculum and Instruction	
Chou, Victoria	PhD, University of Wisconsin-Madison
Gavelek, James R.	PhD, Washington State University

Gutstein, Eric	PhD, University of Wisconsin-Madison
Katsarou, Eleni	PhD, University of Illinois at Chicago
Khisty, Lena Licon	PhD, Washington State University
Larnell, Gregory Vincent	PhD, Michigan State University
Lynn, Marvin	PhD, University of California, Los Angeles
Majors, Yolanda	PhD, University of Iowa
Mancilla-Martinez, Jeannette	EdD, Harvard University
Martin, Danny Bernard	PhD, University of California, Berkeley
Miltner, Daniel	PhD, University of Illinois at Chicago
Mitchener, Carole P.	PhD, University of Denver
Morales, Paola Zitlali	PhD, University of California, Los Angeles
Radinsky, Joshua	PhD, Northwestern University
Raphael, Taffy E.	PhD, University of Illinois at Urbana-Champaign
Razfar, Aria	PhD, University of California, Los Angeles
Rodriguez-Brown, Flora V.	PhD, University of Illinois at Urbana-Champaign
Schubert, William H.	PhD, University of Illinois at Urbana-Champaign
Shanahan, Cynthia R.	PhD, University of Georgia
Shanahan, Timothy	PhD, University of Denver
Tatum, Alfred	PhD, University of Illinois at Chicago
Teale, William H.	EdD, University of Virginia
Varelas, Maria	PhD, University of Illinois at Chicago
Watkins, William	PhD, University of Illinois at Chicago
Educational Policy Studies	
Cosner, Shelby	University of Wisconsin-Madison
Eisen, Joyce G.	EdD, Harvard Graduate School of Education
Kumashiro, Kevin	PhD, University of Wisconsin-Madison
Lipman, Pauline	PhD, University of Wisconsin-Madison
Mayrowetz, David	EdD, Rutgers University
Miller, Christopher	PhD, University of Wisconsin-Madison
Quiroz, Pamela Anne	PhD, University of Chicago
Smylie, Mark A.	PhD, Vanderbilt University
Stovall, David Omotoso	PhD, University of Illinois at Urbana-Champaign
Superfine, Benjamin M.	PhD, University of Michigan
Tozer, Steven	PhD, University of Illinois at Urbana-Champaign
Weldon, Ward W.	PhD, Northwestern University
Educational Psychology	
Becker, Joseph J.	PhD, Queen Mary College, University of London
Goncu, Artin	PhD, University of Houston
Hellison, Donald R.	PhD, Ohio State University
Horn, Stacey S.	PhD, University of Maryland, College Park
Humphries, Marisha	PhD, University of Illinois at Chicago
Karabatsos, George	PhD, University of Chicago
Lawless, Kimberly A.	PhD, University of Connecticut
Myford, Carol M.	PhD, University of Chicago
Smith, Jr., Everett V.	PhD, University of Connecticut

Thorkildsen, Theresa A.	PhD, Purdue University
Yin, Yue	PhD, Stanford University

Special Education	
Cushing, Lisa	PhD, University of Oregon
Hsieh, Wu-Ying	PhD, University of Illinois at Urbana-Champaign
Hughes, Marie Tejero	PhD, University of Miami
Lopez-Reyna, Norma A.	PhD, University of California, Santa Barbara
Maggin, Daniel M.	PhD, Vanderbilt University
Parker-Katz, Michelle B.	PhD, Michigan State University
Salisbury, Christine L.	PhD, University of Wisconsin-Madison
Talbott, Elizabeth	PhD, University of Virginia
Van Acker, Richard M.	EdD, Northern Illinois University
Waitoller, Federico	PhD, Arizona State University

College of Engineering

Bioengineering	
Carley, David W.	PhD, Harvard University
Chambers, Donald A.	PhD, Columbia University
Cheng, Jun	PhD, University of Michigan
Cho, Michael	PhD, Drexel University
Dai, Yang	PhD, University of Tsukuba (Japan)
Diwekar, Urmila	PhD, Indian Institute of Technology
Eddington, David	PhD, University of Wisconsin-Madison
Feinstein, Douglas	MD, Johns Hopkins University
Hetling, John R.	PhD, University of Illinois at Chicago
Layton, Terry N.	PhD, University of Virginia
Liang, Jie	PhD, University of Illinois at Urbana-Champaign
Lin, James C.	PhD, University of Washington
Linninger, Andreas A.	PhD, Technical University of Vienna
Lu, Hui	PhD, University of Illinois at Urbana-Champaign
Magin, Richard L.	PhD, University of Rochester
Mansoori, G. Ali	PhD, University of Oklahoma
O'Neill, William D.	PhD, University of Notre Dame
Patton, James	PhD, Northwestern University
Pepperberg, David R.	PhD, Massachussetts Institute of Technology
Rousche, Patrick J.	PhD, University of Utah
Royston, Thomas J.	PhD, Ohio State University
Stroscio, Michael A.	PhD, Yale University
Takoudis, Christos	PhD, University of Minnesota
Zhou, Xiaohong Joe	PhD, University of Illinois at Urbana-Champaign

Chemical Engineering	
Akpa, Belinda S.	PhD, University of Cambridge
Linninger, Andreas A.	PhD, Vienna University of Technology (Austria)
Liu, Ying	PhD, Princeton University

Mansoori, G. Ali	PhD, University of Oklahoma
Meyer, Randall	PhD, University of Texas at Austin
Murad, Sohail	PhD, Cornell University
Nitsche, Ludwig C.	PhD, Massachusetts Institute of Technology
Regalbuto, John R.	PhD, University of Notre Dame
Takoudis, Christos	PhD, University of Minnesota
Turian, Raffi M.	PhD, University of Wisconsin-Madison
Wedgewood, Lewis E.	PhD, University of Wisconsin-Madison
Civil and Materials Engineering	
Ansari, Farhad	PhD, University of Illinois at Chicago
Chudnovsky, Alexander	PhD, Leningrad Civil Engineering Institute (Russia)
Darnault, Christophe	PhD, Cornell University
Foster, Craig	PhD, Stanford University
Indacochea, J. Ernesto	PhD, Colorado School of Mines
Issa, Mohsen A.	PhD, University of Texas
Karpov, Eduard	PhD, University of Southampton (England)
Khodadoust, Amid	PhD, University of Cincinnati
Lemke, Donald G.	PhD, University of Pennsylvania
Lin, Jie (Jane)	MA, Harvard University
McNallan, Michael J.	PhD, Massachusetts Institute of Technology
Mohammadian, Abolfazl (Kouros)	PhD, University of Toronto
Ozevin, Didem	PhD, Lehigh University
Reddy, Krishna R.	PhD, Illinois Institute of Technology
Rockne, Karl J.	PhD, University of Washington
Theis, Thomas	PhD, University of Notre Dame
Wu, Chien Heng	PhD, University of Minnesota
Computer Science	
Banerjee, Prashant	PhD, Purdue University
Ben-Arie, Jezekiel	DrSc, Israel Institute of Technology
Bernstein, Daniel J.	PhD, University of California, Berkeley
Berger-Wolf, Tanya	PhD, University of Illinois at Urbana-Champaign
Buy, Ugo A.	PhD, University of Massachusetts
Cruz, Maria Isabel	PhD, University of Toronto
Dai, Yang	PhD, University of Tsukuba (Japan)
DasGupta, Bhaskar	PhD, University of Minnesota
Di Eugenio, Barbara	PhD, University of Pennsylvania
Ding, Wenxuan	PhD, Carnegie Mellon University
Eriksson, Jakob	PhD, University of California, Riverside
Gmytrasiewicz, Piotr	PhD, University of Michigan
Johnson, Andrew	PhD, Wayne State University
Kenyon, Robert V.	PhD, University of California, Berkeley
Khokhar, Ashfaq	PhD, University of Southern California
Kshemkalyani, Ajay D.	PhD, Ohio State University
Lee, Der-Tsai	PhD, University of Illinois at Urbana-Champaign
Lee, Gyungho	PhD, University of Illinois at Urbana-Champaign

Leigh, Jason	PhD, University of Illinois at Chicago
Liang, Jie	PhD, University of Illinois at Urbana-Champaign
Lillis, John	PhD, University of California, San Diego
Linninger, Andreas A.	PhD, Vienna University of Technology
Liu, Bing	PhD, University of Edinburgh (U.K.)
Liu, Derong	PhD, University of Notre Dame
Lyons, Leilah B.	PhD, University of Michigan
Moher, Thomas G	PhD, University of Minnesota
Nelson, Peter C.	PhD, Northwestern University
Ohlsson, Stellan	PhD, University of Stockholm
Rhodes, Charles Kirkham	PhD, Massachusetts Institute of Technology
Schonfeld, Dan	PhD, Johns Hopkins University
Shatz, Sol M.	PhD, Northwestern University
Sistla, Prasad Aravinda	PhD, Harvard University
Sloan, Robert H.	PhD, Massachusetts Institute of Technology
Solworth, Jon A.	PhD, Courant Institute of Mathematical Science, New York University
Tanner, R. Michael	PhD, Stanford University
Venkatesan Natarajan, Venkatakrishnan	PhD, Stony Brook University
Wiley, Jennifer	PhD, University of Pittsburgh
Wolfson, Ouri	PhD, Columbia University
Yu, Philip S.	PhD, Stanford University
Zefran, Milos	PhD, University of Pennsylvania
Zuck, Lenore	PhD, Weizmann Institute of Science (Israel)

Electrical and Computer Engineering

Ansari, Rashid	PhD, Princeton University
Banerjee, Prithviraj	PhD, University of Illinois at Urbana-Champaign
Ben-Arie, Jezekiel	DrSc, Israel Institute of Techonology
Chowdhury, Masud	PhD, Northwestern University
Devroye, Natasha	PhD, Harvard University
Dutt, Shantanu	PhD, University of Michigan
Dutta, Mitra	PhD, University of Cincinnati
Erricolo, Danilo	PhD, University of Illinois at Chicago
Feinerman, Alan D.	PhD, Northwestern University
Ghosh, Siddhartha	PhD, University of Michigan
Khokhar, Ashfaq	PhD, University of Southern California
Lee, Gyunhgho	PhD, University of Illinois at Urbana-Champaign
Li, Jingjing	PhD, University of Pennsylvania
Lin, James	PhD, University of Washington
Liu, Derong	PhD, University of Notre Dame
Mazumder, Sudip	PhD, Virginia Polytechnic Institute and State University
Metlushko, Vitali V	PhD, Moscow State University
Priemer, Roland	PhD, Illinois Institute of Technology
Rao, Wenjing	PhD, University of California, San Diego
Schonfeld, Dan	PhD, Johns Hopkins University
Stroscio, Michael A.	PhD, Yale University

Tanner, R. Michael	PhD, Stanford University
Tuninetti, Daniela	PhD, Telecom Paris
Uslenghi, Piergiorgio L.E.	PhD, University of Michigan
Wu, Kaijie	PhD, Polytechnic University
Yang, Hung-Yu David	PhD, University of California, Los Angeles
Yang, Zheng	PhD, University of California, Riverside
Yao, Yingwei	PhD, Princeton University
Zefran, Milos	PhD, University of Pennsylvania
Zhu, Zhichun	PhD, College of William and Mary
Mechanical and Industrial Engineering	
Abiade, Jeremiah	PhD, University of Florida, Gainesville
Aggarwal, Suresh K.	PhD, Georgia Institute of Technology
Amirouche, Farid M.L.	PhD, University of Cincinnati
Banerjee, Prashant	PhD, Purdue University
Baranescu, Rodica	PhD, University of Politehnica Bucharest (Romania)
Brezinsky, Kenneth	PhD, City University of New York
Budyn, Elisa	PhD, Northwestern University
Cetinkunt, Sabri	PhD, Georgia Institute of Technology
Darabi, Houshang	PhD, Rutgers University
Goodman Adida, Elodie	PhD, Massachusetts Institute of Technology
He, David	PhD, University of Iowa
Li, Lin	PhD, University of Michigan
Lilley, Carmen	PhD, Northwestern University
Mashayek, Farzad	PhD, State University of New York at Buffalo
Megaridis, Constantine	PhD, Brown University
Minkowycz, W. J.	PhD, University of Minnesota
Royston, Thomas J.	PhD, Ohio State University
Saggere, Laxman	PhD, University of Michigan
Scott, Michael J.	PhD, California Institute of Technology
Shabana, Ahmed A.	PhD, University of Iowa
Worek, William M.	PhD, Illinois Institute of Technology
Yarin, Alexander	PhD, Institute for Problems in Mechanics (Russia)

Graduate College

Learning Sciences	
Castro Superfine, Alison	PhD, University of Michigan
Goldman, Susan R.	PhD, University of Pittsburgh
Lawless, Kimberly	PhD, University of Connecticut
Lyons, Leilah	PhD, University of Michigan
Majors, Yolanda	PhD, University of Iowa
Martin, Danny Bernard	PhD, University of California, Berkeley
Martinez, Mara	PhD, Tufts University
Moher, Thomas G.	PhD, University of Minnesota
Pellegrino, James W.	PhD, University of Colorado
Radinsky, Joshua	PhD, Northwestern University

Tozer, Steve	PhD, University of Illinois at Urbana-Champaign
Wagreich, Philip D.	PhD, Columbia University
Wink, Donald J.	PhD, Harvard University
Neuroscience	
Alexander, Kenneth R.	PhD, University of Washington
Alfonso, Aixa	PhD, University of Wisconsin-Madison
Alford, Simon T.	PhD, University of London
Anderson, Conwell	PhD, University of Kansas
Art, Jonathan J.	PhD, University of Chicago
Aruin, Alexander S.	PhD, Institute of Traumatology and Orthopedics (Latvia)
Bongarzone, Ernesto R.	PhD, University of Buenos Aires
Brady, Scott T.	PhD, University of Southern California
Briones, Teresita (Tess)	PhD, University of Michigan
Brodie, Mark S.	PhD, University of Illinois at Chicago
Carley, David W.	PhD, Harvard University
Carter Porges, Carol Sue	PhD, University of Arkansas
Chauhan, Neelima B.	PhD, University of Baroda (India)
Cook, Edwin H.	MD, University of Texas Medical Branch at Galveston
Corcos, Daniel M.	PhD, University of Oregon
Dwivedi, Yogesh	PhD, Central Drug Research Institute (India)
Engeland, Christopher G.H.	PhD, University of Western Ontario
Featherstone, David E.	PhD, Utah State University
Feinstein, Douglas	PhD, Johns Hopkins University
Gong, Liang-Wei	PhD, Cornell University
Grayson, Dennis	PhD, Wayne State University
Guidotti, Alessandro	MD, New York University
Hasan, Ziaul	PhD, Massachusetts Institute of Technology
Herbener, Ellen	PhD, Harvard University
Hetling, John R.	PhD, University of Illinois at Chicago
Hornby, Thomas George	PhD, University of Arizona
Jacob, Suma	PhD, MD, University of Chicago
LaDu, Mary Jo	PhD, University of Illinois
Larson, John	PhD, University of California, Irvine
Lasley, Stephen M.	PhD
Laurito, Charles E.	MD, University of Pittburgh
Lazarov, Orly	PhD, Weizmann Institute of Science (Israel)
Leonard, John P.	PhD, Cornell University
Liebman, Susan W.	PhD, University of Rochester
Little, Deborah M.	PhD, Brandeis University
Lysakowski, Anna	PhD, University of Illinois
Magin, Richard L.	PhD, University of Rochester
Maki, Pauline M.	PhD
Malchow, Robert Paul	PhD, State University of New York at Stony Brook
Manev, Hari	MD, PhD, Zagreb University (Croatia)
Martin-Tommeyer, Eileen M.	PhD
Morfini, Gerardo	PhD, National University of Cordoba (Argentina)

Murphy, A. Don	PhD, University of Iowa
Nakajima, Shigehiro	MD, PhD, University of Tokyo
Nakajima, Yasuko	MD, PhD, University of Tokyo
O'Bryan, John P.	PhD, University of North Carolina at Chapel Hill
O'Neill, William D.	PhD, University of Notre Dame
Pandey, Ghanshyam N.	PhD
Pandey, Subhash	PhD, Central Drug Research Institute (India)
Park, Thomas J.	PhD, University of Maryland
Pavuluri, Nagamani (Mani)	PhD, MD, Andra University (India), University of Otago (New Zealand)
Porges, Stephen W.	PhD, Michigan State University
Qian, Haohua	PhD, University of Illinois at Chicago
Radulovacki, Miodrag	MD, PhD, University of Belgrade (Serbia)
Ragozzino, Michael E.	PhD, University of Virginia
Rasenick, Mark M.	PhD, Wesleyan University
Reilly, Stephen	PhD, University of York (England)
Richmond, Janet E.	PhD, University of Calgary
Roitman, Mitchell	PhD, University of Washington-Seattle
Schonfeld, Dan	PhD, Johns Hopkins University
Shahidi, Mahnaz	PhD, University of Illinois at Chicago
Sharma, Rajiv	MD, Ghandi Medical College (India)
Shippy, Scott	PhD, University of Illinois at Urbana-Champaign
Smalheiser, Neil R.	MD, PhD, Yeshiva (Einstein)
Sodhi, Monsheel S.	PhD, University of London
Sweeney, John A.	PhD, University of Syracuse
Thatcher, Gregory R.	PhD, University of Toronto
Thulborn, Keith R.	MD, Washington University
Unnerstall, James R.	PhD, Johns Hopkins University
Wang, Zaije Jim	PhD, University of California, San Francisco
White-Traut, Rosemary C.	PhD, Rush University
Wirtshafter, Robert David	PhD, University of Illinois at Chicago
Wolf, William	PhD, George Washington University

College of Liberal Arts and Sciences

Anthropology

Abrams-Rich, Elizabeth	PhD, University of Michigan
Bauer, Brian S.	PhD, University of Chicago
Bronson, Bennet	PhD, University of Pennsylvania
Curet, L. Antonio	PhD, Arizona State University
Doane, Molly	PhD, City University of New York
Feinman, Gary	PhD, City University of New York
Haas, Jonathan	PhD, Columbia University
Junker, Laura Lee	PhD, University of Michigan
Keeley, Lawrence H.	DPhil, Oxford University
Kracke, Waud	PhD, University of Chicago
Kusimba, Chapurukha	PhD, Bryn Mawr College
LaMotta, Vincent	PhD, University of Arizona

Liechty, Mark	PhD, University of Pennsylvania
Martin, Robert D.	PhD, Oxford University
Monaghan, John D.	PhD, University of Pennsylvania
Palka, Joel W.	PhD, Vanderbilt University
Parkinson, William	PhD, University of Michigan
Patil, Crystal	PhD, Ohio State University
Prost, Jack H.	PhD, University of Chicago
Reddy, Gayatri	PhD, Emory University
Roosevelt, Anna C.	PhD, Columbia University
Terrell, John	PhD, Harvard University
Underhill, Anne	PhD, University of British Columbia, Vancouver
Wali, Alaka	PhD, Columbia University
Williams, Patrick	PhD, University of Florida
Williams, Sloan	PhD, Northwestern University
Biological Sciences	
Alfonso, Aixa	PhD, University of Wisconsin-Madison
Alford, Simon T.	PhD, University of London
Anderson, Louise E.	PhD, Cornell University
Ashley, Mary V.	PhD, University of California, San Diego
BassiriRad, Hormoz	PhD, University of Arizona
Brown, Joel S.	PhD, University of Arizona
Buhse, Howard E.	PhD, State University of Iowa
Dubreuil, Ronald R.	PhD, University of Illinois at Chicago
Featherstone, David E.	PhD, Utah State University
Gong, Liang-Wei	PhD, First Military Medical University
Gonzalez-Meler, Miquel	PhD, University of Barcelona
Howe, Henry F.	PhD, University of Michigan-Ann Arbor
Igic, Boris	PhD, University of California, San Diego
Jeffery, Constance	PhD, University of California, Berkeley
Jin, Hua	PhD, University of Michigan-Ann Arbor
Kaufman, Lon S.	PhD, State University of New York at Stony Brook
Kay, Brian K.	
Kelso, Stephen R.	PhD, Ohio State University
Leonard, John P.	PhD, Cornell University
Malchow, Robert Paul	PhD, State University of New York at Stony Brook
Mason-Gamer, Roberta J.	PhD, University of Connecticut
Minor, Emily	PhD, Duke University
Morrison, Donald A.	PhD, Yale University
Murphy, A. Don	PhD, University of Iowa
Nichols, Brian P.	PhD, University of Iowa
Nyberg, Dennis	PhD, University of Illinois at Urbana-Champaign
Okkema, Peter G.	PhD, University of Wisconsin-Madison
Orenic, Teresa Vales	PhD, Northwestern University
Park, Thomas J.	PhD, University of Maryland
Pollack, Emanuel D.	PhD, University of Iowa
Richmond, Janet E.	PhD, University of Calgary

Schmidt, Jennifer Virginia	PhD, Northwestern University
Stone, David E.	PhD, University of Wisconsin-Madison
Wang, Qun-Tian	PhD, Northwestern University
Warpeha, Katherine M.	PhD, University of Illinois at Urbana-Champaign
Wise, David H.	PhD, University of Michigan
Chemistry	
Anderson, Laura	PhD, University of California, Berkeley
Burns, Richard P.	PhD, University of Chicago
Cho, Wonhwa	PhD, University of Chicago
Driver, Tom	PhD, University of California, Irvine
Fung, Leslie	PhD, Massachusetts Institute of Technology
Gevorgyan, Vladimir	PhD, Institute of Organic Synthesis (Latvia)
Gordon, Robert J.	PhD, Harvard University
Hanley, Luke	PhD, State University of New York at Stony Brook
Ishii, Yoshitaka	PhD, Kyoto University
Keiderling, Timothy	PhD, Princeton University
Kral, Petr	PhD, Academy of Sciences (Prague)
Lee, Daesung	PhD, Stanford University
Miller, Lawrence	PhD, University of Wisconsin-Madison
Min, Jung-Hyun	PhD, University of Washington
Newcomb, Martin	PhD, University of Illinois at Urbana-Champaign
Shippy, Scott	PhD, University of Illinois at Urbana-Champaign
Snee, Preston	PhD, University of California, Berkeley
Stieff, Michael	PhD, Northwestern University
Teo, Boon Keng	PhD, Chinese University (Hong Kong)
Trenary, Michael	PhD, Massachusetts Institute of Technology
Wardrop, Duncan	PhD, University of Glasgow (U.K.)
Wink, Donald J.	PhD, Harvard University
Communication	
Barnhurst, Kevin G.	PHD, University of Amsterdam
Chang, Hui-Ching	PhD, University of Illinois at Urbana-Champaign
Danowski, James A.	PhD, Michigan State University
Graber, Doris	PhD, Columbia University
Harkin, Patricia	PhD, Miami University
Jones, John A.	PhD, University of Illinois at Urbana-Champaign
Jones, Steven Anthony	PhD, University of Illinois at Urbana-Champaign
Lambert, Bruce	PhD, University of Illinois at Urbana-Champaign
Lind, Rebecca Ann	PhD, University of Minnesota
McCloskey, Deirdre	PhD, Harvard University
Meraz, Sharon	PhD, University of Texas at Austin
Papacharissi, Zizi	PhD, University of Texas at Austin
Rojecki, Andrew	PhD, Northwestern University
Yuan, Jingyan Elaine	PhD, Northwestern University
Criminology, Law, and Justice	

Erez, Edna	PhD, University of Pennsylvania
Frohmann, Lisa	PhD, University of California, Los Angeles
Hagedorn, John M.	PhD, University of Wisconsin-Madison
Ibarra, Peter	PhD, University of California, Santa Cruz
Lippman, Matthew R.	PhD, Northwestern University; LLM, Harvard University
Martin, Christine	PhD, Loyola University
Matoesian, Greg	PhD, University of Missouri-Columbia
McCarty, William	PhD, University of Nebraska
Richie, Beth	PhD, City University of New York
Rosenbaum, Dennis P.	PhD, Loyola University Chicago
Schewe, Paul	PhD, Northern Illinois University
Schuck, Amie M.	PhD, University of South Florida
Ullman, Sarah E.	PhD, Brandeis University
Earth and Environmental Sciences	
Bogner, Jean E.	PhD, Northern Illinois University
Dombard, Andrew	PhD, Washington University in St. Louis
Doran, Peter T.	PhD, University of Nevada, Reno
Flower, Martin F.J.	PhD, University of Manchester (England)
Forman, Steven L.	PhD, University of Colorado
Gonzalez-Meler, Miquel	PhD, University of Barcelona
Guggenheim, Stephen J.	PhD, University of Wisconsin-Madison
Kenig, Fabien	PhD, Universite d'Orleans (France)
Lesht, Barry	PhD, University of Chicago
Meyer-Dombard, D'Arcy	PhD, Washington University in St. Louis
Nagy, Kathryn L.	PhD, Texas A&M University
Ost, Ben P.	PhD, Cornell University
Plotnick, Roy E.	PhD, University of Chicago
Stein, Carol A.	PhD, Columbia University
Sturchio, Neil C.	PhD, Washington University
Yokochi, Reika	PhD, Institu National Polytechnique de Lorraine (France)
Economics	
Anderson, Nathan B.	PhD, University of Michigan-Ann Arbor
Casey, Marcus D.	PhD, University of Illinois at Urbana-Champaign
Chaloupka, Frank J.	PhD, City University of New York
Kaestner, Robert	PhD, City University of New York
Karras, Georgios	PhD, Ohio State University
Lehrer, Evelyn L.	PhD, Northwestern University
Linn, Joshua	PhD, Massachusetts Institute of Technology
McCloskey, Deirdre	PhD, Harvard University
Merriman, David Franklin	PhD, University of Wisconsin-Madison
Officer, Lawrence H.	PhD, Harvard University
Ost, Ben	PhD, Cornell University
Peck, Richard Merton	PhD, Princeton University
Persky, Joseph J.	PhD, Harvard University
Pieper, Paul J.	PhD, Northwestern University

Stanford, William G.	PhD, Northwestern University
Stokes, Houston	PhD, University of Chicago
Tam, Mo-Yin S.	PhD, State University of New York at Stony Brook
Tauras, John A.	PhD, University of Illinois at Chicago
English	
Agnani, Sunil	PhD, Columbia University
Ashton, Jennifer	PhD, Johns Hopkins University
Barnes, Natasha	PhD, University of Michigan
Bestul, Thomas H.	PhD, Harvard University
Brown, Nicholas	PhD, Duke University
Cameron, Richard	PhD, University of Pennsylvania
Canuel, Mark	PhD, Johns Hopkins University
Chiang, Mark	PhD, University of California, Berkeley
Cintron, Ralph	PhD, University of Illinois at Chicago
Clarke, Ainsworth	Cornell University
Davis, Lennard	PhD, Columbia University
DeStigter, Todd	PhD, University of Michigan-Ann Arbor
Dubey, Madhu	PhD, University of Illinois at Urbana-Champaign
Feldman, Ann	PhD, State University of New York at Buffalo
Freeman, Lisa	PhD, University of Pennsylvania
Gardiner, Judith Kegan	PhD, Columbia University
Graff, Gerald	PhD, Stanford University
Grey, Robin S.	PhD, University of California, Los Angeles
Grimes, Christopher	PhD, University of Wisoconsin-Milwaukee
Harkin, Patricia	PhD, Miami University
Havelrock, Rachel	PhD, University of California, Berkeley
Hulse, S. Clark	PhD, Claremont Graduate University
Huntington, John W.	PhD, University of California, Berkeley
Jun, Helen	PhD, University of California, San Diego
Kornbluh, Anna	PhD, University of California, Irvine
Lukacher, Ned	PhD, Duke University
Mazza, Christina L.	MFA, City University of New York, Brooklyn
McBride, Dwight	PhD, University of California, Los Angeles
McCloskey, Deirdre	PhD, Harvard University
Michaels, Walter Benn	PhD, University of California, Santa Barbara
Pugh, Christina	PhD, Harvard University
Rose, Mary Beth	PhD, Duke University
Schaafsma, David	PhD, University of Michigan
Tabbi, Joseph	PhD, University of Toronto
Thomas, Alfred	PhD, Cambridge University, Trinity Hall
Urrea, Luis A.	MA, University of Chicago
Whalen, Terence	PhD, Duke University
Wildman, Eugene	MA, University of Chicago
Williams, Jessica	PhD, University of Pennsylvania
Winters, Anne	PhD, University of California, Berkeley
Xiang, Xuehua	PhD, Pennsylvania State University

French and Francophone Studies	
Ireland, John	PhD, New York University
McClure, Ellen M.	PhD, University of Michigan
Miner, Margaret	PhD, Yale University
Germanic Studies	
Fortmann, Patrick	PhD, Harvard University
Hall, Sara F.	PhD, University of California, Berkeley
Loentz, Elizabeth A.	PhD, Ohio State University
Lorenz, Dagmar	PhD, University of Cincinnati
Rott, Susanne	PhD, University of Illinois at Urbana-Champaign
Tantillo, Astrida Orle	PhD, University of Chicago
Weible, David M.	PhD, University of Kansas
Hispanic and Italian Studies	
Aparicio, Frances	PhD, Harvard University
Gonzalez-Vilbazo, Kay	PhD, University of Cologne
Hernandez-Pecoraro, Rosilie	PhD, University of California, Irvine
Lopez-Carretero, Luis	PhD, Cornell University
Madrid, Alejandro	PhD, Ohio State University
Marsh, Walter Steven	PhD, Queens College
Michaels, Walter Benn	PhD, University of California, Santa Barbara
Morgan-Short, Kara	PhD, Georgetown University
Niebylski, Dianna	PhD, Brandeis University
Nunez-Cedeno, Rafael	PhD, University of Minnesota
Potowski, Kimberly	PhD, University of Illinois at Urbana-Champaign
Riera, Gabriel	PhD, University of California, Irvine
Roa-de-la-Carrera, Cristian	PhD, Princeton University
Saona, Maria Margarita	PhD, Columbia University
History	
Blair, Cynthia M.	PhD, Harvard University
Boyer, Christopher R.	PhD, University of Chicago
Brier, Jennifer	PhD, Rutgers University
Capers, Corey	PhD, University of California, Santa Cruz
Daly, Jonathan	PhD, Harvard University
D'Emilio, John	PhD, Columbia University
Fanning, Steven	PhD, University of Minnesota
Fink, Leon R.	PhD, University of Rochester
Hoppe, Kirk A.	PhD, Boston University
Hostetler, Laura	PhD, University of Pennsylvania
Huppert, George	PhD, University of California, Berkeley
Johnston, Robert D.	PhD, Rutgers University
Jordan, Nicole Noelle	PhD, London School of Economics
Keen, Ralph	PhD, University of Chicago
Levine, Susan B.	PhD, City University of New York

Levy, Richard S.	PhD, Yale University
Liechty, Mark	PhD, University of Pennsylvania
Mantena, Rama	PhD, University of Michigan
McCloskey, Deirdre	PhD, Harvard University
Perman, Michael	PhD, University of Chicago
Ransby, Barbara	PhD, University of Michigan-Ann Arbor
Sack, James	PhD, University of Michigan
Schultz, Kevin M.	PhD, University of California, Berkeley
Searing, James F.	PhD, Princeton University
Stauter-Halsted, Keely	PhD, University of Michigan
Tantillo, Astrida	PhD, University of Chicago
Villa-Flores, Javier	PhD, University of Chicago
Zweiniger-Bargielowska, Ina	PhD, Cambridge University
Latin American and Latino Studies	
Aparicio, Frances	PhD, Harvard University
Buechler, Simone	PhD, Columbia University
de los Angeles Torres, Maria	PhD, University of Michigan
Guitierrez, Elena	PhD, University of Michigan-Ann Arbor
Madrid, Alejandro	PhD, Ohio State University
Roa-de-la-Carerra, Cristian	PhD, Princeton University
Villa-Flores, Javier	PhD, University of California, San Diego
Mathematics, Statistics, and Computer Science	
Abramov, Rafail	PhD, Rensselear Polytechnic Institute
Bona, Jerry	PhD, Harvard University
Castro Superfine, Alison M.	PhD, University of Michigan
Cheskidov, Alexey	PhD, Indiana University
Cojocaru, Alina	PhD, Queen’s University (Canada)
Coskun, Izzet	PhD, Harvard University
Culler, Marc	PhD, University of California, Berkeley
DeMarco, Laura G.	PhD, Harvard University
Dumas, David	PhD, Harvard University
Ein, Lawrence Man Hou	PhD, University of California, Berkeley
Friedland, Shmuel	DSc, Technion (Israel)
Furman, Alexander	PhD, Hebrew University of Jerusalem
Gillet, Henri A.	PhD, Harvard University
Greenblatt, Michael	PhD, Princeton University
Groves, Daniel	DPhil, University of Oxford
Heard, Melvin L.	PhD, Purdue University
Hedayat, Samad	PhD, Cornell University
Hurder, Steven E.	PhD, University of Illinois at Urbana-Champaign
Kauffman, Louis H.	PhD, Princeton University
Knessl, Charles	PhD, Northwestern University
Libgober, Anatoly S.	PhD, Tel-Aviv University, Israel
Majumdar, Dibyen	PhD, Indian Statistical Institute (India)
Marker, David E.	PhD, Yale University

Martin, Ryan G.	PhD, Purdue University
Martinez, Mara	PhD, Tufts Medical School
Mubayi, Dhruv	PhD, University of Illinois at Urbana-Champaign
Nencui, Irina	PhD, California Institute of Technology
Nicholls, David	PhD, Brown University
Ouyang, Cheng	PhD, Northwestern University
Popa, Mihnea	PhD, University of Michigan
Raghavan, T.E.S.	PhD, Indian Statistical Institute
Rosendal, Christian	PhD, University of Paris
Shalen, Peter B.	PhD, Harvard University
Shipley, Brooke	PhD, Massachusetts Institute of Technology
Shvydkoy, Roman	PhD, University of Missouri-Columbia
Slodkowski, Zbigniew	PhD, Warsaw University; DSc, Polish Academy of Sciences
Sparber, Christof	PhD, University of Vienna
Takloo-Bighash, Ramin	PhD, John Hopkins University
Turan, Gyorgy	PhD, Jozef A. University (Hungary)
Verschelde, Jan	PhD, Katholieke Universiteit Leuven (Belgium)
Wagreich, Philip D.	PhD, Columbia University
Wang, Jing	PhD, Michigan State University
Wang, Junhui	PhD, University of Minnesota
Wenger, Stefan	PhD, ETH Zurich
Whyte, Kevin M.	PhD, University of Chicago
Yang, Jie	PhD, University of Chicago
Philosophy	
Eaton, Anne Wescott	PhD, University of Chicago
Edelberg, Walter	PhD, University of Pittsburgh
Fleischacker, Samuel	PhD, Yale University
Hilbert, David	PhD, Stanford University
Huggett, Nicholas	PhD, Rutgers University
Hylton, Peter W.	PhD, Harvard University
Jarrett, Jon	PhD, University of Chicago
Klein, Colin	PhD, Princeton University
Laden, Anthony S.	PhD, Harvard University
Meinwald, Constance C.	PhD, Princeton University
Schechtman, Marya	PhD, Harvard University
Sedgwick, Sally	PhD, University of Chicago
Sinkler, Georgette	PhD, Cornell University
Sutherland, Daniel	PhD, University of California, Los Angeles
Whipple, John	PhD, University of California, Irvine
Physics	
Adams, Mark R.	PhD, State University of New York at Stony Brook
Ansari, Anjum	PhD, University of Illinois at Urbana-Champaign
Aratyn, Henrik	PhD, University of Copenhagen (Denmark)
Campuzano, Juan-Carlos	PhD, University of Wisconsin-Madison
Cavanaugh, Richard	PhD, Florida State University

Crabtree, George	PhD, University of Illinois at Chicago
Evdokimov, Olga Barannikova	PhD, Joint Institute for Nuclear Research (Russia) and Ivanovo State University (Russia)
Gerber, Cecilia E.	PhD, Universidad de Buenos Aires
Grein, Christoph H.	PhD, Princeton University
Hofman, David J.	PhD, State University of New York at Stony Brook
Imbo, Tom D.	PhD, University of Texas at Austin
Keung, Wai-Yee	PhD, University of Wisconsin-Madison
Klie, Robert	PhD, University of Illinois at Chicago
Morr, Dirk K.	PhD, University of Wisconsin-Madison
Ogut, Serdar	PhD, Yale University
Perez-Salas, Ursula	PhD, University of Maryland, College Park
Rhodes, Charles Kirkham	PhD, Massachusetts Institute of Technology
Schlossman, Mark L.	PhD, Cornell University
Schroeder, Walter Andreas	PhD, Imperial College of Science and Tech (U.K.)
Sivananthan, Sivalingam	PhD, University of Illinois at Chicago
Stephanov, Misha A.	PhD, Oxford University
Varelas, Nikos	PhD, University of Rochester
Political Science	
Choi, Seung-Whan	PhD, University of Missouri
de los Angeles Torres, Maria	PhD, University of Michigan
Engelmann, Stephen	PhD, Johns Hopkins University
Graber, Doris A.	PhD, Columbia University
Haftel, Zeev Yoram	PhD, Ohio State University
Judd, Dennis R.	PhD, University of Illinois at Urbana-Champaign
Kazee, Nicole	PhD, Yale University
Lippman, Matthew R.	PhD, Northwestern University, LLM, Harvard University
Lyles, Kevin L.	PhD, Washington University in St. Louis
McFarland, Andrew S.	PhD, University of California, Berkeley
McKenzie, Evan C.	PhD, University of Southern California
Moruzzi, Norma C.	PhD, Johns Hopkins University
Mossberger, Karen	PhD, Wayne State University
Orum, Anthony M.	PhD, University of Chicago
Pallares, Amalia V	PhD, University of Texas
Simpson, Dick W.	PhD, Indiana University
Tepe, Sultan	PhD, University of Texas at Austin
Valeriano, Brandon	PhD, Vanderbilt University
Zhang, Yue	PhD, Princeton University
Psychology	
Behar, Evelyn	PhD, Pennsylvania State University
Birman, Dina	PhD, University of Maryland
Bottoms, Bette L.	PhD, State University of New York at Buffalo
Cervone, Daniel P.	PhD, Stanford University
French-Rolnick, Sabine	PhD, New York University
Goldman, Susan	PhD, University of Pittsburgh

Herbener, Ellen	PhD, Harvard University
Kassel, Jon David	PhD, University of Pittsburgh
Larson, Jr., James R.	PhD, University of Washington
Maki, Pauline M.	PhD, University of Minnesota
McKirnan, David J.	PhD, McGill University (Canada)
Mermelstein, Robin J.	PhD, University of Oregon
Morgan-Short, Kara	PhD, Georgetown University
Murphy, Mary	PhD, Stanford University
Ohlsson, Stellan	PhD, University of Stockholm
Pellegrino, James W.	PhD, University of Colorado
Ragozzino, Michael	PhD, University of Virginia
Raney, Gary E.	PhD, University of Florida
Reilly, Stephen	PhD, University of York (England)
Reyes, Karina	PhD, DePaul University
Riger, Stephanie	PhD, University of Michigan
Roitman, Jamie	PhD, University of Washington-Seattle
Roitman, Mitchell	PhD, University of Washington-Seattle
Ruderman, Audrey J.	PhD, Rutgers University
Shankman, Stewart	PhD, Stony Brook University
Skitka, Linda J.	PhD, University of California, Berkeley
Storm, Benjamin	PhD, University of California, Los Angeles
Sweeney, John A.	PhD, Syracuse University
Trickett, Edison J.	PhD, Ohio State University
Weissberg, Roger P.	PhD, University of Rochester
Wiley, Jennifer	PhD, University of Pittsburgh
Wirtshafter, Robert David	PhD, University of Illinois at Chicago

Slavic and Baltic Languages and Literatures

Kurczaba, Alex	PhD, University of Illinois at Urbana-Champaign
McQuillen, Colleen	PhD, Columbia University
Subacius, Giedrius	PhD, Vilnius University (Lithuania)
Thomas, Alfred	PhD, Cambridge University, Trinity Hall
Vaingurt, Julia	PhD, Harvard University

Sociology

Barrett, Richard E.	PhD, University of Michigan
Bielby, William	PhD, University of Wisconsin-Madison
Campbell, Richard T.	PhD, University of Wisconsin-Madison
Collins, Sharon M.	PhD, University of Michigan
Decoteau, Claire	PhD, University of Michigan
Flores-Gonzalez, Nilda	PhD, University of Chicago
Garcia, Lorena	PhD, University of California, Santa Barbara
Gordon, Rachel A.	PhD, University of Chicago, Harris School
Guevarra, Anna	PhD, University of California, San Francisco
Hall, Matthew Stephan	PhD, Pennsylvania State University
Halpern, Sydney A.	PhD, University of California, Berkeley
Herring, Cedric	PhD, University of Michigan

Krysan, Maria	PhD, University of Michigan-Ann Arbor
McInerney, Paul-Brian	PhD, Columbia University
Orum, Anthony M.	PhD, University of Chicago
Popielarz, Pamela	PhD, Cornell University
Risman, Barbara	PhD, University of Washington
Schaffner, Laurie	PhD, University of California, Irvine
Semyonov, Moshe	PhD, State University of New York at Stony Brook

College of Medicine

Anatomy and Cell Biology	
Art, Jonathan J.	PhD, University of Chicago
Bongarzone, Ernesto	PhD, University of Buenos Aires
Brady, Scott T.	PhD, University of Southern California
Carter Porges, Carol Sue	PhD, University of Arkansas
Diekwisch, Thomas G.H.	PhD, Philipps-University of Marburg (Germany)
Feinstein, Douglas	PhD, The Johns Hopkins University
George, Anne	PhD, University of Madras (India)
Givogri, Maria Irene	PhD, National University of Cordoba (Argentina)
Ikegaki, Naohiko	PhD, University of Pennsylvania
Kumar, Nalin	PhD, University of Oxford
LaDu, Mary Jo	PhD, University of Illinois
Lazarov, Orly	PhD, Weizmann Institute of Science (Israel)
Lieska, Norman G.	PhD, Wayne State University
Little, Deborah M.	PhD, Brandeis University
Lysakowski, Anna	PhD, University of Illinois
Morfini, Gerardo	PhD, National University of Cordoba (Argentina)
Nakajima, Shigehiro	MD, PhD, University of Tokyo
Nakajima, Yasuko	MD, PhD, University of Tokyo
Pandey, Subhash	PhD, Central Drug Research Institute (India)
Pescitelli, Maurice	PhD, University of Illlinois
Pigino, Gustavo	PhD, National University of Cordoba (Argentina)
Pollack, Emanuel D.	PhD, University of Iowa
Raj, Usha	MD, University of Bombay (India)
Rogalski-Wilk, Adrienne A.	PhD, University of Illinois
Smalheiser, Neil	MD/PhD, Yeshiva University
Tang, Xao	PhD, University of Pennsylvania
Unnerstall, James R.	PhD, Johns Hopkins University
Wolf, William	PhD, George Washington University
Biochemistry and Molecular Genetics	
Ackerman, Steven J.	PhD, McGill University (Canada)
Caffrey, Michael S.	PhD, University of Arizona
Colley, Karen J.	PhD, Washington University in St. Louis
Friedenson, Bernard A.	PhD, University of Minnesota
Frolov, Maxim	PhD, Moscow State University
Gaponenko, Vadim	PhD, University of Cincinnati

Grayson, Dennis	PhD, Wayne State University
Guidotti, Alessandro	PhD, New York University
Hay, Nissim	PhD, Weizmann Institute of Science (Israel)
Kaplan, Jack H.	PhD, University of London
Katzen, Alisa L.	PhD, University of California, San Fransico
Kaufman, Elliot R.	PhD, Princeton University
Lau, Lester F.	PhD, Cornell University
Lavie, Arnon	PhD, Brandeis University
Liao, Xiubei	PhD, University of Illinois at Urbana-Champaign
Merrill, Bradley	PhD, University of California, San Diego
Nakamura, Toru	PhD, University of Colorado at Boulder
Raychaudhuri, Pradip	PhD, University of Michigan
Shikano, Sojin	PhD, University of Tokyo
Simonovic, Miljan	PhD, University of Illinois
Tyner, Angela L.	PhD, University of Chicago
Biomedical Sciences	
Billman, Penny	PhD, Purdue University
Chen, Aoshuang	PhD, University of Cincinnati
Hanakahi, Leslyn A.	PhD, Yale University
He, Xiaolong	PhD, Second Military Medical University (Shanghai)
Kalyanasundaram, Ramaswamy	PhD, University of Calgary (Canada)
Kolhatkar, Rohit Balkrishna	PhD, Wayne State University
Kouris, Steven Paul	MD, Des Moines University
MacDowell, Martin	PhD, University of Texas School of Public Health
Munirathinam, Gnanasekar	PhD, Indian Institute of Technology
Puri, Neelu	PhD, AIMS New Delhi
Salafsky, Bernard P.	PhD, University of Washington
Sidik, Khalifah	PhD, Washington State University
Sutliff, Thomas M.	PhD, Case Western Reserve University
Zheng, Guoxing	PhD, University of Cincinnati
Medical Education	
Bordage, Georges	PhD, Michigan State University
Downing, Steven M.	PhD, Michigan State University
Harris, Ilene B.	PhD, University of Chicago
Kamin, Carol	PhD, University of Houston
Murphy, Timothy F.	PhD, Boston College
Sandlow, Leslie J.	MD, Chicago Medical School
Schwartz, Alan	PhD, University of California, Berkeley
Sufian, Sandra	PhD, New York University
Tekian, Ara S.	PhD, MHPE, American University of Beirut
Yudkowsky, Rachel	MD, Northwestern University
Microbiology and Immunology	
Bouvier, Marlene	PhD, McGill University (Canada)

Chakrabarty, Ananda M.	PhD, University of Calcutta
Chen, Zheng W.	MD, PhD, Tsinghua University
Federle, Michael	PhD, Emory University
Freitag, Nancy	PhD, University of California, Los Angeles
Gartel, Andrei	PhD, Institute of Virology, Academy of Medical Sciences (Russia)
He, Bin	PhD, Purdue University
Kenney, Linda J.	PhD, University of Pennsylvania
Kenter, Amy L.	PhD, Albert Einstein College of Medicine
Li, Qingbo	PhD, Iowa State University
Lipton, Howard	MD, University of Nebraska
McLachlan, Alan	PhD, University of Aberdeen (Scotland)
Prabhakar, Bellur S.	PhD, Johns Hopkins University
Rong, Lijun	PhD, Purdue University
Shukla, Deepak	PhD, University of Illinois at Chicago
Ucker, David	PhD, University of California, San Francisco
Uprichard, Susan	PhD, Harvard University
Volz, Karl W.	PhD, University of California, San Diego
Walden, William E.	PhD, Morgan State University
Pathology	
Bosland, Maarten C.	PhD, University of Ultrecht (The Netherlands)
Campbell-Lee, Sally A.	MD, Albany Medical College of Union University
Diamond, Alan M.	PhD, State University of New York at Stony Brook
Gann, Peter	ScD, Harvard University
Guzman-Hartman, Grace	MD, University of Santo Tomas College of Medicine (Phillippines)
Janda, William M.	PhD, Northwestern University Wellington
Kadkol, Shrihari	PhD, University of Illinois at Chicago
Kajdacsy-Balla, Andre	PhD, Escola Paulista de Medicina
Lindgren, Valerie	PhD, University of Chicago
Nonn, Larisa	PhD, University of Arizona
Setty, Suman	PhD, University of Minnesota
Valyi-Nagy, Tibor	MD, Medical University of Debrecen (Hungary); PhD, Hungarian Academy of Sciences
Wright, Margaret	PhD, Yale University
Yang, Wancai	MD, Xinxiang Medical College
Pharmacology	
Benya, Richard V.	MD, Wake Forest University
Bonini, Marcelo	PhD, University of Sao Paulo
Carnegie, Graeme	PhD, University of Dundee (U.K.)
Chishti, Athar	PhD, University of Melbourne (Australia)
Cho, Jaehyung (Gus)	PhD, University of Wisconsin-Madison
Colamonici, Oscar R.	MD, Facultad de Medicina (Uruguay)
Du, Xiaoping	MD, PhD, Sydney University
Fukai, Tohru	MD, PhD, Kyushu University (Japan)
Garcia, Joe GN	MD, University of Texas Southwestern/Dallas
Guenthner, Thomas M.	PhD, University of Minnesota

Hu, Guochang	MD, PhD, China Medical University
Komarova, Yulia	PhD, Moscow State University
Kozasa, Tohru	MD, PhD, University of Tokyo
LeBreton, Guy C.	PhD, University of Chicago
Levitan, Irena	PhD, Hebrew University of Jerusalem
Malik, Asrar B.	PhD, University of Toronto
Mehta, Dolly	PhD, University of Nebraska-Lincoln
Minshall, Richard D.	PhD, University of Illinois at Chicago
Nakajima, Shigehiro	PhD, University of Tokyo
Natarajan, Viswanathan	PhD, Indian Institute of Science
O'Bryan, John P.	PhD, University of North Carolina at Chapel Hill
Radulovacki, Miodrag	PhD, University of Belgrade (Serbia)
Skidgel, Randal A.	PhD, University of California, San Diego
Tiruppathi, Chinnaswamy	PhD, University of Madras (India)
Ushio-Fukai, Masuko	PhD, Kyushu University (Japan)
Wary, Kishore	PhD, North-Eastern Hill University (India)
Xu, Jingsong	PhD, University of Southern California
Ye, Richard D.	MD, PhD, Washington University in St. Louis
Yuan, Jason X-J	MD, PhD, Chinese Academy of Medical Sciences
Zhao, You-Yang	PhD, Shanghai Institute of Biochemistry
Physiology and Biophysics	
Appel, Sarah B.	PhD, University of Illinois at Chicago
Banach, Kathrin	PhD, University of Bern (Switzerland)
Brodie, Mark S.	PhD, University of Illinois at Chicago
Christman, John William	MD, Indiana University
de Lanerolle, Primal	PhD, University of California, San Diego
Dudley, Samuel C.	PhD, Virginia Commonwealth University
Fiat, Daniel	DSc, Israel Institute of Technology
Frasor, Jonna	PhD, University of Illinois at Chicago
Garcia-Martinez, Jesus	MD, PhD, Centro de Investigacion y Estudios Avanzados del IPN (Mexico)
Geenen, David	PhD, University of Michigan
Gibori, Geula	PhD, Tel Aviv University
Heydemann, Ahlke	PhD, University of Chicago
Ke, Yunbo	PhD, Ohio State University
Kennedy, John M.	PhD, Medical College of Virginia
Lewandowski, E. Douglas	PhD, Oxford University
Popov, Sergey V.	PhD, Moscow State University
Prins, Gail S.	PhD
Rao, Mrinalini C.	PhD, University of Pittsburgh
Rasenick, Mark M.	PhD, Wesleyan University
Rubinstein, Israel (Rudi)	MD, Hebrew University Hadassah School of Medicine (Israel)
Sadikot, Ruxana T.	MD, University of Bombay
Solaro, R. John	PhD, University of Pittsburgh
Stocco, Carlos O.	PhD, University of San Luis and National Research Council of Argentina
Strakova, Zuzana	PhD, Slovak Technical University

Thulborn, Keith R.	MD, Washington University
Tobacman, Larry	MD, Case Western Reserve University
Wolska, Beata M.	PhD, Postgraduate Center of Medical Education (Warsaw)
Zhu, Xiaohong	PhD, University of Illinois at Urbana-Champaign

College of Nursing

Anderson, Mary Ann	PhD, University of Iowa
Baldwin, Kathleen	PhD, University of Illinois at Chicago
Berger, Barbara	PhD, RN, University of Illinois at Chicago
Berry, Jean K.	PhD, University of Illinois at Chicago
Breitmayer, Bonnie J.	PhD, Cornell University
Briones, Teresita (Tess)	PhD, University of Michigan
Burgener, Sandra C.	PhD, Wayne State University
Burke, Sandra Drozdz	PhD, University of Illinois at Chicago
Camune, Barbara	PhD, University of Texas School of Public Health
Carley, David W.	PhD, Harvard University
Choi, Heeseung	DSN, University of Texas
Christensen, Kathryn	DNSc, Rush University
Collins, Eileen	PhD, Loyola University
Corbridge, Susan	PhD, University of Illinois at Chicago
Corte, Colleen M.	PhD, University of Michigan
Covey, Margaret K.	PhD, University of Illinois at Chicago
Dallas, Constance Miles	PhD, University of Illinois at Chicago
Dancy, Barbara L.	PhD, Saint Louis University
Dunn-Lopez, Karen	PhD, University of Iowa
Eldeirawi, Kamal	PhD, University of Illinois at Chicago
Ezenwa, Miriam O.	PhD, University of Wisconsin-Madison
Ferrans, Carol Estwing	PhD, University of Illinois at Chicago
Finnegan, Lorna	PhD, University of Illinois at Chicago
Fitzpatrick, Therese	PhD, University of Wisconsin-Madison
Fritschi, Cynthia	PhD, University of Illinois at Chicago
Gallo, Agatha M.	PhD, University of Pennsylvania
Giurgescu, Carmen	PhD, Loyola University Chicago
Gorman, Geraldine	PhD, Loyola University
Gruss, Valerie	PhD, Rush University
Hacker, Eileen	PhD, University of Illinois at Chicago
Hamilton, Rebekah J.	PhD, University of Wisconsin-Madison
Heinschel, Judith (Judie) A.	PhD, University of Colorado Health Sciences Center
Hennessy, Mary Dawn	PhD, University of Pennsylvania
Hershberger, Patricia E.	PhD, University of Illinois at Chicago
Hill, Pamela D.	PhD, University of Iowa
Hoff, Julie	PhD, University of Illinois at Chicago
Hopcia, Karen	ScD, Harvard School of Public Health
Hughes, Tonda L.	PhD, University of Illinois at Chicago
Humpherys, Carol	DNSc, Indiana University
Jones, Krista	PhD, University of Illinois at Chicago
Kapella, Mary Kay	PhD, University of Illinois at Chicago

Kavanaugh, Karen	PhD, University of Illinois at Chicago
Keenan, Gail M.	PhD, University of Illinois at Chicago
Kim, Jin	Phd, University of Illinois at Chicago
Kim, Mi Ja	PhD, University of Illinois at Chicago
Klima, Carrie	PhD, University of Connecticut
Krassa, Teresa	PhD, Wayne State University
Lee, Eunice E.	PhD, University of Illinois at Chicago
Lewis, Patricia Ryan	PhD, University of Illinois at Chicago
Matthews, Alicia K.	PhD, State University of New York
Matthiesen, Valerie J.	PhD, Rush University
McCreary, Linda	PhD, University of Illinois at Chicago
McDevitt, Judith H.	PhD, University of Illinois at Chicago
McElmurry, Beverly J.	EdD, Northern Illinois University
McFarlin, Barbara	PhD, University of Illinois at Chicago
Miller, Arlene G	PhD, Northwestern University
Nacion, Karla Witt	PhD, University of Illinois at Chicago
Norr, Kathleen F.	PhD, University of Michigan
Ohlson, Susan	PhD, University of Illinois at Chicago
Piano, Mariann R.	PhD, University of Illinois at Chicago
Pogue, Nancy	PhD, University of Illinois at Urbana-Champaign
Powell, Kathryn Wirtz	PhD, Rush University
Quinn, Lauretta	PhD, University of Illinois at Chicago
Reno, Karen	PhD, Benedictine University
Ryan, Catherine	PhD, University of Illinois at Chicago
Savage, Teresa A.	PhD, University of Illinois at Chicago
Schraeder, Cheryl D.	PhD, Indiana University
Sefton, Marlene	PhD, University of Illinois at Chicago
Simmons, Barbara	PhD, Loyola University
Slimmer, Lynda	PhD, University of Illinois at Chicago
Smith, Carrol	PhD, University of Illinois at Chicago
Snyder, Marsha	PhD, Loyola University
Sparbel, Kathleen	PhD, University of Iowa
Stogis, Sheryl L.	DrPH, University of Michigan
Storfjell, Judith I.	PhD, University of Michigan
Stratton, Karen	PhD, University of Colorado Health Science Center
Vincent, Catherine	PhD, Wayne University
Vonderheid, Susan	PhD, University of Illinois at Chicago
Wang, Chih-Hsuing Edward	PhD, Case Western Reserve University
West, Rebecca	PhD, University of Wisconsin
White-Traut, Rosemary C.	PhD, Rush University
Wilkie, Diana J.	PhD, University of California, San Francisco
Zak, Connie (Concetta)	DNP, Rush University
Zenk, Shannon	PhD, University of Michigan
Zerwic, Julie A.	PhD, University of Minnesota

College of Pharmacy

Biopharmaceutical Sciences	
Barbolina, Maria	PhD, Engelhardt Institute of Molecular Biology of Russian Academy of Sciences
Beck, William T.	PhD, George Washington University
Gaensslen, Robert E.	PhD, Cornell University
Gemeinhart, Richard A.	PhD, Purdue University
Hong, Seungpyo	PhD, University of Michigan
Jeong, Hyunyoung	PhD, University of Illinois at Chicago
Koch, Ronald L.	PhD, University of Illinois at Chicago
Negrusz, Adam	PhD, Nicolaus Copernicus Medical Academy (Poland)
Onyuksel, Hayat	PhD, University of London
Schlemmer, R. Francis	PhD, University of Illinois at Chicago
Tonetti, Debra A.	PhD, Loyola University Chicago
Wang, Zaije Jim	PhD, University of California, San Francisco

Medicinal Chemistry and Pharmacognosy	
Bolton, Judy L.	PhD, University of Toronto
Bruzik, Karol S.	PhD, Polish Academy of Science
Burdette, Joanna	PhD, University of Illinois at Chicago
Che, Chun-Tao	PhD, University of Illinois at Chicago
Chen, Shao-Nong	PhD, Lanzhou University
Dietz, Birgit M.	PhD, Heinrich-Heine University
Farnsworth, Norman R.	PhD, University of Pittsburgh
Federle, Michael	PhD, Emory University
Franzblau, Scott G.	PhD, University of Arizona
Gaponenko, Vadim	PhD, University of Cincinnati
Hanakahi, Leslyn A.	PhD, Yale University
Jaki, Birgit Ursula	PhD, Swiss Federal Institute of Technology
Johnson, Michael E.	PhD, Northwestern University
Kozikowski, Alan P.	PhD, University of California, Berkeley
Krunic, Aleksej	PhD, University of Illinois at Chicago
Lee, Hyunwoo	PhD, University of Illinois at Chicago
Lu, Matthias C.H.	PhD, Ohio State University
Luo, Jia	MS, Temple University
Mankin, Alexander S.	PhD, Moscow State University
Movahedzadeh, Farah	PhD, University College (London)
Murphy, Brian T.	PhD, Virginia Polytechnic Institute and State University
Nikolic, Dejan	PhD, University of Illinois at Chicago
Orjala, Jimmy	Swiss Federal Institute of Technology (ETH)
Pauli, Guido F.	PhD, Institute of Pharmaceutical Biology, Heinrich Heine-University, Duesseldorf (Germany)
Petukhov, Pavel A.	PhD, Novosibirsk Institute of Organic Chemistry (Russia)
Santarsiero, Bernard D.	PhD, University of Washington
Soejarto, Djaja D.	PhD, Harvard University
Swanson, Steven M.	PhD, University of Illinois at Chicago
Thatcher, Gregory R.	PhD, University of Toronto
Thomas, Douglas	PhD, Louisiana State University Health Sciences Center
van Breemen, Richard	PhD, Johns Hopkins University

Vazquez-Laslop, Nora Cecillia	PhD, National Autonomous University of Mexico
Wang, Zaije Jim	PhD, University of California, San Francisco
Woodbury, Charles P.	PhD, University of Wisconsin-Madison
Pharmacy Administration	
Bauman, Jerry L.	PhD, University of Missouri-Kansas City
Bishop, Jeffrey	PharmD, University of Iowa
Cavallari, Larisa	PharmD, University of Georgia
Crawford, Stephanie Yvonne	PhD, University of Texas at Austin
Danziger, Larry	PharmD, University of Cincinnati
Engle, Janet	PharmD, University of Illinois at Chicago
Fisher, James H.	PharmD, University of Minnesota, Crookston
Johnson, Jeremy	PharmD, University of Wisconsin-Stevens Point
Lambert, Bruce L.	PhD, University of Illinois at Urbana-Champaign
Lee, Todd	PhD, University of Washington
Mahady, Gail B.	PhD, University of Illinois at Chicago
Mrtek, Robert G.	PhD
Pickard, Alan Simon	PhD, University of Alberta (Canada)
Popovich, Nicholas G.	PhD, University of Illinois at Chicago
Rodvold, Keith A.	PharmD, University of Minnesota
Sodhi, Monsheel S.	PhD, University of London
Stubbings, JoAnn	MHCA, University of Mississippi
Touchette, Daniel R.	PharmD, Wayne State University
Walton, Surrey M.	PhD, University of Chicago

School of Public Health

Community Health Sciences	
Altfeld, Susan J.	PhD, University of Illinois at Chicago
Barnes-Boyd, Cynthia Alee	PhD, University of Illinois at Chicago
Chavez, Noel	PhD, Saint Louis University
DuBois, David L.	PhD, University of Illinois at Urbana-Champaign
Fagen, Michael	PhD, University of Illinois at Chicago
Handler, Arden S.	DrPH, University of Illinois at Chicago
Herbert-Beirne, Jennifer Mary	PhD, University of Illinois at Chicago
Hughes, Susan L.	PhD, Columbia University
Issel, L. Michele	PhD, University of Washington
Kelley, Michele A.	ScD, Johns Hopkins University
Kennelly, Joan Frances	PhD, University of Illinois at Chicago
Kviz, Frederick J.	PhD, University of Illinois at Chicago
Lenihan, D. Patrick	PhD, University of Illinois at Chicago
Muramatsu, Naoko	PhD, University of Michigan-Ann Arbor
Peacock, Nadine	PhD, Harvard University
Peters, Karen E.	DrPH, University of Illinois at Chicago
Prohaska, Thomas R.	PhD, Virginia Commonwealth University
Ramirez-Valles, Jesus	PhD, University of Michigan-Ann Arbor

Risley, Kristina Y.	DrPH, University of Alabama at Birmingham
Rowitz, Louis	PhD, University of Illinois
Ruggiero, Laurie	PhD, Louisiana State University
Turnock, Bernard John	MD, University of Illinois at Chicago

Environmental and Occupational Health Science

Ahonen, Emily Quinn	PhD, Universitat Pompeu Fabra (Barcelona)
Boulos, Badi M.	PhD, University of Missouri
Cailas, Michael D.	PhD, McGill University (Canada)
Conroy, Lorraine M.	ScD, Harvard University
Dorevitch, Samuel	MD, University of Chicago
Erdal, Serap	PhD, University of Pittsburgh
Forst, Linda S.	MD, MPH, Michigan State University; University of Illinois
Franke, John E.	PhD, University of Illinois at Chicago
Friedman, Lee	PhD, University of Illinois at Chicago
Jones, Rachael Mary	PhD, University of California, Berkeley
Lacey, Steven	PhD, PDRF, University of Illinois of Chicago; Johns Hopkins University
Li, An	PhD, University of Wisconsin-Madison
Zanoni, Joseph	PhD, University of Illinois at Chicago

Epidemiology/Biostatistics

Anderson, Robert J.	PhD, University of Michigan
Bailey, Robert C.	PhD, Harvard University
Bhaumik, Dulal	PhD, University of Maryland
Campbell, Richard T.	PhD, University of Wisconsin-Madison
Chen, Hua Yun	PhD, University of Michigan
Davis, Faith G.	PhD, Yale University
Demirtas, Hakan	PhD, Pennsylvania State University
Dworkin, Mark	MD, Rush Medical College
Freels, Sally A.	PhD, Northwestern University
Freeman, Vincent	MD, MPH, University of Chicago; University of Illinois at Chicago
Hedeker, Donald R.	PhD, University of Chicago
Hershow, Ronald C.	MD, State University of New York, Stony Brook School of Medicine
Kaste, Linda M.	PhD, DDS, University of North Carolina at Chapel Hill
Kittles, Rick	PhD, George Washington University
Liu, Li C.	PhD, University of Illinois at Chicago
Mehta, Supriya	PhD, Johns Hopkins University
Olshansky, S. Jay	PhD, University of Chicago
Persky, Victoria W.	MD, Albert Einstein University
Rankin, Kristin Michele	PhD, University of Illinois at Chicago
Rauscher, Garth	PhD, University of North Carolina at Chapel Hill
Rosenberg, Deborah	PhD, University of Illinois at Chicago
Stayner, Leslie	PhD, University of North Carolina
Williams, Chyvette T.	PhD, Johns Hopkins University
Xie, Hui	PhD, Columbia University

Health Policy and Administration

Calhoun, Elizabeth Ann	PhD, University of South Carolina
Darnell, Julie	PhD, University of Chicago
Dobrez, Deborah G.	PhD, Indiana University
Fitzgibbon, Marian	PhD, Long Island University
Helmchen, Lorens A.	PhD, University of Chicago
Kim, Seijeoung	PhD, University of Illinois at Chicago
Levy, Judith A.	PhD, Northwestern University
Lo Sasso, Anthony T.	PhD, Indiana University
Mensah, Edward K.	PhD, Iowa State University
Mullner, Ross	PhD, University of Illinois at Urbana-Champaign
Swartzman, Daniel K.	JD, Northwestern University; MPH, University of Illinois at Chicago
Zwanziger, Jack	PhD, Rand Graduate School

Jane Addams College of Social Work

Alleyne Green, Binta D.	PhD, University of Tennessee, Knoxville
Bennett, Larry W.	PhD, University of Illinois at Chicago
Borum, Valerie	PhD, Howard University
Dettlaff, Alan	PhD, University of Texas at Arlington
Falconnier, Lydia A.	PhD, University of Chicago
Gaston, Gina B.	PhD, University of Illinois at Chicago
Gleeson, James P.	PhD, University of Illinois at Chicago
Hairston, Creasie Finney	PhD, Case Western Reserve University
Hsieh, Chang-ming	PhD, University of Pennsylvania
Johnson Butterfield, Alice K.	PhD, Washington University in St. Louis
Leathers, Sonya	PhD, University of Chicago
Linsk, Nathan L	PhD, University of Chicago
Mattaini, Mark A.	DSW, Columbia University
McCoy, Henrika	PhD, Washington University in St. Louis
McKay, Cassandra	PhD, University of Illinois at Chicago
Mitchell, Christopher G.	DSW, Catholic University of America
Nebbit, Von	PhD, Washington University in St. Louis
O'Brien, M. Patricia	PhD, University of Kansas
Phillips, Susan	PhD, University of North Carolina at Chapel Hill
Shepard Payne, Jennifer	PhD, University of California, Los Angeles
Smith-McKeever, T. Chedgzsey	PhD, University of Texas at Austin
Swartz, James A.	PhD, Northwestern University
Watson, Amy	PhD, University of Chicago
Wheeler-Brooks, Jennifer	PhD, University of Kansas

College of Urban Planning and Public Affairs

Public Administration	
Beam, George	PhD, University of Michigan
Feeney, Mary K.	PhD, University of Georgia
Hendrick, Rebecca M.	PhD, Michigan State University
Holbrook, Allyson	PhD, Ohio State University
Johnson, Timothy P.	PhD, University of Kentucky

Mastracci, Sharon	PhD, University of Texas at Austin
Merriman, David Franklin	PhD, University of Wisconsin-Madison
Mossberger, Karen	PhD, Wayne State University
Pagano, Michael A.	PhD, University of Texas at Austin
Thompson, James R.	PhD, Syracuse University
Welch, Eric Wayne	PhD, Syracuse University
Wu, Yonghong	PhD, Syracuse University
Urban Planning and Policy	
Al-Kodmany, Kheir	PhD, University of Illinois at Urbana-Champaign
Ashton, Philip	PhD, Rutgers University
Betancur, John-Jairo	PhD, University of Illinois at Chicago
Drucker, Joshua	PhD, University of North Carolina at Chapel Hill
Foerster, James F.	PhD, University of North Carolina
Gills, Douglas C.	PhD, Northwestern University
Hoch, Charles John	PhD, University of California, Los Angeles
Jaffe, Martin S.	JD, Wayne State University
Kawamura, Kazuya	PhD, University of California, Berkeley
Nanetti, Raffaella Y.	PhD, University of Michigan
Parker, Brenda K.	PhD, University of Wisconsin-Madison
Perry, David C.	
Smith, Janet Lynn	PhD, Cleveland State University
Sriraj, P. S.	PhD, Illinois Institute of Technology
Thakuriah, Piyushimita (Vonu)	PhD, University of Illinois at Chicago
Theodore, Nikolas C.	PhD, University of Illinois at Chicago
Vidyarthi, Sanjeev	PhD, University of Michigan-Ann Arbor
Weber, Rachel N.	PhD, Cornell University
Winkle, Curtis R	PhD, Rutgers University
Zellner, Moira	PhD, University of Michigan
Zhang, Tingwei	PhD, University of Illinois at Chicago

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Graduate Study at UIC

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Important Note: This is the archived version of the 2012–2014 Graduate Catalog. The information on these pages was archived on August 22, 2012 and will not be updated as requirement and/or program changes are approved.

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- University Regulations
- Tuition, Fees, and Other Charges
- Withdrawal from the University
- Withdrawal to Enter Military Service
- Financial Obligations and Refunds
- Transcripts

Graduate College
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Phone: (312) 413-2550
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Email: gradcoll@uic.edu
Web Site: http://grad.uic.edu
Dean of the Graduate College: Karen J. Colley
Associate Deans: Aixa Alfonso, Jonathan Art, Laura Junker
Assistant Dean: Steven Kragon

The Graduate College of the University of Illinois at Chicago is made up of faculty members from various disciplinary colleges in the University. In conjunction with their disciplinary colleges and under the guidelines of the Graduate College, these faculty members offer advanced academic and research programs for highly qualified postbaccalaureate students. All students admitted to a master's program (except the Master of Business Administration, the Master of Engineering, the Master of Public Health, or the Master of Social Work programs) or a doctoral program (except the Doctor of Dental Surgery, Doctor of Medicine, Doctor of Pharmacy, Doctor of Physical Therapy, or the Doctor of Public Health at UIC) are enrolled in the Graduate College.

Master's Degrees

The following master's degrees are offered through the Graduate College at UIC: the Master of Architecture, the Master of Arts, the Master of Education, the Master of Energy Engineering, the Master of Fine Arts, the Master of Health Professions Education, the Master of Healthcare Administration, the Master of Public Administration, the Master of Science, the Master of Arts

in Teaching (History), the Master of Science in Teaching (Mathematics), and the Master of Urban Planning and Policy.

Doctoral Degrees

The *Doctor of Philosophy (PhD)* at UIC places traditional emphasis on the advancement of knowledge through independent research in the candidate's chosen field and the presentation of an original thesis. The degree is intended primarily for those who want the highest level of research training and who wish to pursue careers in colleges and universities, research institutes, and public agencies or industrial and business organizations.

The *Doctor of Arts (DA)* is a professional degree for college teachers and instructional designers. It combines the rigor and high level of scholarship in the subject matter of the Doctor of Philosophy with the acquisition of special skills in modern instructional methods. The program is designed to provide training through special courses and thesis research in such areas as curriculum design, teaching methodology, the creation of instructional materials, computer-assisted instruction, and educational evaluation. The Doctor of Arts is offered in the Department of Mathematics.

The *Doctor of Education (EdD)* offers advanced professional studies in education leadership. It is intended for students who wish to assume leadership positions in elementary and secondary schools and in postsecondary institutions. Options are available for general leadership studies, or for study leading to Illinois school administrative certification. This program is offered by the College of Education.

The *Doctor of Nursing Practice (DNP)* degree is a practice-focused doctoral program that prepares nursing leaders for the highest level of nursing practice beyond the initial preparation in the discipline. Graduates of DNP programs are prepared for direct care roles (e.g., nurse practitioners, clinical nurse specialists, nurse midwives) and indirect care or systems-focused roles (e.g., administrative, public health, and policy roles) or a blend of these roles. This program is offered by the College of Nursing.

The *Doctor of Occupational Therapy (OTD)* degree provides students with advanced professional knowledge and skills in advanced therapeutic work, administration and leadership, and/or professional education. The program is offered in the Department of Occupational Therapy.

Joint Degree Programs

UIC offers students the opportunity to pursue more than one graduate degree at the same time, either through one of our approved joint degree programs, or through concurrent enrollment in more than one UIC program. Approved joint degree programs share a defined number of courses that are applied to both degrees. Joint degree programs currently available through the Graduate College are the DMD/MS (Clinical and Translational Science); MA (Anthropology)/MPH, MBA/MS (Accounting); MBA/MA (Economics); MBA/MS (Management Information Systems); MBA/MS (Nursing); MD/MS (Clinical and Translational Science); MPH/MS (Nursing); MS (Nursing)/MS (Health Informatics); MSW/MPH (Effective Spring 2013); PharmD/PhD (Pharmacy); PharmD/MS (Health Informatics); PharmD/MS (Clinical and Translational Science) and the Medical Scientist Training Program (MD/PhD). Applicants to the Medical Scientist Training Program should request a special application from the UIC College of Medicine (312) 996-5635.

Applicants who wish to apply to more than one degree program must submit a separate application for each department involved, even if applying to an approved joint degree program. Applicants applying to more than one program should indicate on all applications submitted that they intend to pursue more than one degree at a time. Only one application fee per term and only one set of transcripts is required for applicants applying to more than one graduate program.

Directors of Graduate Studies

Each graduate program has a director of graduate studies (DGS) who is responsible for overseeing program development, evaluating applications for admission to the Graduate College, advising graduate students, and evaluating student progress. The director of graduate studies is listed at the beginning of each program entry in this catalog.

Academic Year

The academic year at UIC consists of two sixteen-week semesters (including the final examination periods) that begin in August (fall semester) and January (spring semester), and summer sessions that begin in mid-May and continue to August. The summer session consists of a four-week session followed by an eight-week session. Within the fall and spring terms, certain courses are offered during either the first 8 weeks (part of term A) or second 8 weeks (part of term B). The Registrar's website at http://registrar.uic.edu details registration policy and procedure. In most programs, a student may seek admission to any academic term; however, the scheduling in many programs makes it desirable or necessary that students enter in the fall term.

Campus Hours

Hours of instruction at UIC begin at 8:00 a.m., Monday through Friday. Many programs offer classes in the late afternoon and evening. Administrative offices are open between 8:30 a.m. and 4:45 p.m., Monday through Friday.

Admissions

Applicants are considered on an individual basis. Admission decisions are made in compliance with the University of Illinois Nondiscrimination Statement listed in this catalog and on the following Web site http://grad.uic.edu/cms/?pid=1000048.

Prospective students should consult the appropriate section(s) of this catalog for the specific admission requirements of each program.

Conflicts of Interest in the Admissions Process

The Graduate College recognizes that the graduate admissions process does not, and should not, operate "blindly." Programs and faculty members frequently recruit students of whom they have direct knowledge. Furthermore, the admission process for a doctoral program will frequently take into account the "fit' between a prospective graduate student's interests and those of the faculty in the program. However, the admissions process should, and should be seen to, take into account only academic and programmatic considerations when admitting and recruiting students.

Policy

Program faculty participating in the graduate admissions process shall recuse themselves in any case where they have, or appear to have, a conflict of interest concerning the applicant. A conflict of interest is present if the faculty may have an interest in the outcome (admission or rejection) other than the recruitment of the most qualified applicants. This includes, in particular, any situation where there is the possibility that a faculty member might employ a prospective graduate student in a non-university activity, such as a consulting firm, biotechnology company, etc. Particular care must be taken when voting on the admission of students whose qualifications are in any fashion marginal.

For further information refer to http://grad.uic.edu/cms/?pid=1001027.

Degree Admissions

Degree admissions are classified as either full or limited status. Students admitted on limited standing are those admitted on a provisional basis. Requirements for limited standing admission must be approved and supported by the Graduate College. The Graduate College with the advice of the graduate department sets the conditions for limited standing.

Full Status

The Graduate College minimum requirements for full status degree admission are as follows:

- **Prior Degrees** Except for seniors at UIC (see *Graduate Study by UIC Undergraduate Seniors*), a baccalaureate or its equivalent from an accredited college or university.
- **Transcripts** Required from all institutions where the applicant earned the last 60 semester (90 quarter) hours of credit toward the baccalaureate degree and from all institutions where postbaccalaureate work has been done.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, including all of the work taken in the quarter or semester in which the student began the final 60 semester hours of undergraduate study. The cumulative grade point average obtained in all work completed beyond the baccalaureate will also be computed and considered in the admissions decision.
- **Tests Required** Applicants whose native language is not English must take either the Test of English as a Foreign Language (TOEFL) or the exam of the International English Language Testing System (IELTS). The test score cannot be more than two years old. For TOEFL, a minimum score of 550 (paper-based), or 80, with subscores of Writing 21, Speaking 20, Listening 17, and Reading 19 (Internet-based TOEFL) is required by the Graduate College; many departments have a higher minimum. UIC's Institutional Code for TOEFL is 1851. For IELTS, a minimum score of 6.5, with 6.0 in each of the four subscores is required by the Graduate College. IELTS does not use an institutional code. No other tests are required by the Graduate College, but may be required by the department/program (e.g., GRE).
- **Letters of Recommendation** Not required by the Graduate College, but may be required by the department/program.
- **Personal Statement** Not required by the Graduate College, but may be required by the department/program.
- **Other Requirements** Additional requirements of some programs include academic writing sample, portfolio, resume, etc. In addition, recommendation for admission by the graduate program to which application is made and by the dean of the Graduate College.

Note: The above requirements are the minimum Graduate College requirements for admission as a degree student; most programs have additional requirements. Consult the appropriate section(s) of this catalog for the specific admission requirements of each program.

Limited Status

Limited status is a probationary status for degree students who have not met all of the admission requirements, such as those who have less than a 2.75/4.00 undergraduate grade point average; have specified course deficiencies to be removed; must submit additional credentials required by the program (such as letters of recommendation or admissions test scores); or are UIC seniors within 8 semester hours of earning the baccalaureate at the time of matriculation.

A department can recommend that a student be admitted on limited status to the Graduate College. The Graduate College makes the final decision.

To admit applicants on limited status, the graduate program will recommend to the Graduate College specific conditions for admission. Graduate College approval is required for admission of limited students. Students can be admitted on limited status for no more than two semesters (including summer) or 16 semester hours, whichever occurs earlier. Graduate programs may specify shorter time limits. If the conditions are not met within the time limit, the program will notify the Graduate College and the student will be dismissed from the Graduate College.

Graduate Study by UIC Undergraduate Seniors

With the approval of the graduate program, the undergraduate or professional college, and the Graduate College, UIC students in their last year of study for an undergraduate degree may be

admitted to the Graduate College if they are within 8 semester hours of earning the baccalaureate at the time of matriculation. These students will be admitted on limited status for no more than two terms in residence, pending completion of the baccalaureate. These students register as graduate students and are eligible for fellowships, assistantships, and graduate tuition waivers. Courses used to fulfill undergraduate degree requirements are transferred back to the undergraduate college and cannot be applied to a graduate degree.

Applicants who are admitted to limited status pending completion of their bachelor's degree must be awarded the undergraduate degree within two terms in residence. If this condition is not satisfied, graduate admission is cancelled and the student is transferred back to the undergraduate college.

Application Procedures

Application is through an online form which may be accessed at http://grad.uic.edu/cms/?pid=1000019. Applications and supporting credentials should be submitted as early as possible. Applications received after the deadline will be returned to the applicant. Some graduate programs have application deadlines that are earlier than the University deadline, and some admit students in the fall semester only. Prospective applicants should contact the program of interest for information on current deadlines.

The following credentials, if required by the program, should be sent directly to the graduate program office:

- Letters of recommendation
- Personal statements
- Portfolios
- Proof of licensing or certification
- Any other credentials required by the program

Admission recommendations cannot be made until all required documents have been received.

Domestic Applicants

Applicants to programs other than the professional degree programs (Business Administration [MBA], Engineering [MEngr], Public Health [MPH, DrPH], and Social Work [MSW]) should submit the following materials directly to the Graduate Admissions division of the Office of Admissions unless directed otherwise by the program:

- **Graduate College Application,** completely filled out and submitted electronically.
- **Nonrefundable application fee of $60.** This fee is waived for applicants seeking readmission who have been previously enrolled at UIC as a graduate student, and employees of UIC.
- **Official transcripts,** which must be sent directly from the issuing school to UIC's Office of Admissions.
- **Test scores,** which must be sent directly from the testing service to UIC (Institutional Code for GRE is R1851; for GMAT is 1929).

International Applicants

Applicants to programs other than the DrPH, MBA, MEngr, MPH, or MSW programs should submit the following materials directly to the Graduate Admissions division of the Office of Admissions unless directed otherwise by the program:

- **Graduate College Application,** completed and submitted electronically.
- **Nonrefundable application fee of $60** (U.S. currency). This fee is waived for applicants seeking readmission who have been previously enrolled at UIC as a graduate student, and employees of UIC.
- **Official transcripts** must be sent directly from the issuing school to UIC's Office of Admissions.
- **TOEFL, IELTS, and other test scores** must be sent directly from the testing service to UIC (Institutional Code for TOEFL is 1851; for GRE is R1851; for GMAT is 1929).

- **Declaration and Certification of Finances form**
  http://www.ois.uic.edu/files/Dec%20of%20Finances%20Fall%202009.pdf.

Postsecondary Credentials

Applicants who have completed studies outside the United States must present all postsecondary school credentials. Such credentials must include a record of all studies completed to date, grades or examination results received (including failing as well as passing grades), maximum and minimum grades obtainable, rank in class, degrees, diplomas, and certificates earned, and length of the school year. Documents must be authentic, and those not written in English must be accompanied by certified English translations. Copies are acceptable when certified as authentic by the issuing institution. All documents should be sent directly to UIC by the issuing institution.

Test of English as a Foreign Language and International English Language Testing System

Applicants whose native language is not English must take either the Test of English as a Foreign Language (TOEFL) or the exam of the International English Language Testing System (IELTS). The test score cannot be more than two years old.

The TOEFL is administered by the Educational Testing Service, Box 899, Princeton, NJ 08540. The Graduate College requires a minimum score of 550 for the paper-based test; or total score of at least 80 for the Internet-based (iBT), with minimum subscores of Writing 21, Speaking 20, Listening 17, and Reading 19. Many departments have higher minimum TOEFL requirements. Consult the department listing for details. UIC's Institutional Code is 1851.

The IELTS is administered by the International English Language Testing System and is jointly managed by the British Council, IDP: IELTS Australia and the University of Cambridge ESOL Examinations (Cambridge ESOL) through more than 500 locations in 120 countries. The Graduate College requires a minimum total score of 6.5 and minimum subscores of 6.0 for each of the four sections. Many departments have higher minimum IELTS requirements. Consult the department listing for details. UIC's mailing address for IELTS results is: UIC Office of Graduate Admissions (MC 018), Box 7994, Chicago, Illinois 60680-7994.

The TOEFL and IELTS are given at regularly scheduled intervals at testing centers throughout the world. Information on testing dates, locations, and the testing fee may be obtained at American embassies and consulate offices of the U.S. Educational Foundation (also consult http://www.ets.org and www.ielts.org). The TOEFL or IELTS examination is not required for students who have completed at least two academic years of full-time study in a country where English is the native language and in a school where English is the language of instruction within five years of the proposed date of enrollment in the University.

Visa Certification

International applicants granted admission to the University, where applicable, will receive visa request documents from the Office of International Services to assist in the application for a visa to enter the United States. Official admission letters are sent from the Office of Admissions. International applicants admitted to online programs are not eligible to receive a student visa or I-20.

Financial Arrangements

International students must be able to finance themselves fully, including room and board, tuition, books, other expenses, and travel to and from the United States. Only a limited number of assistantships are available, so applicants should not plan on any financial assistance from UIC unless they receive a written offer of aid from a department.

All international applicants who plan to finance the cost of attending UIC from personal resources must certify that they will have available sufficient funds to cover their academic and

living expenses for the academic year, plus living expenses for a summer. The exact amount required is set each year by the University of Illinois Board of Trustees. The amount is subject to change depending on tuition and room/board changes. The appropriate certification form can be obtained from the Office of International Services Web site http://www.ois.uic.edu/files/Dec%20of%20Finances%20Fall%202009.pdf. Applicants who are unable to provide satisfactory evidence of adequate finances or who have not sent a notarized certified statement verifying funds available and their source will not be granted admission. Official admission letters and visa documents cannot be sent until certification is received.

International students may apply for fellowships, assistantships, and tuition waivers. These financial aids are awarded on the basis of outstanding scholarship and academic merit. Contact the director of graduate studies of the program of interest for more information. If awarded, this aid is included in the total funds that the international applicant is required to have for proof of sufficient finances.

Oral English Proficiency of Teaching Assistants

Illinois state law requires that the University attest to the English proficiency of all classroom instructors, including teaching assistants. Teaching assistants who are not native speakers of English (regardless of their citizenship status) must have their oral English proficiency assessed by the appointing department. The method of assessing English proficiency is at the discretion of the appointing unit and may include standardized tests and/or interviews. The department head of the hiring unit must certify in writing that the student has sufficient oral English proficiency to provide classroom instruction before the student's appointment papers will be processed.

Nondegree Applicants

Nondegree status is designed for two types of applicants who hold the baccalaureate:

- Individuals who do not wish to pursue a degree but want to take courses for professional or scholarly reasons or personal enrichment.
- Individuals who have been out of school for several years or in a different field of study and wish to take a few courses before deciding whether to apply for a degree program.

The Graduate College minimum requirements for nondegree admission are as follows:

- **Graduate College Application,** completed and submitted electronically.
- **Nonrefundable application fee of $60** (U.S. currency). This fee is waived for applicants seeking readmission who have been previously enrolled at UIC as a graduate student, and employees of UIC.
- **Prior Degrees** A baccalaureate or its equivalent from an accredited college or university. Nondegree applicants must submit proof of the degree with their application.
- **Transcripts** Not required by the Graduate College.
- **Tests Required** Applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The test score cannot be more than two years old. The Graduate College requires a minimum score of 550 for the paper-based test; or total score of at least 80 for the Internet-based (iBT), with minimum subscores of Writing 21, Speaking 20, Listening 17, and Reading 19. Many departments have higher minimum TOEFL requirements. UIC's Institutional Code is 1851. No other tests are required by the Graduate College.
- **Other Requirements** International students who require certification of admission (I-20 or DS-2019) sent to the U.S. Citizenship and Immigration Services (USCIS) will not be admitted as nondegree students.

Some programs require additional credentials for nondegree admission, and some programs do not admit nondegree students. Applicants can be admitted as nondegree, but remain ineligible to register for certain classes. It is the responsibility of the applicants to contact the program offering the course(s) to determine their eligibility to enroll.

Changing from Nondegree to Degree

Nondegree graduate students interested in changing to degree status must submit a Graduate College Application online. All application credentials must be on file before the change to degree status will be considered. The application and all credentials must be submitted by the degree application deadline of the program to which the student is applying.

No more than 12 semester hours of credit earned as a nondegree student can be transferred into the degree program. Students must file a petition for the transfer of nondegree credit; only graduate-level courses taken in the last six years in which a grade of A or B was earned will be considered. See *Transfer Credit* for more information.

Note: Admission to nondegree status does not obligate the Graduate College or any graduate program to later admit a student to a degree program.

Changing Academic Programs/Adding a Second Program

Currently enrolled graduate students who wish to change to or add a second degree program, or change between master's and doctoral levels within a program, must submit a completed Request for Change of Graduate Program form to the Graduate College at least two weeks prior to the term for which the change is requested, although some programs may have an earlier deadline. This form must be signed by both the old and new departments, and for international students on an F-1, J-1, or J-2 visa, the Office of International Services. Students should meet with the director of graduate studies of the new program to discuss procedures, deadlines, and credentials required. A Petition for Transfer Credit listing all previously completed courses accepted by the new department should be attached to the Request for Change form, if applicable.

Students must use the Request for Change of Graduate Program form to transfer within the Graduate College or between the Graduate College and the MBA Program, the Master of Engineering Program, the Master of Public Health, the Doctor of Public Health, or the Master of Social Work Program. Complete instructions and deadlines are detailed on the back of the form. The form is available from the Graduate College Web site, https://grad.uic.edu/pdfs/form_Chprfrm3.pdf.

Financial Aid

The University of Illinois at Chicago offers six basic types of financial aid for graduate students: fellowships, assistantships, tuition-and-selected-fee waivers, traineeships, loans, and employment. Applicants for these types of aid must be admitted to a graduate degree program or have a completed application pending. Eligibility for loans is determined by the Office of Student Financial Aid. Applicants for loans should go directly to the Office of Student Financial Aid. Applications for fellowships, assistantships, and tuition/fee waivers are available in the department office, the Graduate College Office, and on the Graduate College Web site. In the administration of these programs and in selecting students for participation in them, the University of Illinois at Chicago adheres to the Nondiscrimination Statement printed in this catalog and on the following Web site, http://www.uic.edu/depts/oae/Nondiscrimination.html.

Fellowships & Awards

Fellowship stipends are awarded in recognition of scholarly achievement and promise. They enable students to pursue graduate studies and research without a service requirement. The stipends of different fellowships vary. Unless explicitly stated otherwise, the following fellows supported by the Graduate College receive a tuition-and-selected-fee waiver: University Fellowships, University/Deiss Fellowships, Dean's Scholar, Abraham Lincoln Fellowships, and Diversifying Higher Education Faculty in Illinois (DFI). Fellows may engage in paid employment only to the extent permitted by the award and approved in writing by the dean of the Graduate College.

The following fellowships are available through the Graduate College: University Fellowships, University/Deiss Fellowships, Dean's Scholar Award, Abraham Lincoln Graduate Fellowships, Diversifying Higher Education Faculty in Illinois (DFI) Fellowships, and the Chancellor's Graduate Research Fellowship. The Graduate College also offers the Provost's Award and the Deiss Provost's Award to support graduate student research projects. Please refer to http://grad.uic.edu/cms/?pid=1000082 and http://grad.uic.edu/cms/?pid=1000083 for more information. Additionally, students may consult the Graduate College's external fellowship and financial aid coordinator for information on all types of graduate funding. The coordinator assists students in finding funding opportunities and aids them with their applications. Please refer to http://grad.uic.edu/cms/?pid=1000078 for more information.

Assistantships

The colleges, graduate programs, administrative offices, and research centers appoint graduate students as teaching, research, or graduate assistants.

- **Work Schedule** The weekly clock hours of service required of assistants are twenty for a half-time appointment and the proportional fraction of time for other appointments.
- **Stipend** The minimum stipend for an appointment of 50 percent time for the nine-month academic year is $14,565 (in AY 11-12); many departments offer a greater amount.
- **Waivers** Tuition, the service fee, the health service fee, the library and information technology assessment, and the academic facilities maintenance fund assessment are waived for assistants if the appointment is between 25 and 67 percent for at least three-quarters of the term (91 calendar days in fall or spring semester, 41 calendar days during the summer session). Consult the Academic Human Resources Web site for specific dates that will satisfy the 91-day and 41-day requirements http://www.uic.edu/depts/hr/uichr/ahr/minimagrad.html. Graduate students who hold academic appointments as assistants for the spring semester and for whom tuition and selected fees have been waived are entitled to a waiver for the summer term immediately following, provided they are registered for at least three hours during that summer term.
- **Registration Requirements** Graduate students who hold academic appointments as assistants are required to register for at least 8 hours each semester. Some programs may require registration for more than 8 hours per term and/or summer registration. International students on an F-1 visa must register for a minimum of 8 hours for a 50% appointment, 10 hours for a 33% appointment, and 12 hours for a 25% appointment. The Graduate College does not require summer registration; however, a minimum of 3 hours registration is required to receive a summer tuition-and-selected-fee waiver.

Board of Trustees Tuition-and-Fee Waiver

UIC provides a limited reserve of Board of Trustees (BOT) waivers to the UIC Graduate College, which are awarded to programs in three ways: allocated per semester, for students who have won individual internal and external fellowships, and for students selected for external training grants by programs. (These are distinct from the tuition-and-fee waivers allocated with assistantships.) Students who are interested in receiving a waiver must speak to the director of graduate studies for their program. All waivers are requested by the academic program and conveyed to the Graduate College, not by the student. A student holding a BOT waiver must fulfill certain registration requirements. The student must also be in good standing. Tuition, the service fee, the health service fee, a portion of the health insurance fee, the library and information technology assessment, and the academic facilities maintenance fund assessment are waived as well as any differential tuition when assessed; the remainder of the health insurance fee and other fees are the student's responsibility. Part-time BOT waivers are available to those in specific programs designated by the Graduate College.

Registration Requirements Students with a BOT waiver must register for at least 12 hours per semester (6 in the summer term). If a student drops below 12 hours of registration at any time during the semester (or 6 hours in the summer term), the waiver is rescinded and the student is billed the tuition, service fee, health service fee, library and information technology assessment, the academic facilities maintenance fund assessment, and the differential when assessed. Students who hold a BOT waiver due to having received a fellowship or being put on a training grant need to consult with the Graduate College if they wish to hold any sort of

assistantship while on the fellowship, and the Graduate College reserves the right to refuse the request or rescind the BOT waiver. Students who hold a departmental allocated BOT waiver are not permitted to simultaneously hold any sort of assistantship, but may accept part-time employment, not to exceed twenty hours a week, within the University.

Other Sources of Financial Aid

Traineeships

Training grants are awarded to graduate programs to support student involvement in specific activities. The grant may support students with stipends and/or tuition-and-selected-fee waivers. To be eligible, students must be admitted to a graduate degree program or have a completed application pending. Students should contact the director of graduate studies in their program for information on the availability of traineeships. Many training grants support students from related departments, and are interdisciplinary in nature.

Industrial, Endowed, and Special Fellowships

Various industrial firms, foundations, and private individuals have generously donated funds to support a number of special fellowships for graduate students at the University of Illinois at Chicago. The stipends and supplemental allowances of these fellowships are not uniform, and most are restricted to students in particular areas of study. Students should contact the director of graduate studies in their program for information on the availability of special fellowships.

Illinois Veterans Scholarship

The Illinois Veterans Scholarship covers the admissions application fee, tuition, and a small varying portion of the service fee. Contact the Office of Student Financial Aid, Room 1800, 1200 West Harrison Street, (312) 996-3126, for more information and applications. Students should bring a copy of their DD-214 when submitting an application.

University Administered Loans and Work Study

UIC's Office of Student Financial Aid (OSFA) awards and coordinates assistance from a variety of federal and state financial aid programs. Graduate students are eligible for Federal Stafford Loans, Graduate Plus Loans, Federal Work Study, and private loans.

Applicants for financial aid awarded through the OSFA must be U.S. citizens or permanent residents and must have applied for admission to a degree-granting program of the University. To receive assistance, students must be admitted to and enrolled in a degree-granting program.

Students may also consult the external fellowship coordinator in the Graduate College for further information about outside sources of funding opportunities. Please refer to http://grad.uic.edu/cms/?pid=1000079.

Enrollment

Graduate students are governed by the policies of the University of Illinois at Chicago, the Graduate College, their disciplinary (line) college, and their department, and they are expected to become familiar with these policies. The Graduate Catalog in effect when the student begins enrollment in a degree program is the primary source of information on Graduate College policies pertaining to the student. Many of the University and departmental policies are listed in this catalog, and most programs have policy manuals for graduate students. When a department requirement is approved by and exceeds that of the Graduate College, it replaces the Graduate College standard.

Adding and Dropping Courses

Students may not add or drop a course after the tenth day of instruction in a semester unless approved by the director of graduate studies and the Graduate College. Please check the Office of the Registrar Web site http://www.uic.edu/depts/oar/registration/policies_procedures.html#dropping for the summer session deadlines.

No refund of tuition will be issued for a drop after the tenth day of instruction regardless of final deadline, unless the student withdraws from the University (see section on fees). Consult the *Schedule of Classes,* published each term, for current deadlines (https://ossswebcs.admin.uillinois.edu/PORTAL_UIC/classsch.html).

Holders of fellowships, assistantships, and tuition and fee waivers must maintain the required number of semester hours through the end of the term or risk loss of their tuition-and-selected-fee waiver for the term. Students who lose their waivers will be billed the full cost of tuition and fees. Students on visas must maintain the registration requirements of their visa (for clarification, contact the Office of International Services).

Advisors

All graduate students must have an academic advisor in the graduate program in which degree work is to be done. The academic advisor assists in planning a program of graduate study that fits the needs of the student and satisfies the graduate program and Graduate College requirements. New students should consult the director of graduate studies to discuss the selection of an academic advisor. All PhD candidates must have a dissertation advisor who is a member of the Graduate College faculty. Both master's and doctoral students must have a major advisor (academic or research) who is a member of the Graduate College faculty.

Unassigned nondegree students do not have a formal advisor. These students must receive approval from an authorized person in the program(s) offering the course(s) they wish to take each term prior to attempting registration.

Chicago Metropolitan Exchange Program

The Chicago Metropolitan Exchange Program (CMEP) is an agreement between the University of Illinois at Chicago, Northwestern University, and the University of Chicago that enables doctoral students to take advantage of educational opportunities—specialized courses, unique library collections, or laboratories—at these campuses.

CMEP participants should have matriculated into a doctoral program at UIC and must receive prior written approval from their advisor, their department head, and the UIC CMEP liaison officer. With these approval signatures, students must then seek permission from the host institution to take the desired course(s). The application and approval process must be accomplished using CMEP form. CMEP traveling scholars register and pay for the CMEP credit at UIC (and UIC rates) and also make arrangements to register at the host institution through its CMEP liaison officer. A leave of absence is not required, since participants are registered at UIC during their stay at the other institution.

Students should consult their director of graduate studies, the Graduate College Web site or the UIC CMEP liaison officer in the Graduate College for more information. See http://grad.uic.edu/cms/?pid=1000979.

Concurrent Registration with UIUC

In addition to the Chicago Metropolitan Exchange Program (CMEP), students registered at UIC are eligible to take courses offered at the University of Illinois at Urbana-Champaign through the process of concurrent registration. Students must be registered at UIC for the term they are attempting concurrent registration. Approval is needed from the student's UIC

department and the department offering the course in Urbana. Students should consult with the UIC Registrar's Office on process and additional information.

Continuation and Probation Rules

Graduate students are considered to be in good standing in the Graduate College if they:

- Have removed all limited status admission conditions;
- Have a minimum Graduate Degree GPA of 3.00 (see below); and
- Are making satisfactory progress toward degree requirements, including a project or thesis if required.

Academic Standing as viewed in the student database and *Student Self-Service* in *my.uic.edu*only reflects the result of the minimum Graduate Degree GPA as listed above. Students on limited status admission who have a Graduate Degree GPA of 3.00 or higher are listed in good standing, and unless specified by the graduate program, are eligible to hold assistantships and tuition waivers.

Note: Graduate programs may require a higher level of performance and may apply criteria in addition to those stated above. If a student fails to meet the performance or other criteria stated by the program as determined by the Graduate College, the program may notify the Graduate College to initiate dismissal.

Limited Status

Limited admission status students must meet the conditions imposed by this status and progress to full degree status within two semesters or any shorter amount of time set forth in the letter of acceptance. Failure to do so will result in dismissal from the University.

Graduate Degree GPA

The Graduate Degree GPA is the average of grades earned by graduate students in their current degree program, whether or not the courses are part of degree requirements. Only graduate-level courses in which an A, B, C, D, or F is earned are included in the Graduate Degree GPA computation. A graduate-level course is any 400- or 500-level course, and any 300-level course taken under the quarter system. General transfer credit taken at other institutions is not computed in the Graduate Degree GPA. However, grades earned through the CIC Traveling Scholar Program are included. Grades earned as a nondegree student, or while a student in other UIC colleges or a different graduate program, will be computed if the courses are applied to the current graduate program through an approved transfer of credit petition.

Probation

Academic probation is the Graduate College's mechanism for warning students that their Graduate Degree GPA has fallen below the minimum standard of 3.00/4.00. Students have two terms of enrollment (including summer, if registered) after the term in which their Graduate Degree GPA falls below 3.00 to remove themselves from probation. Departments may enforce stricter limits on probation, provided the student is informed in writing prior to being placed on probation.

Students who leave the University while on probation, whether through formal withdrawal or through failing to meet the registration requirement, will still be on probation if they are later readmitted to the same program. Students who are admitted to a new program begin as new students (i.e., the Graduate Degree GPA starts over). Students currently on probation or who left the University on probation will not be admitted to the same program as nondegree students. Readmission as a degree-seeking student is not guaranteed.

Students who fail to raise their average to 3.00 or to otherwise fulfill the terms of their probation within the deadline will be dismissed from the University. The Graduate College

issues probation and dismissal notices to students and their program directors. However, failure to receive notice does not change the student's probation or dismissal status, since students are expected to monitor their own progress in light of Graduate College policies.

Course Loads

Students who can devote full attention to their studies usually enroll for 12 to 16 semester hours each term. In exceptional cases, the advisor and director of graduate studies may permit a student to enroll for up to 20 hours. Registration for more than 20 hours is not recommended but is possible with approval of the director of graduate studies. The Graduate College at UIC has defined full-time enrollment as 9 hours each fall and spring term and 5 hours in the summer. Half-time is defined as 5 hours each fall and spring term and 3 hours in summer. Three-quarters time is defined as 8 hours each fall and spring semester and 4 hours in summer.

Important notes to this general definition:

- **International Students** For purposes of enrollment certification to U.S. Citizenship and Immigration Services (USCIS) of the United States Department of Homeland Security, **International Graduate Students must maintain one of the following registration options to meet SEVIS requirements and be considered full-time:**
  - (a) 9 hours of registration during the fall and spring semester; this applies to students without an assistantship, or with an assistantship below 50%;
  - (b) 8 hours of registration during the fall and spring semester and a 50% graduate assistantship.

    Students on an F-1 visa may be eligible to register for zero hours if all requirements are complete except for project or thesis (if not a recipient of a fellowship, tuition-and-selected-fee waiver, or assistantship), and a petition is submitted to the Graduate College and approved. The petition must be endorsed by the advisor, DGS, or head of program and the Office of International Services.
    For questions regarding immigration and SEVIS requirements, please contact the Office of International Services.
- **Fellowship Holders** Must register for at least 12 hours of credit per semester of award (summer registration optional but if the tuition-and-selected-fee-waiver is to be used a minimum of 6 hours is necessary).
- **Tuition-and-Selected-Fee-Waiver Holders** Must register for at least 12 hours of credit per semester of award (6 in summer).
- **Assistantship Holders** Must register for at least 8 hours of credit each semester of appointment, excluding summer. International students on an F-1 visa must register for a minimum of 8 hours for a 50% appointment, or 9 hours for an appointment less than 50%. While summer enrollment for assistants is optional, assistants who wish to use their summer tuition-and-selected-fee waivers must register for at least 3 hours during that term. Some graduate programs may require registration for more than 8 hours per term and/or summer registration. There are no tuition-and-selected-fee waiver benefits for students employed with less than 25% or more than 67% appointment. Assistants who qualify for a spring tuition-and-selected-fee waiver automatically receive a summer waiver if registered in at least 3 hours in summer unless holding a summer appointment above 67%.
- **Academic departments may have specific registration requirements. Please check with the department to be sure all departmental requirements are met.**

Course Numbering

001–099

Courses numbered 001–099 do not carry academic credit but meet special program requirements. These courses carry semester hours that do not count toward the total hours required for graduation, but do count in the calculation of tuition and toward full- or part-time enrollment status and financial aid eligibility. Grades for these courses are not calculated in the grade point average.

100–399

Courses numbered 100–399 are generally intended for undergraduate students. Graduate students may need to enroll in such courses as prerequisites for more advanced courses or for general knowledge about a subject. Availability may be limited for some courses until undergraduate enrollment is determined. Grades for these courses are not calculated in the Graduate Degree GPA.

400–499

Courses numbered 400–499 are intended for advanced undergraduate and graduate students. Students will note that some 400-level courses listed in the catalog and *Schedule of Classes* have sections (CRNs) with differential credit (i.e., one CRN is offered for 3 semester hours for undergraduate students and one CRN is offered for 4 semester hours for graduate students). Undergraduate students who enroll in a 400-level course should enroll in the designated, lower-credit-level CRN. Graduate students should enroll in the designated, higher-credit-level CRN. If taken as an undergraduate with the intention to later transfer the credit into a graduate program at UIC, only the lower-credit would transfer.

500–599

Courses number 500–599 are intended for graduate students.

600–699

Courses number 600 and above are intended for medical professional degrees (eg., DMD, MD). Credit is not allowed for students in Graduate College programs.

Grades

The following grades are used:

- **A**—4 grade points per semester hour.
- **B**—3 grade points per semester hour.
- **C**—2 grade points per semester hour.
- **D**—1 grade point per semester hour (not accepted as degree credit).
- **F**—0 grade point per semester hour (failure; not accepted as degree credit).
- **DFR**—grade temporarily deferred. Deferred grades may be used for thesis courses, continuing seminar, sequential courses, and certain courses that require extensive independent work beyond the term. At the end of the continuing course sequence the deferred grade for all terms must be converted either to a specific letter grade (A–F), to an IN (Incomplete), or to an S or U. No credit is earned until the DFR grade is converted to a permanent grade.
- **I**—Incomplete. An incomplete grade may be given only if, for reasons beyond the student's control, required work has not been completed by the end of the term. An I must be removed by the end of one calendar year after the term in which the I was received. **Note:** Course instructors may require an earlier deadline. An I that is not removed by the deadline will remain on the student's record as an I, with no credit earned (or may be replaced by a grade, at the instructor's discretion, before the Graduate College deadline to change an I grade). A course in which an I was received and not removed by the deadline may be repeated for credit only once.
- **CR**—Credit; **NC**—No Credit. Used only in courses taken under the credit/no credit grading option. No grade points are earned and the grade is not computed in the grade point average. If the required work for the course has not been completed by the end of the term, at the instructor's discretion an I may be given. Graduate students may take courses on a credit/no credit basis provided that: (1) the courses are not within their immediate area of specialization, (2) such courses account for no more than one-sixth of the total number of course hours taken at the University of Illinois at Chicago and counted toward a degree, and (3) they declare their intention to take a course on this basis at the time of registration and have the approval of their advisor and director of graduate studies. Some programs do not allow any credit/no credit courses to be used toward degree requirements. Credit/No credit grades cannot be changed to grades A–F at a later date.
- **S**—Satisfactory; **U**—Unsatisfactory. Used as grades in thesis research courses, in zero-credit courses, and in specifically approved courses. No grade points are earned and the grade is not computed in the cumulative grade point average or the graduate degree

grade point average. In the case of thesis research courses, instructors should assign an S or U grade to the course each term. They may assign a DFR grade each term until after the thesis defense is successfully completed, the thesis committee accepts the format and content of the thesis, and the Graduate College approves the format of the thesis, but this is not recommended. In the latter case, the Graduate College will notify the registrar to change the DFR grades to S. An Unsatisfactory grade can be assigned at any time when the student is not making satisfactory progress in thesis research. If this should occur, the status of the student will be reviewed by the advisor, the director of graduate studies, and the Graduate College, and the student may be dismissed from the Graduate College.

- **W**—Withdrawn. Officially withdrawn from the course without academic penalty; no credit is earned for the course. Assigned if course is dropped after the tenth day of the semester (fifth day in summer) and before the last day of instruction for the term. This grade will remain on the transcript but does not affect the grade point average or Graduate Degree Grade Point Average.
- **AU**—Visitor/Audit. Current students who successfully complete a Visitor's Permit by the registration deadline may request that the course be included on the official transcript with a grade of AU; no credit is earned for the course.

Leave of Absence

Except for international students whose visas require continuous registration, and doctoral students who have passed their preliminary exams, graduate degree-seeking students may take one semester (fall or spring) plus the summer session off without formal leave approval from the Graduate College. Degree students who desire to take an additional consecutive semester off, for a total maximum of three consecutive terms, must file a Graduate Petition for Leave of Absence by the tenth day of the third term for which leave is requested. Nondegree students are not eligible for a leave of absence.

International students who hold an F-1 or J-1 visa must register each fall and spring semester due to visa requirements. Such students must file a Graduate Petition for Leave of Absence for any fall or spring semester they wish to take off, obtaining written authorization on the petition from the Office of International Services. If remaining in the country, such leaves are rarely granted by that office.

Upon receipt of a leave of absence petition from the department/program, the Graduate College will automatically approve the first leave, up to one year maximum. At least one term as a graduate degree student must be completed before being eligible for a leave. After returning to the program from an approved leave, a second leave is not automatic and will only be granted by the Graduate College for medical or other extraordinary reasons.

Leave will not be granted to doctoral candidates who have passed the preliminary exam, except for students whose programs require a formal off-campus activity (e.g., internship), or for documented maternity/family event, medical, family health crisis, or other extraordinary reasons. If this situation occurs, a Graduate Petition for Leave of Absence must be submitted to the Graduate College.

Degree-seeking students will automatically be approved leave, with proper documentation, for the birth or adoption of a child or where child care is required (one year maximum); care of a spouse, child, or parent with a serious health condition; or a serious health condition that makes the student unable to pursue graduate work. The Graduate College encourages students to obtain written acknowledgement (signature) from the director of graduate studies. International students with any of these circumstances must also obtain approval form the Office of International Services.

Degree-seeking (domestic only) students who must leave the University in order to enter into active service with the armed forces in a national or state emergency will be given an indefinite leave. A copy of the orders to report/proof of active service must be attached. Special procedures exist for withdrawing from courses under these circumstances. See the relevant information under *Withdrawal from the University.*

Time spent on leave approved by the department and the Graduate College does not count towards the time to complete the degree.

Students who have already registered for the term for which leave is requested must drop all courses using *Student Self-Service* in *my.uic.edu.* If completed before the first day of the term, all relevant charges for the term are eliminated. If done after the first official day of the term begins, a pro rata refund will be given. Students are responsible for filing the appropriate forms and resultant charges; the leave of absence petition itself does not alter existing registration.

Students who are on an approved leave of absence will not be covered by the health and personal accident insurance plan until they return to active registration.

Petition forms may be obtained from the Graduate College, 606 University Hall, or from the graduate program.

Special Enrollment Categories—Visitors/Auditors

Enrolled students or others wishing to attend meetings of a course without earning academic credit may register as visitors (auditors).

Because the courses offered by the University of Illinois at Chicago are primarily intended for students registering for academic credit, auditors may register only during the add/drop and late registration period. The privilege of attending classes as an auditor is granted on a space-available basis on or after the first day of instruction. Audit registration requires the approval of the course instructor and the dean of the college offering the course, and must be completed no later than the last day of late registration. The instructor or dean may refuse to permit an audit registration in the course.

Degree-seeking students considering the audit option should discuss it with their academic advisors to determine if it is the best choice, or if another grading option, such as credit/no credit, may be more appropriate.

Courses taken for audit do not apply toward any academic degree and do not count as part of a student's full-time or part-time course load for purposes of financial aid, loan deferments, athletic eligibility, or fulfillment of the enrollment residence requirement.

Requirements/Conditions

The following requirements and conditions apply:

- Not all courses may be audited. Each college/department may designate courses that do not accept auditors.
- Students may not audit a course requiring the use of laboratories, studios, or computers; courses offered on an individual instruction basis; military science courses; or physical education and other activity courses. Students who audit a course do not have the privilege of participating in class activities in any way.
- In courses in which auditing is permitted, the instructor will set the attendance conditions of the audit.
- When enrollment limits are a concern, students taking a class for credit will be given preference over auditors.
- Individual college policies may, in some cases, prohibit a student from enrolling for credit after a course has already been taken on an audit basis.
- A student may not receive academic credit for an audited course nor be eligible to take a proficiency examination.
- A student who is auditing a course but who wishes to take the course for credit must change his or her registration by the end of the late registration period.
- There is no limit to the number of courses that may be audited. However, for currently enrolled students, audited courses may be counted toward the maximum number of semester hours allowed for the term.

- Students who have been dismissed from the University for academic or disciplinary reasons, or are otherwise ineligible to attend classes, are not eligible to audit classes.
- A student attending as an auditor only is not considered a continuing student.

Procedure

Students planning to audit a course must complete the following procedure:

- A registration for audit may not be completed until the first day of classes.
- Persons who wish to audit must obtain a Visitor's Permit form from the Office of the Registrar during the Late Registration/Add-Drop period. They must secure the written approval of the course instructor and the dean of the college offering the course, submit the approved Visitor's Permit to Registration and Records, and pay the required audit fee no later than the tenth day of instruction (Please check the Office of the Registrar Web site http://www.uic.edu/depts/oar/registration/policies_procedures.html#dropping for the summer session deadlines).
- Upon request of the student's college, an audited course will be indicated on a currently enrolled student's academic record with a grade of AU.
- If a currently enrolled student wants an audited course to appear on a transcript, the student should make such a request in the Office of the Registrar. The student should submit a note, signed by the instructor, verifying that the student met the regular attendance policy of the course.

Auditors will be assessed an audit fee for the privilege of visiting/auditing a class. Students who are assessed tuition at the full-time rate and those who are exempt from tuition do not pay the audit fee.

Petitions

Students may petition the dean of the Graduate College for exceptions to certain college regulations, but may do so only after consulting with their advisor and the director of graduate studies, whose recommendations must appear on the petition. Petition forms may be obtained from the Graduate College and from the graduate program office and must be accompanied by a full explanation of the circumstances and any appropriate forms and supporting documents required for processing a requested change. **Note:** Petitions should be filed within 30 days from the time an individual knows, or reasonably should have known, that an occurrence has affected his or her status.

Registration

Registration procedures are explained in the University Portal, *my.uic.edu* and class offerings are listed in the *Schedule of Classes* in *my.uic.edu* (https://ossswebcs.admin.uillinois.edu/PORTAL_UIC/classsch.html) each semester. Graduate students are responsible for the complete and accurate processing of their registration according to the guidelines published therein. Graduate students who fail to register for two terms in a row (excluding summer) without taking an approved leave of absence forfeit their admission and must reapply to the Graduate College and be readmitted to the program. Readmission is not guaranteed.

New students may register during the designated period before the beginning of their first term or during the late registration period (days one to ten for fall and spring, days one to five for summer). Currently enrolled students register during the early registration period in the previous term. Students who wait to register at late registration will be assessed a late registration fee and may experience limited course availability.

Registration for Zero Hours

Registration for zero hours is only available to students who have completed all course work, examinations, and all degree requirements except the master's project or thesis or doctoral dissertation or capstone project and who need to maintain registered status at the University. Typical reasons for needing to maintain registration after all course hours for the degree have

been taken include visa registration requirements, requirements of the student's program, and the Graduate College requirement for doctoral students to maintain registration from the preliminary examination through the dissertation defense. Students wishing to register for zero hours must submit a Graduate College petition and receive permission from the director of graduate studies and the Graduate College prior to the start of the term. Once permission is received, students may continue to register for zero hours provided they remain in the same program, continue to make satisfactory academic progress, and are within the time frame for degree completion. Students with a fellowship, assistantship, or Graduate College tuition-and-selected-fee waiver must maintain the minimum registration requirements for their award, and will not be eligible for zero hours.

Option A is for master's students in a project or thesis option and doctoral students who need to maintain registration and will be utilizing University services. Master's students may be required to register for zero hours by their program or USCIS regulations, but the Graduate College does not require registration for defense of a master's thesis or graduation.

Doctoral students (only) who will not be on campus may request Option B, where only the zero-hour tuition, and none of the fees, is assessed. Students on Option B are not eligible to use University services. Doctoral students who want Option B must state Option B and the term(s), up to two semesters at a time, on the petition, and must submit another form if needed in future terms. See *Degree Requirements, Doctoral Degrees, and Master's Degrees.*

Repetition of Courses

Students can repeat a course for credit if:

- The course is designated in the *Schedule of Classes* with the phrase "May be repeated for credit."
- The course is one in which a grade of D, F, NC, or U was received. In such cases the course can be repeated only once and counted only once toward the degree requirements; the original grade continues to be included in the computation of the Graduate Degree GPA. The approval of both the instructor who will give the course and the director of graduate studies is required.
- The course is one in which a student has received a permanent I (see Grades).

Transfer Credit

Consideration is given to the transfer of credit in three categories:

- Previous graduate work for which a degree was not awarded.
- Graduate work completed elsewhere after admission to UIC and for which a degree was not awarded. Students considering taking graduate work elsewhere during a leave of absence should consult their advisor and director of graduate studies about such plans and the courses that may be considered for transfer.
- Graduate work completed in the senior year at UIC that was not applied to the baccalaureate.

Additionally, 32 hours may be granted to a doctoral student with a previous master's degree. The director of graduate studies will determine whether the 32 hours should be granted when the student applies for admission to the program. Technically, this is not transfer credit and does apply to any of the limits listed below.

To be considered for transfer, graduate work must have been completed in an accredited institution approved by one of the regional accreditation associations or by the agencies recognized by the Council for Higher Education Accreditation, and must meet the quality and content of courses offered at UIC.

For probation and graduation purposes, transfer credit is not computed in the cumulative grade point average or Graduate Degree GPA unless such credit was earned in courses taken at UIC.

Limits on Transfer Credit

The specific number of credit hours accepted for transfer is determined on an individual basis. No transfer is automatic.

- **Maximum Allowed Transfer Credit** No more than 25 percent of the hours required for a master's degree requiring 32–47 hours of credit, or more than 50 percent of the hours required for a master's degree requiring 48 or more hours of credit, can be transferred from another institution or another college at UIC. Doctoral students may transfer in no more than 25 percent of the hours required for the degree. This limit is for courses taken as a student in another college at UIC or another institution, but not course work taken in a different program within the Graduate College at UIC.
- Transfer credit is considered only for courses in which the student received a grade of A or B. Credit earned more than six calendar years before admission to the Graduate College is not usually accepted for transfer.
- **Nondegree Credit** Nondegree students who are admitted as degree candidates may, by petition, transfer up to 12 semester hours of graduate-level courses in which grades of A or B were earned. This does not count towards the limits of transfer credit listed above.

Procedures

A Graduate Petition for Transfer Credit toward an Advanced Degree is required for all transfers of credit except the 32 hours of credit for a prior master's degree (see below). The graduate program evaluates the student's petition and makes a recommendation to the Graduate College. The petition should show the courses recommended for transfer by the graduate program and the number of semester hours of credit received. Students must attach to the petition an original transcript showing grades if courses were not taken at UIC, and a certification from the registrar or college dean of the applicable institution stating that the courses are graduate level and were not used toward fulfillment of the requirements for a degree if not self-evident from the transcript itself.

Credit for Prior Master's Degree

Doctoral candidates who have previously earned a master's degree or its equivalent approved by one of the regional accreditation associations or by the agencies recognized by the Council for Higher Education Accreditation may be granted 32 semester hours of credit toward the doctoral degree if approved by the program and the Graduate College at the time of admission. The 32 hours are subtracted from the total hours required for the doctorate from the baccalaureate. The 32 hours are not counted toward the maximum allowed transfer credit limit or computed in the cumulative GPA or Graduate Degree GPA. A petition is not required as the Graduate College is informed of the request directly from the director of graduate studies. A copy of the transcript showing the earned degree is required.

Degree Requirements

The following requirements for individual degrees are the minimum standards of the Graduate College. Most graduate programs have requirements that exceed these minimums. Students should consult the detailed graduate program listings in the catalog as well as their director of graduate studies for a full statement of the requirements of their particular degree program. It is the student's responsibility to be aware of all regulations and requirements and to satisfy them as early as possible.

Changes in Degree Requirements

Program and Graduate College policies and requirements change periodically and may not be immediately reflected in campus publications. The online Graduate Catalog is updated each semester to reflect changes to degree requirements and polices. It is located at http://www.uic.edu/gcat. New degree requirements, however, are not imposed retroactively on continuing graduate students. If degree requirements are changed, students may complete their degree programs under the requirements in effect at the time of their initial enrollment (or readmission, if they discontinued degree status at any time) in the Graduate College. They

have the option, however, of electing to be governed by the new requirements if they so desire, provided that all requirements of one catalog are met.

Students who interrupt their enrollment without prior formal approval lose their status as graduate students (see *Leave of Absence*). If they want to return to a graduate program, they must apply for readmission. For readmitted students the requirements for the degree are those published in the catalog at the time of readmission, or any subsequent catalog, provided all the requirements of one catalog are met.

Degree Program Deadlines

- Master's degree (32 to 40 hours): 5 years
- Master's degree (41 to 64 hours): 6 years
- Doctorate with prior master's degree (minimum 64 hours): 7 years
- Doctorate without master's degree (minimum 96 hours): 9 years

Time spent on an approved leave of absence will not count towards the time to degree. Students who do not graduate by these deadlines may be dismissed from the Graduate College for failure to progress.

Master's Degrees

- **Minimum Semester Hours Required** At least 32 beyond the baccalaureate; some degree programs require more.
- **Course Work** At least 24 hours, or one half of the minimum number of semester hours of graduate work required for the degree, whichever is greater, must be earned as a degree candidate at UIC. At least 9 hours must be at the 500-level, excluding project (597), thesis (598), and independent study courses.
- **Credit** Only 400- and 500-level courses can be applied to a graduate degree. Credit toward a graduate degree is only given for courses in which a student received a grade of A, B, C, CR, or S. Graduate programs may establish higher standards.
- **Registration** Master's students who have completed all course credit requirements but have not yet completed a graduation requirement (e.g., thesis, project, or comprehensive examination) are not required to register unless they hold a fellowship, assistantship, or tuition-and-selected-fee waiver. Students who are on a time-limited visa or are in programs that require continuous registration must petition the program and the Graduate College to register for zero hours in an appropriate course (thesis or project).
- **Foreign Language** Not required by the Graduate College; may be required by the program.
- **Comprehensive Examination** Not required by the Graduate College; may be required by the program. The candidate must be in good academic standing in the Graduate College and the department and have completed all other degree requirements.
- **Thesis or Project** Not required by the Graduate College; may be required by the program. Thesis student must earn at least 5 hours in thesis research (the 598 course offered by their program). A maximum of 40 percent of the total hours of credit required for the degree may be earned in thesis research, unless restricted by the program.
- **Defense** Once the student has completed all graduation requirements and is in good academic standing, he/she must defend the thesis before a committee if graduating under a thesis option. The thesis committee is appointed by the dean of the Graduate College on the recommendation of the student's department or program. This committee consists of at least three persons, one of whom should be a tenured full member of the UIC graduate faculty. (See http://www.uic.edu/gcat/GF.shtml for most recent listing of graduate faculty) . One member of the committee may be from outside the department, academic unit, or outside the University, in which case the member must demonstrate equivalent academic standards and his/her curriculum vitae must accompany the Committee Recommendation Form. A Committee Recommendation Form must be submitted to the Graduate College at least three weeks prior to the thesis defense. A majority of the committee must approve the thesis. A candidate cannot be passed if more than one vote of "fail" is reported. The Examination Report must be signed by all members of the committee and submitted to the Graduate College immediately after the defense. The department head or the director of graduate studies will be required to sign the Certificate of Approval Form before a student is considered to have met all the requirements of the thesis. All committee members should be present at the defense. Specific instructions on the format of the thesis are contained in the booklet, *Thesis Manual,* available in the Graduate College Office, 606 University Hall, and on the Graduate College Web site: (https://grad.uic.edu/pdfs/ThesisManual_rev_07April2009.pdf).

Doctoral Degrees

- **Minimum Semester Hours Required** At least 96 from the baccalaureate or at least 64 from the master's degree; some degree programs require more.
- **Credit for Prior Master's Degree** Doctoral candidates who have previously earned a master's degree or its equivalent from UIC or another accredited institution may be granted 32 semester hours of credit toward the doctoral degree if approved by the program and the Graduate College at the time of admission. Degree equivalency from foreign institutions is determined by the Office of Admissions. The 32 hours are subtracted from the total hours required from the baccalaureate. The 32 hours are not included in the maximum allowed transfer credit limit. A petition is not required as the director of graduate studies informs the Graduate College.
- **Course Work** At least 48 semester hours beyond the master's level or its equivalent must be taken at UIC. The formal course requirements for a master's degree must be met within the 96 hours.
- **Credit** Only 400- and 500-level courses can be applied to the degree. Credit toward a graduate degree is only given for courses in which a student received a grade of A, B, C, CR, or S. Graduate programs may establish higher standards.
- **Registration** Doctoral candidates must be registered for credit the term when they take the preliminary exam. They must also register each semester (excluding summer) after passing the preliminary examination and until successfully defending the dissertation. Students who are taking the preliminary exam or defending their dissertation must be registered during the summer session. If an exam or defense occurs between terms, registration is required in the term just ended.

Students who hold a fellowship, assistantship, or tuition and fee waiver must register each semester for the number of hours required by their award, even if they have completed all degree requirements except the dissertation. See *Course Loads, Financial Aid* sections.

Students who do not hold a fellowship, assistantship, or tuition and fee waiver, and who have completed all degree requirements except the dissertation, and who do not wish to register for additional course work, must either:

Option A: Register for zero hours of credit in thesis research (599) each semester until the degree is awarded (excluding summer unless defending dissertation). Range IV tuition and fees are assessed (see *Schedule of Classes*).

Or

Option B: Must petition for each renewal and specify Option B. Only the range IV tuition (including tuition differential, if applicable) is charged (see *Schedule of Classes in my.uic.edu* at https://osswebcs.admin.uillinois.edu/PORTAL_UIC/classsch.html). No additional fees are assessed. Students may elect from one to two terms with each petition. Students who elect this option are ineligible for student health insurance, U-Pass, and some on-campus facilities.

Permission to use either Option A or B will be considered by the Graduate College upon petition supported by the graduate program. For Option B, the department must certify that no use of University facilities will be made. Students must refile a petition for Option B by the 10th day of the term (5th for summer).

All students must complete and defend the dissertation by the degree deadline, regardless of which option is chosen.

- **Foreign Language** Not required by the Graduate College; may be required by the program.
- **Examinations** *Departmental Qualifying Examination:* Not required by the Graduate College; may be required by the program.
- *Preliminary Examination (Admission to Candidacy) Purpose:* The purpose of the preliminary examination is to determine the candidate's readiness to undertake dissertation research, and passing it constitutes formal admission to candidacy. The examination serves as the last major step toward the PhD degree except for the completion and defense of the dissertation. The examination provides the student with timely feedback of the faculty's views of his/her potential for completing the PhD program. The preliminary examination is distinct from the oral defense of the dissertation project.

- *Timing:* The preliminary examination is generally administered during or near the end of the time the student has completed most, though not necessarily all, of the course work, but has not made a major investment of time and effort towards the dissertation research project. A minimum of one year has to elapse before the defense of the dissertation after passing the preliminary examination. Only students in good academic standing are permitted to take the examination.
- *Committee Composition:* The committee for the preliminary examination is appointed by the dean of the Graduate College upon the recommendation of the department or program. The committee consists of at least five members, of whom at least three are UIC graduate faculty with full membership, and two of whom must be tenured. The chair of the committee must be a full member of the UIC graduate faculty. (See http://www.uic.edu/gcat/GF.shtml for most recent listing of graduate faculty)
- *Grading:* Each member of the examining committee assigns a grade of “Pass” or “Fail.” A candidate cannot be passed with more than one “Fail” vote. The committee may require that specific conditions be met before the “Pass” recommendation becomes effective. On the recommendation of the committee, the head or chair may permit a second examination. A third examination is not permitted.
- *Procedure:* The dean of the Graduate College appoints the committee upon receipt of the Committee Recommendation Form three weeks prior to the preliminary examination. The Examination Report must be signed by all members of the committee and the results submitted to the Graduate College immediately after the exam. Once the student has passed the examination, the dean of the Graduate College will notify the student that s/he has been admitted to candidacy.
- Students who do not complete the degree requirements within five years of passing the preliminary examination must retake the examination; programs may specify a shorter time period. Combined programs leading to two degrees may require additional study beyond the period normally involved for completing requirements for the PhD degree; and may require an extension of the five-year rule.
- **Dissertation** A dissertation is required by the Graduate College.
- *Format:* The format of the dissertation is specified in the booklet, *Thesis Manual*, available in the Graduate College Office, 606 University Hall, and on the Graduate College Web site (https://grad.uic.edu/pdfs/ThesisManual_rev_07April2009.pdf). Students should have a draft of their dissertation checked in their department prior to the term they plan to graduate. Programs are responsible for checking the format and adhering to the guidelines. Students must deposit two copies of their defended and departmentally-approved dissertation to the Graduate College by the deadline for that term. A separate abstract (350 words maximum) must be submitted with the final copy.
- *Prior Publication of Research Findings:* Candidates engaged in thesis research may find it desirable or expedient to publish, prior to the conferring of the degree, certain findings that later will be incorporated in the dissertation. In such cases, appropriate acknowledgment of the earlier publication should be included in the dissertation. The Graduate College encourages such publication, but the dissertation may not be published in its entirety before all degree requirements, including the defense of the dissertation, have been completed.
- *Defense:* The defense of the dissertation is administered after the student has completed all graduation requirements. Only students in good academic standing are permitted to defend their dissertation.
- All candidates for the PhD degree must have an advisor who is a member of the UIC graduate faculty. The advisor is considered the primary reader of the dissertation. The defense must be open to the academic community of the University and be publicly announced one week prior to its occurrence.
- The dissertation committee is appointed by the dean of the Graduate College on the recommendation of the student’s department or program. The defense committee consists of at least five persons, of whom one must be from outside their program. The chair of the committee must be a full member of the UIC graduate faculty. At least two members of the committee must be tenured faculty at UIC; at least one must be from outside the degree-granting program, which may include graduate faculty from other UIC departments or colleges. The outside member can also be from outside the University, in which case the member must demonstrate equivalent academic standards; the member’s curriculum vitae must accompany the Committee Recommendation Form. A Committee Recommendation Form must be submitted to the Graduate College three weeks prior to the dissertation defense. All committee members should be present at the defense. The committee vote is “pass” or “fail.” A candidate cannot be passed if more than one vote of “fail” is reported. The Examination Report must be signed by all members of the committee and submitted to the Graduate College immediately after the defense. The department head or director of graduate studies’ signature is required on the Committee Recommendation Form before a student is considered to have met the requirements of the dissertation.
- *Deadlines:* Two final, approved and defended copies of the dissertation must be submitted to the Graduate College no later than the Graduate College deadline for that

term. PhD candidates who successfully defend their dissertation and submit the final dissertation copy to the Graduate College after the deadline will graduate in the next term.
- *Microfilm Fee:* Following the final examination and acceptance of the thesis, candidates must pay a fee for the microfilming of the complete dissertation and the publication of the abstract in Dissertation Abstracts. Consult the Thesis Manual for more information.

Student Annual Assessments

Effective Fall 2013, Graduate College policy requires doctoral programs to conduct an annual assessment of their doctoral students. Annual assessments are encouraged, though not required, for master's students.

Although programs have options on the content and timing of the assessment, for uniformity and the sake of good practice, the policy requires annual assessment of all doctoral students. In addition, care has been taken to ensure that the policy guards against potential conflicts of interest by requiring that the assessment of doctoral students contains an independent element.

Policy on Annual Assessments of Doctoral Students

Programs must conduct annual academic progress reviews for all enrolled doctoral students at least once every academic year, beginning in the students' first year. Students who are registered under a doctoral program code are considered doctoral students for the purpose of this policy. All annual assessments should include:

1. A student self-assessment of academic progress, and an opportunity for the student to provide evidence of his/her progress.
2. An assessment of the student's academic progress from his/her doctorate advisor (if he/she has one).
3. A written review prepared by an individual or group different from the advisor (e.g., the Director of Graduate Studies (DGS), Department Head/Chair, or group of faculty) that will focus on the student's degree progress, including completion of milestones and student strengths and weaknesses. A copy of the review, that includes items (1) and (2), must be provided to the student.
4. A timely opportunity for the student to discuss this review in person with the DGS (and adviser, when appropriate), if requested by the student. In the event that the student's advisor is the DGS a suitable third party (e.g. the department chair/head or other senior professor) should lead the discussion.
5. An opportunity for written student feedback to the formal review.
6. All of the above are to be retained in the student's academic file in the program/department.

The requirements listed above represent minimum actions, and programs may further develop reviews to incorporate additional items. For additional information refer to http://grad.uic.edu/cms/?pid=1001054.

University Regulations

Student Academic Grievance Procedures

The Student Academic Grievance Procedures define an administrative process through which students may seek resolution of complaints or Grievances regarding academic standing during their enrollment at UIC. These procedures are available on the UIC Web site at http://www.uic.edu/depts/oaa/faculty/FINAL_VERSION_STUDENT_PROCEDURES.pdf.

Student Academic Grievance Procedures Eligibility

A. These procedures may only be used by students:
    1. with a Complaint or Grievance regarding academic standing during their enrollment at UIC.
    2. about an academic decision made about them by an agent (e.g., faculty or staff member, administrator, committee) of the University of Illinois at Chicago that directly and adversely affects the Student.
B. These procedures may *not* be used:

1. in deciding or appealing issues relating to student discipline under the purview of the Senate Student Judiciary Committee;
2. in resolving any complaint, request, or question involving student records subject to campus procedures established under the Family Educational Rights and Privacy Act (FERPA) and contained in the Guidelines and Procedures Governing Student Records (http://www.uic.edu/depts/oar/campus_policies/records_policy.html);
3. by applicants for admission;
4. in review of any decision by any University administrator or properly constituted board or committee relating to allocation of resources to support any unit's projects or programs

Guidelines Regarding Academic Integrity

As an academic community, the University of Illinois at Chicago is committed to providing an environment in which research, learning, and scholarship can flourish and in which all endeavors are guided by academic and professional integrity. All members of the campus community—students, staff, faculty, administrators—share the responsibility of insuring that these standards are upheld so that such an environment exists. Instances of academic misconduct by students, and as defined herein, shall be handled pursuant to the *Student Disciplinary Policy* which is available online http://www.uic.edu/depts/dos/docs/StudentDisciplinaryPolicy0809withpagenumbersandcov.pdf.

Academic dishonesty includes, but is not limited to:

- **Cheating** Either intentionally using or attempting to use unauthorized materials, information, people, or study aids in any academic exercise, or extending to or receiving from another person any kind of unauthorized assistance on any examination or assignment.
- **Fabrication** Knowing or unauthorized falsification, reproduction, lack of attribution, or invention of any information or citation in an academic exercise.
- **Facilitating Academic Dishonesty/Plagiarism** Intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.
- **Bribes, Favors, Threats** Bribing or attempting to bribe, promising favors to or making threats against any person with the intention of affecting a record of a grade or evaluation of academic performance. Any conspiracy with another person who then takes or attempts to take action on behalf or at the direction of the student.
- **Examination by Proxy** Taking or attempting to take an exam for someone else is a violation by both the student enrolled in the course and the proxy or substitute.
- **Grade Tampering** Any unauthorized attempt to change, or actual alteration of grades or any tampering with grades.
- **Nonoriginal Works** Submission or attempt to submit any written work authored, in whole or part, by someone other than the student.

Student Disciplinary Policy

The *Student Disciplinary Policy* is the University's process to handle allegations of misconduct by UIC students. The *Student Disciplinary Policy* addresses both academic misconduct (such as plagiarism, cheating, or grade tampering) and behavioral misconduct (such as theft, assault, under-age drinking, and drug use.)

The main purpose of the *Student Disciplinary Policy* is to insure that students receive due process—which means that every student should have a fair opportunity to express their side of the story before any decisions are made about their disciplinary case. The *Student Disciplinary Policy* was designed to be educational in nature. The *Student Disciplinary Policy* is available online at http://www.uic.edu/depts/dos/docs/StudentDisciplinaryPolicy0809withpagenumbersandcov.pdf.

Rights Under The Family Educational Rights and Privacy Act

Annually, the University of Illinois at Chicago informs students of the Family Educational Rights and Privacy Act (FERPA). FERPA affords students certain rights with respect to their education records. They are as follows:

1. *The right to inspect and review the student's education records within 45 days of the day the University receives a request for access.* Students should submit to the Office of the Registrar, dean, department head, or other appropriate records custodian, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official will advise the student of the correct official to whom the request should be addressed.
2. *The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.* Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write to the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

   If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. *The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.* One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including law enforcement personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the University of Illinois Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the University of Illinois at Chicago will disclose education records without consent to officials of another school in which a student seeks or intends to enroll.
4. *The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University of Illinois at Chicago to comply with the requirements of FERPA.*

The name and address of the office that administers FERPA is:
Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue SW
Washington, D.C. 20202-4605

Directory Information

FERPA prohibits access by non-University personnel to information about individual students without the student's written authorization, except that which is considered public information. The University of Illinois at Chicago hereby designates the following as public or "directory information." Such information may be disclosed by the University for any purpose, at its discretion.

1. Student name(s).
2. University Identification Number (UIN).
3. University e-mail; and permanent city, state, and postal ZIP code.
4. Class/Level (Graduate, Undergraduate, Professional, Nondegree/Freshman, Sophomore, Junior, Senior).
5. College and major field of study/Concentration/Minor.
6. Day and month of birth.
7. Participation in officially recognized activities and sports.
8. Weight and height if the student is an athletic team member.
9. Dates of admission/attendance.
10. Attendance site (campus, location).
11. Expected graduation date.
12. Degrees conferred, with dates.
13. Current term hours enrolled and enrollment status (full-time, part-time, not enrolled, withdrawn and date of withdrawal).
14. Awards, honors and achievements (including distinguished academic performance), with dates.

15. Eligibility for membership in honoraries.
16. For Students appointed as fellows, assistants, graduate, or undergraduate hourly employees, the title, appointing department, appointment date, duties and percent time of appointment.

To examine his or her record, the student must submit a written request to the Office of the Registrar. This office will comply with the request within a reasonable amount of time, not to exceed 45 days after receipt of the request.

To prevent the release of directory information, the student must submit a request form to the Office of the Registrar no later than the tenth day of the semester (fifth day of summer session). Such requests for nondisclosure will be honored so long as the student is continuously enrolled or unless he/she sooner revokes the request in writing.

Medical Immunization Requirements

The Illinois Department of Public Health requires that all students living in on-campus housing and born on or after January 1, 1957, entering a post-secondary institution are required to present documented proof of immunity against measles, mumps, rubella, tetanus, and diphtheria as a prerequisite to registration. The Medical Immunization Form, required for student completion, can be found at http://registrar.uic.edu under the Records tab.

Those students living in on-campus housing who are not properly immunized and have not submitted a written statement of medical or religious exemption must be immunized within the first term of enrollment. Failure to provide the required proof of immunity will prevent the student from enrolling in a subsequent term. Students living in on-camus housing and registering only for no more than five credit hours are temporarily exempt from the immunization requirements.

For more information, contact the Office of Medical Immunization Records, http://www.uic.edu/depts/oar/student_records/medical_immunization.html, or Room 1300 Student Services Building, telephone (312) 413-0464.

Services for Students with Disabilities

The Disability Resource Center works to ensure the accessibility of UIC programs, classes, and services to students with disabilities. Services are available for students who have documented disabilities, vision or hearing impairments, emotional or physical disabilities. Students with disability/access needs or questions may contact the Disability Resource Center at (312) 413-2183 (voice) or (312) 413-0123 (TTY only) or visit the Web site http://www.uic.edu/index.html/disability.shtml .

Participation in Class Exercises that Involve the Use of Animals

The University of Illinois at Chicago offers certain courses in which live, euthanized, or preserved vertebrate animals are used as part of course requirements. Such courses are identified in the *Schedule of Classes* with the note “animals used in instruction.”

Students who have ethical concerns about the use of animals in teaching have the responsibility to contact the instructor, prior to enrollment in any course in which animals may be used as part of course instruction, to determine whether class exercises involving animals are optional or required, and what alternatives, if any, are available. If no alternatives are available, the refusal to participate in required activities involving animals may result in a failing grade in the course.

Research on Humans or Animals

Students using human subjects in any research (this includes surveys, interviews, preexisting data, and human tissue obtained for nonresearch purposes) must have approval from the Institutional Review Board or one of its approved committees before they begin data collection.

Students using animal subjects (including observation-only studies) must take GC 470—Essentials for Animal Research. The Graduate College also offers the course, GC 401—Scientific Integrity and Responsible Research. This course is mandatory for a number of graduate programs. Similar programs for nonscience disciplines are being developed. For further information, students should contact the Office for the Protection of Research Subjects, (312) 996-1711, 203 Administrative Office Building.

Sexual Harassment Policy

Sexual harassment is defined by law and includes any unwanted sexual gesture, physical contact, or statement that is offensive, humiliating, or an interference with required tasks or career opportunities at the University. Sexual harassment is prohibited under federal and state discrimination laws and the regulations of the Equal Employment Opportunity Commission.

The University of Illinois will not tolerate sexual harassment of students or employees and will take action to provide remedies when such harassment is discovered. The University environment must be free of sexual harassment in work and study.

In order to assure that the University is free of sexual harassment, appropriate sanctions will be imposed on offenders in a case-by-case manner.

The University will respond to every complaint of sexual harassment reported.

Information about the University's approved procedures for dealing with cases of sexual harassment may be obtained by phoning (without name given if desired), by writing, or by visiting the Office for Access and Equity, 717 Marshfield Building, 809 S. Marshfield Avenue, Phone (312) 996-8670.

University Card Terms and Responsibilities

Identification Card (I-card): All cardholders are required to abide by the University Card Terms and Responsibilities. Students are responsible for abiding by card terms and responsibilities.

As a University cardholder, I understand that:

- A card is the property of the University of Illinois, and I must return it to a Campus ID Center upon leaving the University or upon request.
- Card data, including but not limited to the University Identification Number (UIN), card number, and photo, may be used for University purposes.
- A card is issued to assist in the identification of the valid cardholder and is to be presented upon request for securing privileges and services.
- A card is valid only while I am a registered student, active University employee, or University retiree, or until the card expires or is revoked.
- A card is non-transferable and does not authorize me to obligate the University of Illinois in any way.
- Altering or intentionally damaging an ID card, using another person's ID card, or allowing my card to be used by another person may result in disciplinary action and confiscation of the card.
- I am responsible for paying any replacement fee when an ID card is lost, stolen, confiscated, or intentionally damaged, or when any information is changed at my request.
- I should notify a Campus ID Center immediately if a card is lost or stolen. If a confiscated, surrendered, lost, stolen, or otherwise damaged card has a balance on the value stripe, there is no guaranteed refund on the unused balance on the card.
- I am responsible for notifying a Campus ID Center to deactivate the online functionality of an ID card (Meal Plans, Dragon Dollar$, or Campus Cash) should the card be lost or stolen.

- I understand and agree that if I link an i-card to a TCF Bank account I am releasing my UIN (as part of the card number) to TCF Bank. Also, I am responsible for notifying TCF Bank if the linked card is lost or stolen.

Tuition, Fees, and Other Charges

All students are assessed tuition and fees. The amount varies with the program the student is in, the number of semester hours for which the student registers, and according to status as a state resident or nonresident of Illinois. Residence classification is determined by the information given on the application for admission and other credentials. Further information on resident classification is provided elsewhere in this chapter.

Consult the Office of the Registrar Web site for information on current tuition and fee rates (http://www.uic.edu/depts/oar/prospective_students/tuition.html).

The service fee, general fee, health service fee, student-to-student fee, CTA U-Pass transportation fee (assessed for full-time study defined as 9 hours), the academic facilities maintenance fund assessment, and the library and information technology assessment are mandatory fees/assessments that support the following: Student Center East and Student Center West, Student Programs, Student Counseling, Intramural Sports and Recreation, Intercollegiate Athletics, Bonded Indebtedness, Health Service, Pharmacy, CTA usage, and maintenance of UIC academic facilities. In addition, all students are covered by the UIC Student Health Benefit Program *(CampusCare)* and an accidental death and dismemberment policy for which they pay a fee each term. Students who present evidence of insurance in force that provides equivalent coverage may apply for an exemption from the student health insurance fee.

Encumbrance of Registration and Records

Students who owe any money to the University will have a hold placed on their academic records. This hold precludes students from registering for any subsequent terms. In addition, transcripts will not be released until the student's account has been paid in full.

Past due accounts are subject to a finance charge at the annual percentage rate of 18% (1.5 per month on the unpaid balance of each month). Additionally, a late fee of $2.00 per month will be added to all past due accounts.

Please note, the University of Illinois at Chicago does refer past due accounts for collection. Where appropriate, the University will authorize legal action to effect settlement of an account. Students will be liable for all reasonable collection costs, including attorney fees and other charges necessary for the collection of a past due account.

Tuition Exemptions

Students may be exempted from one or more of the following charges if they qualify under the stated conditions:

Tuition is waived for:

1. Holders of tuition-and-selected-fee waiver scholarships.
2. All academic employees of the University (except graduate assistants) on salaried appointment for at least 25 percent of full-time service. Such appointments require service for not less than three-fourths of the number of days defined for the term.
3. Teaching, research, and graduate assistants on appointment for at least 25 percent but not more than 67 percent of full-time service. Such appointments require service for not less than three-fourths of the number of days defined for the term.
4. Support staff employees of the University in status appointments or in appointments designed to qualify for status in an established class (e.g., trainee, intern) who register in regular University courses not to exceed Range II tuition in semester if on full-time

appointment, and not to exceed Range III tuition if on a 50 to 99 percent time appointment, provided they (1) meet conditions and eligibility for admission as prescribed by the Office of Admissions and Records, (2) not be students as defined in Civil Service Rule 7.7c, and (3) have approval from their employing departments for enrollment and a makeup schedule to cover any time in course attendance during their regular work schedule. Employees whose total registration is in a higher range than that authorized by their tuition waiver pay only the difference between the waiver authorization and the higher range in which their total registration places them.
5. Support staff employees in a status, learner, trainee, apprentice, or provisional appointment who enroll in regular courses directly related to their University employment. The number of credit hours per semester may not exceed Range II. Employees must have made application and received prior approval for enrollment as required by procedures issued by the director of support staff personnel and set forth in *Policy and Rules—Nonacademic.*
6. Holders of graduate tuition-and-selected-fee waivers awarded by the Graduate College.
7. Holders of grants or contracts from outside sponsors that provide payments to cover the total costs of instruction.
8. Cooperating teachers and administrators who receive assignment of practice teachers or TESOL interns. Such persons who register in University courses are exempted from tuition, the service fee, and the general fee for one semester or summer session for each semester of service rendered. The exemption shall apply to the semester or summer session of registration, as designated by the student, that is concurrent with or following the term of service, but must be applied no later than one calendar year from the end of the term of service. Concurrent registration on more than one campus of the University or in University extramural courses constitutes one semester or session of eligibility for exemption.
9. Persons registered in noncredit seminars only. University employees registered at the request of their departments in noncredit courses especially established to improve the work of the employee.
10. University of Illinois retirees.
11. Teacher of the year.

The nonresident portion of tuition (if the enrollee is subject to payment of tuition) is waived for:

1. All staff members (academic, including teaching and research assistants, administrative, or permanent nonacademic) on appointment for at least 25 percent of full time with the University.
2. The faculties of state-supported institutions of higher education in Illinois holding appointments of at least one-quarter time.
3. The professional staff in private and public elementary and secondary schools in Illinois.
4. The spouses and dependent children of those listed in 1 and 2. (Dependent children are those who qualify as dependents for federal income tax purposes.)
5. Persons actively serving in one of the armed forces of the United States who are stationed and present in Illinois in connection with that service.
6. The spouses and dependent children of those listed in 5, as long as they remain stationed, present, and living in Illinois.

Regulations Governing the Determination of State Residency Status for Admission and Assessment of Student Tuition

The University of Illinois is a land-grant institution assisted by funding from state of Illinois tax revenue. As a state, tax-assisted institution, the University (with some exceptions) extends preference in tuition to residents of the state of Illinois—that is, to students whose circumstances conform to the University's definition of state resident status stated below.

The University of Illinois' definition of the term "resident" may be different from the definitions developed by other, non-University agencies. Thus, a person who is an Illinois resident for tax or voting purposes, for example, is not necessarily a state resident for University of Illinois tuition and admission purposes. The University's definition of state resident status applies both to payment of tuition and admission to the University of Illinois.

Principal elements determining state residency are domicile in Illinois and actions that evidence the intent to make Illinois the person's permanent residence. A person has but one domicile at any time. Mere physical presence in Illinois, regardless of how prolonged, is insufficient to establish state residency without existence of action and intention to make the place a permanent residence and principal home. In order to establish bona fide residence in

Illinois under this policy, a person must demonstrate presence and intent to reside permanently in Illinois for reasons other than educational objectives.

The burden of establishing that a student is domiciled in Illinois for other than educational purposes is upon the person. The regulations, factors, and procedures enumerated in this policy will be considered by the University in determining state residence status.

State residence status regulations are subject to change from time to time at the discretion of the Board of Trustees. A person holding nonresident status is subject to rules in effect when the petition seeking Illinois residency is filed. Nothing in these rules shall be applied retroactively to reverse in-state residence status previously granted under former regulations.

Regulations

The following regulations are used to determine the state resident classification of a person for admission and tuition assessment:

A. A person's domicile is presumed to be that of his/her parent(s) or legal guardian unless the student is independent and establishes a separate domicile.

A person who is dependent upon his/her parent(s) or other person in authority, other than spouse, for financial support shall not be considered independent for the purpose of these regulations. A person claiming independence may be requested to present satisfactory evidence that his/her parent(s) or legal guardian have not contributed significantly to his/her support nor claimed him/her as a dependent for federal or state income tax purposes during the period in which the person attempts to establish and/or maintain residency. Filing and payment of Illinois income tax is necessary to establish residency.

B. In order to be classified as a resident for purposes of admission, an independent person shall be domiciled in Illinois and a bona fide resident of the state for at least one calendar year immediately preceding the date of receipt of the application for admission. To be considered a resident for purposes of assessment of tuition, an independent person must be a bona fide resident of the state for at least one calendar year immediately preceding the first scheduled day of classes for the term for which residency is sought

C. During the one-year period in which a person attempts to establish residency, a person must be financially independent. He/she must rely upon gainful employment in Illinois or prove reliance upon resources in Illinois for more than fifty percent of the income sufficient to provide for tuition, fees, and normal living expenses, e.g., food, clothing, housing, and transportation. Income earned as a result of University enrollment, such as educational loans, graduate assistantships, or student employment, is not considered as evidence of intent to establish residency. During the one-year period in which a person attempts to establish Illinois residency, a person must reside in the state primarily for other than educational purposes

D. A person who is not a citizen of the United States of America may establish resident status unless the person holds a visa, which precludes an intent to permanently reside in the United States. A list of the visa classifications may be obtained from the Office of Admissions and Records.

E. Noncitizens may commence establishment of state residence with notification of permanent residency status by the United States Citizenship and Immigration Services provided the person meets and complies with all the applicable requirements of these Regulations.

F. The minor children of persons who, having resided in this state for at least 12 months immediately prior to such a transfer, are transferred by their employers to

some location outside the United States shall be considered as Illinois residents for purposes of the computation and payment of tuition. However, this Section shall apply only when the minor children of such parents enroll in a state-supported college or university within five years from the time their parents are transferred to some location outside the United States.

If the parent(s) or legal guardian of a resident person establishes a domicile outside the state of Illinois after the person has been admitted, the person shall continue to be classified as a resident student until degree completion, assuming timely matriculation and providing the person maintains continuous enrollment and maintains a separate residence within the state of Illinois.

G. It is required that a person who claims Illinois domicile while living in another state or country will provide proof of the continued Illinois domicile. Proof may include, but is not limited to, evidence that the person (or parent or legal guardian as applicable) has not acquired a domicile in another state, has maintained a continuous voting record in Illinois, and has filed regular Illinois resident state income tax returns during absence from the state.

H. A person whose parents move to Illinois may become a resident at the beginning of the next term following the move.

An independent person whose parent or parents have established and are maintaining a bona fide residence in Illinois will be regarded as a resident if the independent person lives in Illinois.

Even though a divorced or separated parent who is not a resident of Illinois provides significant financial support, a person shall be classified as a resident as long as the other parent resides permanently in Illinois.

I. A nonresident shall be classified as a resident if his/her spouse is a resident of Illinois and meets the applicable requirements of these regulations. A noncitizen may establish residency through his/her resident spouse, provided the noncitizen complies with Section D of these regulations.

J. A person who is actively serving in the armed forces of the United States and who is stationed and/or present in the state in connection with that service, may be eligible for a waiver of the nonresident portion of tuition in accordance with Board policy as long as the person remains stationed and/or present in Illinois. The waiver is extended to the person’s spouse and dependent children when they also live in the state. A resident of Illinois, and the spouse and dependent children, who is stationed outside of Illinois in active service in the armed forces of the United States and who has maintained residency under Section G shall be classified as a resident.

K. Staff members of the University and of allied agencies, and faculties of state-assisted institutions of higher education in Illinois, holding an appointment of at least one-quarter time, and their spouses and dependent children, shall be treated as residents.

The term “staff member” as used in these regulations shall mean a person appointed to a faculty, academic professional, or permanent civil service position for a specific amount of time at a salary or wage commensurate with the percentage of time required. The appointment shall require service for not less than three-fourths of the term. For purposes of residency, the term “staff member” shall not apply to persons employed on an hourly basis in an academic capacity, nor to persons on leave without pay.

L. Nonresident teachers in the private and public elementary and secondary schools in Illinois holding an appointment of at least one-quarter time shall, if required to pay tuition, be assessed at the resident rate. This privilege also extends to the summer session immediately following the term of the appointment.

Any nonresident teacher who qualifies for resident tuition as described above shall become subject to nonresident tuition for the entire term if the school appointment is vacated prior to completion of three-fourths of the term in question. Resignation or cancellation of the appointment prior to the close of the spring term also cancels the eligibility for the resident tuition privilege in the following summer term.

Factors in Determining State Residency

Bona fide residency must be maintained in the state of Illinois for at least one calendar year immediately preceding the date of receipt of the application for admission; or for tuition purposes, one calendar year immediately preceding the first scheduled day of classes for the term for which resident classification is sought. The following circumstances, although not necessarily conclusive, have probative value in support of a claim for state resident classification.

1. Continuous physical presence—defined as no more than a three-week absence from the state of Illinois—for at least one calendar year as described above.
2. Domicile in Illinois of parent(s) or guardian legally responsible for the student. Domicile in Illinois of spouse.
3. Voting or registration for voting in Illinois.
4. Illinois driver's license or identification card and automobile registration.
5. Financial independence and payment and filing of Illinois income/property taxes and/or ownership of property in Illinois during the tax year or partial tax year immediately preceding the term for which the person is requesting resident classification. Just the filing of an Illinois state income tax form, or filing a form without substantial Illinois income earned, will not be judged as a significant criterion for reclassification.
6. One calendar year of gainful employment in Illinois or proven reliance upon resources in Illinois for more than fifty percent of the income sufficient to provide for tuition, fees, and normal living expenses, e.g., food, clothing, housing, and transportation. Reliance upon income earned from loans is not viewed as evidence of intent to establish residency. Employment in Illinois must be in other than graduate assistantships or student employment.
7. The lease of living quarters and payment of utility bills in Illinois.
8. Former domicile in the state and maintenance of significant connections therein while absent.
9. Admission to a licensed practicing profession in Illinois.
10. Long-term military commitments in Illinois and/or proof that Illinois is the home of record.
11. A one calendar year period of presence in the state for other than educational purposes.
12. Establishment of financial accounts at Illinois institutions.
13. Public records, for example, birth and marriage records.
14. Other official documents verifying legal, official connection with Illinois or with organizations or institutions within the state of Illinois.
15. Exclusive use of the Illinois address when home or mailing address is requested.

The University may request documentation of the evidence. Missing evidence, the lack of evidence, or inconsistent evidence may be used to refute the claim of state residency.

Procedures

The executive director of admissions, or a designee, shall determine the initial state residence classification of each person at the time the person enters or re-enters the University.

A person who is not satisfied with the determination of his/her state residence classification may request that the responsible official reconsider it. For the purposes of admission, the written request must be received by the Office of Admissions and Records within 20 calendar days from the date of notification of state residency status. For the purposes of assessment of tuition, the written request must be received by the Office of Admissions and Records by

September 30 for the fall semester, February 15 for the spring semester, June 20 for the summer term, or some other date as set by the Office of Admissions and Records.

The request should include the Petition for Determination of Residency Status (available online and from the Office of Admissions and Records) and all other materials that are applicable to the claim. The request and accompanying documentation will not be returned, and the person is advised to maintain a copy for his/her record.

If the person is still not satisfied with the determination after it has been reconsidered, the person may appeal the decision to the director, Office of University-Wide Student Programs. The appeal shall be in writing and shall include reasons for the appeal. The appeal must be received by the executive director of admissions within 20 calendar days of the notice of the ruling. The appeal will then be referred to the Office of University-Wide Student Programs. A person who fails to file such an appeal within 20 calendar days of the notice of the ruling waives all claims to reconsideration for that academic session. Filing deadlines cannot be extended or waived, and late applications and appeals will not be reviewed. The decision of the Office of University-Wide Student Programs shall be final in all cases.

A person may be reclassified at any time by the University upon the basis of additional or changed information. If the person is classified in error as a state resident, nonresident tuition shall be assessed in the next term; if the person is classified in error as a nonresident, state resident tuition shall be assessed in the term in which the classification occurs, provided the person has filed a written request for a review in accordance with these regulations.

A person who fails to notify the University of a change of facts or provides false information that might affect classification or reclassification from state resident to nonresident status and/or who provides false information or conceals information for the purpose of achieving resident status may be subject to appropriate disciplinary action, as well as other penalties which may be prescribed by law. Further information or clarification may be secured by contacting the Executive Director of Admissions, 1100 Student Services Building (MC 018), University of Illinois at Chicago, Office of Admissions and Records, Box 5220, Chicago, Illinois 60680-5220.

Fees

Service Fee

The service fee is waived for:

1. All staff members of the University who are on appointment for at least 25 percent of full-time service, provided the appointments require service for not less than three-fourths of the number of days defined for the term.
2. Holders of Board of Trustees tuition and fee waivers awarded by the Graduate College.
3. All graduate assistants holding an appointment between 25% and 67% time who meet the conditions of the waiver.
4. Students registered in absentia via approved petition for zero hours, Option B only.
5. Students registered only in courses taught off campus.
6. Holders of grants or contracts from outside sponsors if the service fee is charged to the contract or to grant funds.
7. Cooperating teachers and administrators who meet the qualifications of item 6 of Tuition Exemptions.
8. Persons registered only in noncredit seminars.
9. University employees, registered at the request of their departments, in noncredit courses for the purpose of improving their work.
10. Emeriti.

Definitions

For fee assessment purposes, a staff appointment must require service for not less than three-fourths of the number of days defined for the academic term. Specific dates marking completion of service for three-fourths of the term shall be established by the chancellor or the chancellor’s designee on each campus. Staff tuition-and-fee privileges do not apply to

students employed on an hourly basis in either an academic or nonacademic capacity or to persons on leave without pay.

For fee assessment purposes, a permanent nonacademic employee is defined as a person who has been assigned to an established, permanent, and continuous nonacademic position and who is employed for at least 25 percent of full-time. University employees appointed to established civil service positions whose rate of pay is determined by negotiation, prevailing rates, or union affiliation are entitled to the same tuition-and-fee privileges accorded other staff members under the regulations.

Students who resign a staff appointment, or whose appointment is cancelled before they have rendered service for at least three-fourths of the number of days defined for the term, become subject to the full amount of the appropriate tuition and fees for that term unless they withdraw from University classes at the same time the appointment becomes void or unless they file clearance for graduation within one week after the appointment becomes void.

Health Service Fee
This fee supports staff salaries, programming and general operating expenses for the campus health service providers: Family Practice/Student Health Center, the Counseling Center, the Wellness Center and pharmacy services. The fee is mandatory. This fee is waived with a tuition and selected fee waiver.

Academic Facilities Maintenance Fund Assessment
The Academic Facilities Maintenance Fund Assessment (AFMFA) is assessed to graduate/professional students to address the deferred maintenance backlog in academic facilities. For less than full-time enrollment, the AFMFA will be based on enrolled credit hours pro-rated according to range calculations. This fee is waived with a tuition and fee waiver.

CTA U-Pass Transportation Fee
This fee assessed to students in the Graduate College who are registered for 9 or more hours. This fee is not waived with a tuition and fee waiver.

Course Auditor's Fee
This fee is assessed of all auditors who are not in Range I in the tuition and fee schedule. UIC students registered for at least 12 semester hours and University employees who are eligible for a tuition waiver do not have to pay the Course Auditor's fee. Contact the Office of the Registrar for current fee information.

Late Registration Fine
This fine is levied against all students who complete registration after the deadline. In extenuating circumstances, students may receive the approval of the dean of the college to register after the tenth day of the semester or the fifth day of the summer session. Consult the *Schedule of Classes* for current registration deadlines and late registration fine information.

Library and Information Technology Assessment
In order to improve the learning environment, a Library and Information Technology Assessment is charged to graduate/professional students enrolling Fall 2008 and after.

Student to Student Fee
While all students will be assessed this mandatory fee at registration, refunds are available upon request. A request for refund must be supported by a confirmed schedule and University Photo ID Card during the first two weeks of the term. This is processed through SINC, located on the first floor of Student Center East. West side students may pick up a credit form in Room 111, Marshfield Building.

General Fee
This fee is not waived with a tuition and fee waiver.

Replacement Photo-Identification Card Fee
This fee is assessed if the card is lost or destroyed.

Withdrawal from the University

Withdrawal from the University is governed by specific regulations that students should observe to protect their academic standing. Failure to withdraw officially from the University before the last day of instruction results in a grade of F (failure) appearing on the record for each course in which the student is registered. Students dropping the only course, or all courses, for which they are enrolled should follow University withdrawal procedures.

Students who withdraw by the tenth day of the semester are not considered to have been registered for that term, and the withdrawn courses will not appear on the student's transcript. Students who withdraw after the tenth day are considered "in residence" for that term, and are eligible to register for the next term. Please check the Office of the Registrar Web site for the summer session deadlines for withdrawing from courses. The withdrawn courses will appear on their transcript with a W grade.

Graduate students who wish to withdraw may withdraw before the tenth day of the semester by completing the process using *Student Self-Service* in *my.uic.edu.* Students who wish to withdraw after the tenth day may secure copies of the withdrawal form from their director of graduate studies or the Graduate College. Please check the Office of the Registrar Web site (http://www.uic.edu/depts/oar/) for the summer session deadlines for withdrawing from courses. Graduate students in a degree program should initiate official withdrawal by consulting their director of graduate studies for approval. Nondegree students who were not admitted to a specific department should initiate withdrawal from the Graduate College.

Note: Graduate students who fail to register for two terms in a row (excluding summer) without taking an approved leave of absence forfeit their admission to the Graduate College. Like students who have officially withdrawn from the University before the tenth day of the semester (fifth day in summer), they must reapply for admission to the Graduate College. Readmission is not guaranteed.

Withdrawal to Enter U.S. Military Service

A graduate student who must leave the University in order to enter into active service with the armed forces in a national or state emergency (including being called up for the Active Reserve Forces and the National Guard) during the first twelve weeks of the semester (first six weeks in summer session) will be withdrawn from courses with a full refund of tuition and fees. If called to active duty after that time, and before the end of the term, the student may withdraw from all courses with a full refund of tuition and fees, or, the student may ask the instructor(s) for permission to receive an Incomplete (I) or Deferred (DFR) grade(s). An instructor may assign an I or DFR if deemed academically appropriate and feasible. Alternatively, an instructor may assign a letter grade, if requested by the student, if the instructor deems it to be academically justified. Deadlines for incomplete grades under these circumstances may be waived upon the discretion of the instructor and the Graduate College. A student who chooses to withdraw from all courses will not receive Ws. It is the student's responsibility to present proof of active service status for these actions to occur. Students who must withdraw due to the reasons stated above are given an indefinite leave of absence. See *Financial Obligations and Refunds* and *Leave of Absence* for additional information.

Financial Obligations and Refunds

Students should carefully check their registration printouts to ensure that they are officially registered in the correct courses and sections for the correct number of semester hours. The

act of registering for courses obligates students to pay all related tuition and fees unless one of the following procedures takes place:

- **Withdrawal from Term request** If a student submits a Withdrawal from Term Request via via *Student Self-Service* during the first two weeks (Fall/Spring) or first week (Summer) of the term, he/she is eligible for a 100% cancellation of tuition and fees. Please see the Office of the Registrar Web site for more information, including deadlines for Part A and B of term courses: http://www.uic.edu/depts/oar/financial_matters/refund_schedule.html.
- **Withdrawal from the University** A pro rata refund of tuition and fees (excluding health service and student health insurance fees) will be issued to students who withdraw between the second and the tenth weeks of the semester. Before a refund is made to the student, the University will make a refund to the appropriate financial aid programs providing assistance to the student. Any amount remaining will be paid to the student. Please see the Office of the Registrar Web site for more information, including the refund schedule and deadlines for Part A and B of term courses: http://www.uic.edu/depts/oar/financial_matters/refund_schedule.html.
- **Dropping a Course** If, between the second and tenth day, a student drops a course(s) and by so doing changes the tuition range, he or she is eligible to receive a refund or credit for the difference in range. Please check the Office of the Registrar Web site (http://www.uic.edu/depts/oar/registration/policies_procedures.html#dropping) for the summer session deadlines for dropping courses. Dropping a course after that date without withdrawing from all courses does not result in a reduction of charges.
- **Withdrawal by an Auditor** A full refund is issued if the withdrawal is made within the first ten days of instruction of the semester. Thereafter, no refund is made. Please check the Office of the Registrar Web site (http://www.uic.edu/depts/oar/registration/policies_procedures.html#withdrawalSum) for the summer session deadlines for withdrawing from courses.
- **Refund on Withdrawal to Enter Military Service** A graduate student who must withdraw due to being called into active service with the armed forces in a national or state emergency (including being called up for the Active Reserve Forces and the National Guard) will receive a full refund of tuition and fees. The refund of tuition and fees for graduate students who receive financial aid from federal and state programs and private foundations will be governed according to the rules and regulations of those organizations. For students who hold fellowships, the Graduate College will make every effort to restore those awards upon return to UIC. Assistantships (teaching, research, or graduate) are awarded by colleges, graduate programs, research centers and administrative offices, and graduate students who have assistantships should check with those units about the availability of the assistantships upon return from active military service. Graduate students living in University residences will receive a pro rata refund for room and board based on the date of withdrawal. It is the student's responsibility to present proof of active service status for these actions to occur. See *Withdrawal from the University* for additional information.

The above refund policies do not apply to the application fee, which is not refundable.

Transcripts

Students who have paid all University fees can obtain their transcripts by submitting a written request to the Office of the Registrar and paying the transcript fee. Transcripts and other academic information are provided by the Office of the Registar only at the written request, either written or using the online order procedure, of the student. Contact the Office of the Registrar for current fees or visit their website at http://www.uic.edu/depts/oar/current_students/transcripts.html.

Students needing certification of completion of degree requirements may obtain such certification from the Office of the Registrar.



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- Graduate and Professional Degree Programs
- IBHE Certificate Programs
- Program Updates and Changes

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Graduate and Professional Degree Programs

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IBHE Certificate Programs

Additional Opportunities for Graduate and Professional Study

Below is a list of all UIC graduate and professional degrees. The *2012–2014 Graduate Catalog* provides a detailed description of all programs administered by the Graduate College and limited information about professional programs that are administered by their home college.

Program	Degree(s)		College/School & Source for Program Information
Accounting	MS		Business Administration section of the catalog
Anatomy and Cell Biology	MS*	PhD	Medicine section of the catalog
Anthropology	MA	PhD	Liberal Arts and Sciences section of the catalog
Architecture	MArch MS		Architecture and the Arts section of the catalog
Architecture in Health Design	MS		Architecture and the Arts section of the catalog
Art History	MA	PhD	Architecture and the Arts section of the catalog
Biochemistry and Molecular Biology/ Biochemistry and Molecular Genetics	MS*	PhD	Medicine section of the catalog
Bioengineering	MS	PhD	Engineering section of the catalog
Bioinformatics	MS	PhD	Engineering section of the catalog
Biological Sciences	MS	PhD	Liberal Arts and Sciences section of the catalog
Biomedical Visualization	MS		Applied Health Sciences section of the catalog
Biopharmaceutical Sciences	MS*	PhD	Pharmacy section of the catalog
Business Administration		PhD	Business Administration section of the catalog
Business Administration (Professional Program)	MBA		Business Administration section of the catalog
Chemical Engineering	MS	PhD	Engineering section of the catalog
Chemistry	MS	PhD	Liberal Arts and Sciences section of the catalog
Civil Engineering	MS	PhD	Engineering section of the catalog
Clinical and Translational Science	MS		Public Health section of the catalog
Communication	MA	PhD	Liberal Arts and Sciences section of the

			catalog
Computer Science	MS	PhD	Engineering section of the catalog
Criminology, Law, and Justice	MA	PhD	Liberal Arts and Sciences section of the catalog
Curriculum and Instruction		PhD	Education section of the catalog
Dental Medicine (Professional Program)		DMD	Dentistry section of the catalog
Design Criticism	MA		Architecture and the Arts section of the catalog
Disability and Human Development	MS		Applied Health Sciences section of the catalog
Disability Studies		PhD	Applied Health Sciences section of the catalog
Earth and Environmental Sciences	MS	PhD	Liberal Arts and Sciences section of the catalog
Economics	MA	PhD	Liberal Arts and Sciences section of the catalog
Educational Psychology		PhD	Education section of the catalog
Electrical and Computer Engineering	MS	PhD	Engineering section of the catalog
Energy Engineering	MEE		Engineering section of the catalog
Engineering (Professional Program)	MEng		Engineering section of the catalog
English	MA	PhD	Liberal Arts and Sciences section of the catalog
Environmental and Urban Geography	MA		Liberal Arts and Sciences section of the catalog
Forensic Science	MS		Pharmacy section of the catalog
Forensic Toxicology	MS		Pharmacy section of the catalog
French and Francophone Studies	MA		Liberal Arts and Sciences section of the catalog
Germanic Studies	MA	PhD	Liberal Arts and Sciences section of the catalog
Graphic Design	MFA		Architecture and the Arts section of the catalog
Health Informatics	MS		Applied Health Sciences section of the catalog
Health Professions Education	MHPE		Medicine section of the catalog
Healthcare Administration	MHA		Public Health section of the catalog
Hispanic Studies	MA	PhD	Liberal Arts and Sciences section of the catalog
History	MA MAT	PhD	Liberal Arts and Sciences section of the catalog
Industrial Design	MFA		Architecture and the Arts section of the catalog
Industrial Engineering/ Industrial Engineering and Operations Research	MS	PhD	Engineering section of the catalog
Instructional Leadership	MEd		Education section of the catalog
Kinesiology	MS		Applied Health Sciences section of the catalog
Kinesiology, Nutrition, and Rehabilitation		PhD	Applied Health Sciences section of the catalog
Latin American and Latino Studies	MA		Liberal Arts and Sciences section of the catalog
Learning Sciences		PhD	Graduate College section of the catalog
Linguistics	MA		Liberal Arts and Sciences section of the catalog

Management Information Systems	MS	PhD	Business Administration section of the catalog
Materials Engineering	MS	PhD	Engineering section of the catalog
Mathematics/ Mathematics and Information Sciences for Industry	MA MS MST	DA PhD	Liberal Arts and Sciences section of the catalog
Measurement, Evaluation, Statistics, and Assessment	MEd		Education section of the catalog
Mechanical Engineering	MS	PhD	Engineering section of the catalog
Medical Biotechnology	MS		Medicine section of the catalog
Medicinal Chemistry	MS	PhD	Pharmacy section of the catalog
Medicine (Professional Program)		MD	Medicine section of the catalog
Microbiology and Immunology	MS*	PhD	Medicine section of the catalog
Moving Image	MFA		Architecture and the Arts section of the catalog
Museum and Exhibition Studies	MA		Architecture and the Arts section of the catalog
Neuroscience	MS	PhD	Graduate College section of the catalog
New Media Arts	MFA		Architecture and the Arts section of the catalog
Nursing	MS	PhD	Nursing section of the catalog
Nursing Practice		DNP	Nursing section of the catalog
Nutrition	MS		Applied Health Sciences section of the catalog
Occupational Therapy	MS	OTD	Applied Health Sciences section of the catalog
Oral Sciences	MS	PhD	Dentistry section of the catalog
Pathology	MS	PhD	Medicine section of the catalog
Patient Safety Leadership	MS		Medicine section of the catalog
Pharmacognosy	MS*	PhD	Pharmacy section of the catalog
Pharmacology	MS*	PhD	Medicine section of the catalog
Pharmacy	MS	PhD	Pharmacy section of the catalog
Pharmacy (Professional Program)		PharmD	Pharmacy section of the catalog
Philosophy	MA	PhD	Liberal Arts and Sciences section of the catalog
Photography	MFA		Architecture and the Arts section of the catalog
Physical Therapy (Professional Program)		DPT	Applied Health Sciences section of the catalog
Physics	MS	PhD	Liberal Arts and Sciences section of the catalog
Physiology and Biophysics	MS*	PhD	Medicine section of the catalog
Policy Studies in Urban Education		PhD	Education section of the catalog
Political Science	MA	PhD	Liberal Arts and Sciences section of the catalog
Psychology	MA*	PhD	Liberal Arts and Sciences section of the catalog
Public Administration	MPA	PhD	Urban Planning and Public Affairs section of the catalog
Public Health (Professional Programs)	MPH	DrPH	Public Health section of the catalog
Public Health	MS	PhD	Public Health section of the catalog
Real Estate	MA		Business Administration section of the catalog

Rehabilitation Sciences	MS		Applied Health Sciences section of the catalog
Slavic Studies	MA	PhD	Liberal Arts and Sciences section of the catalog
Social Work		PhD	Social Work section of the catalog
Social Work (Professional Program)	MSW		Social Work section of catalog
Sociology	MA*	PhD	Liberal Arts and Sciences section of the catalog
Spanish	MAT		Liberal Arts and Sciences section of the catalog
Special Education	MEd	PhD	Education section of the catalog
Studio Arts	MFA		Architecture and the Arts section of the catalog
Surgery	MS		Medicine section of the catalog
Urban Education Leadership		EdD	Education section of the catalog
Urban Planning and Policy	MUPP	PhD	Urban Planning and Public Affairs section of the catalog
Youth Development	MEd		Education section of the Catalog

Joint Degree Program	College/School and Source for Program Information
DMD/MS in Clinical and Translational Science	Public Health section of catalog
DVM/MPH	DVM: Veterinary Medicine (UIUC) Web site MPH: Public Health (UIC) Web site
Integrated IBHE Certificate in Oral and Maxillofacial Surgery (OMFS)/MD (Residency) Program	MD: Medicine Web site OMFS: Dentistry Web site
MA in Anthropology/MPH	Liberal Arts and Sciences or Public Health section of the catalog
MBA/MS in Accounting	Business Administration section of the catalog
MBA/MA in Economics	Liberal Arts and Sciences section of the catalog
MBA/MS in Management Information Systems	Business Administration section of the catalog
MBA/MS in Nursing	Nursing section of the catalog
MD/MBA	MD: Medicine Web site MBA: Business Administration Web site
MD/MPH	MD: Medicine Web site MPH: Public Health Web site
MD/MS in Clinical and Translational Science	Public Health section of the catalog
Medical Scientist Training Program	Medicine section of the catalog
Medical Scholars Program (Urbana)	Medicine Web site
MPH/MBA	MPH: Public Health Web site MBA: Business Administration Web site
MPH/MS in Nursing	Nursing section of the catalog
MS in Nursing/MS in Health Informatics	Nursing or Applied Health Sciences section of the catalog
PharmD/MBA	PharmD: Pharmacy Web site MBA: Business Administration Web site
PharmD/MS in Clinical and Translational Science	Public Health section of the catalog
PharmD/MS in Health Informatics	Applied Health Sciences section of the catalog
PharmD/PhD	Pharmacy section of the catalog

* This department only admits students to the PhD program or gives admissions preference to PhD-seeking students. Please see the program listing or contact the program for details.

IBHE Certificate Programs

The following certificate programs are available to graduate-level students and have been approved by the Illinois Board of Higher Education (IBHE).

Certificate Program	College/School	Program Code	Program Information
Administrative Nursing Leadership	Nursing	20FS5081CERU	Nursing section of the catalog
Evidence-Based Mental Health Practice	Social Work	20FS5124CERT	Social Work section of the catalog
Health Informatics	Applied Health Sciences	20FS1303CASU	Applied Health Sciences section of the catalog
Health Information Management	Applied Health Sciences	20FS1304CERU	Applied Health Sciences section of the catalog
Oral and Maxillofacial Surgery (OMFS)	Dentistry	20FN1520ADV	Dentistry Web site

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- Certificate Programs
- Campus Certificates
- UIC School of Continuing Studies
- UIC Online

Certificate Programs

UIC offers a range of graduate certificate programs for individuals interested in furthering their education after their bachelor's degree. These programs are offered in a variety of instructional modalities to meet the needs of students for professional advancement, career change, continuing education requirements, or new information acquisition. UIC's certificate programs are campus-approved and meet the same rigorous standards of quality as all degree programs at UIC. Students who successfully complete a UIC IBHE or Campus Certificate Program receive appropriate documentation testifying to their achievement, and all student transcripts will reflect credit hours/certificates earned. UIC's certificate programs may be offered in a variety of instructional formats—online, blended, or classroom.

Campus Certificates are listed below. Refer to the Graduate and Professional Degree Programs section for a list of IBHE Certificates.

Campus Certificates

Campus Certificate Program	College/School	Program Code	Program Information
Advanced Community Public Health Practice	Public Health	20FY5109NDEU	http://exedweb.cc.uic.edu/uic online/description.asp?clg=Program&colid=GF&ProgramID=76
Advanced Practice Cardiometabolic Nursing	Nursing	20FS5210NDEU	http://www.uic.edu/nursing/cardiometabolic/index.shtml
Advanced Practice Forensic Nursing	Nursing	20FS5144NDEU	http://www.uic.edu/nursing/forensics/index.shtml
Advanced Practice Palliative Care Nursing	Nursing	20FS5068NDEU	http://www.uic.edu/nursing/palliativecare/index.shtml
Assistive Technology	Applied Health Sciences	20FS5022NDEG	http://www.ahs.uic.edu/dhd/academics/atcp.php
Basic Community Public Health Practice	Public Health	20FY5108NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=75
Bioinformatics	Engineering	20FS5001NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=1
Clinical Nurse Specialist Post-Master's	Nursing	20FS5147NDEG	http://www.uic.edu/nursing/prospectivestudents/ms-about.shtn
Educational Research Methodology	Education	20FS5208NDEU	http://exedweb.cc.uic.edu/exed/exedpublic/programs/DisplayP ProgramID=94
e-Government	Urban Planning and Public Affairs	20FS5211NDEU	
Electromagnetics Technology	Engineering	20FS4076NDEU	http://exedweb.cc.uic.edu/uicon line/description.asp?clg=Program&colid=GF&ProgramID=4
Emergency Management and Public Health	Business Administration	20FY5021NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=5

Continuity Planning (EMCP)	and Public Health		
Engineering Law and Management	Engineering	20FS4077NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=6
Environmental Health Informatics	Public Health	20FY4075NDEU	
Geospatial Analysis and Visualization	Urban Planning and Public Affairs	20FS5209NDEG	http://exedweb.cc.uic.edu/exed/exedpublic/programs/DisplayP ProgramID=151
Management and Leadership in the Nonprofit Disability Organization	Applied Health Sciences		http://www.idhd.org/mlcp
Methods for Clinical Research	Public Health	20FS5189NDEU	http://exedweb.cc.uic.edu/exed/exedpublic/programs/DisplayP ProgramID=96
Nurse Practitioner/Midwifery Post-Master's	Nursing	20FS5146NDEG	http://www.uic.edu/nursing/prospectivestudents/ms-about.shtn
Patient Safety, Error Science, and Full Disclosure	Medicine	2EFS5141NDEU	http://www.uic.edu/orgs/online/programs/master-of-science-in-safety-leadership/index.shtml
Patient Safety Organizations	Medicne	2EFS5143NDEU	
Public Health Emergency Preparedness (Effective Spring 2013)	Public Health	20FY5334NDEU	TBA
Public Health Geographic Information Systems	Public Health	20FY5282NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=134&Semester=
Public Health Informatics	Public Health	20FY4074NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=16
Public Health Management	Public Health	20FY5212NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=102&Semester=
Public Health Practice	Public Health	20FY5190NDEU	TBA
School Nurse	Nursing	20FS5025NDEU	http://www.uic.edu/nursing/schoolnursing/index.shtml
Survey Research Methods	Urban Planning and Public Affairs	20FS5249NDEU	http://exedweb.cc.uic.edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=128&Semester=
Teaching/Learning in Nursing and Health Sciences	Nursing	20FS5145NDEU	http://www.uic.edu/nursing/teaching/index.shtml
Teaching of Economics	Liberal Arts and Sciences	20FS5026NDEG	http://www.uic.edu/depts/econ/GRAD_certificate_teaching.htm
Wireless Communications Technology	Engineering	20FS4078NDEU	http://exedweb.cc.uic. edu/uiconline/description.asp?clg=Program&colid=GF&ProgramID=20

UIC School of Continuing Studies

In support of the campus' mission to provide access to the highest levels of academic excellence, the School of Continuing Studies collaborates with UIC's colleges, centers, and institutes to develop and deliver high quality, innovative and timely educational offerings to nontraditional students. Through individual courses and extended programs of study—both credit and noncredit—the SCS meets the educational needs of a wide spectrum of nontraditional learners who are seeking professional development, personal enrichment, career transition, and academic growth. To view current SCS programs, visit http://www.externaledu.uic.edu and http://www.oce.uic.edu.

The MS in Patient Safety Leadership program is administered by the UIC Institute for Patient Safety Excellence (IPSE) in partnership with the School of Continuing Studies (SCS). Degrees for the Patient Safety Leadership program are conferred by the UIC College of Medicine.

Degree Program	College/School	Program Code	Program Information
Patient Safety Leadership	Medicine	27FS5142MSU	http://www.uic.edu/depts/gcat/MEPSL.shtml

UIC Online

UIC has provided flexible and convenient access to quality education since 1998 via the programs offered through UIC Online. These interactive instructor-led programs are ideal for

adult learners and working professionals. Student choices range from degree programs, campus-approved certificates, and online courses. Admission to an online program or course at UIC provides online students with the distinct advantage to learn from world-renowned UIC faculty who not only share their knowledge, but are also the creators of knowledge as members of a top research university. Online students have full access to UIC's support services, robust technical infrastructure, and vast library resources—providing a comprehensive learning environment. To learn more about UIC Online, visit http://exedweb.cc.uic.edu/uiconline/index.asp.

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- College of Applied Health Sciences
- College of Architecture and the Arts
- College of Business Administration
- College of Dentistry
- College of Education
- College of Engineering
- Graduate College
- College of Liberal Arts and Sciences
- College of Medicine
- College of Nursing
- College of Pharmacy
- School of Public Health
- Jane Addams College of Social Work
- College of Urban Planning and Public Affairs
- Additional Opportunities for Graduate and Professional Study

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College of Applied Health Sciences

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- Biomedical Visualization (MS)
- Disability and Human Development (MS)
- Disability Studies (PhD)
- Health Informatics (IBHE Certificate)
- Health Informatics (MS, MS/MS in Nursing, MS/PharmD)
- Health Information Management (IBHE Certificate)
- Kinesiology (MS)
- Kinesiology, Nutrition, and Rehabilitation (PhD)
- Nutrition (MS)
- Occupational Therapy (MS, OTD)
- Rehabilitation Sciences (MS)
- Professional Program—Physical Therapy (DPT)

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Biomedical Visualization

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Biomedical and Health Information Sciences (MC 530)
1919 West Taylor Street
Chicago, IL 60612-7249

Campus Location: 250 AHSB
Program Code: 20FS1075MS
Telephone: (312) 996-7337
E-mail: bhis@uic.edu
Web Site: http://www.bhis.uic.edu
Department Head: Dr. Larry Pawola
Director of Graduate Studies: Dr. Larry Pawola
Program Director: John Daugherty

The Department of Biomedical and Health Information Sciences (BHIS) offers a graduate program leading to the Master of Science (MS) in Biomedical Visualization. Biomedical Visualization is a multidisciplinary field that draws upon and integrates subject matter from a variety of disciplines (e.g. anatomy, biochemistry, genetics, molecular and cell biology, neuroscience, physiology, and surgery, as well as art, graphic design, animation, and computer science). The master's degree program in Biomedical Visualization is a terminal degree, and is most appropriate for students who wish to apply their knowledge through practice in academic, healthcare, or industry settings. BHIS also offers the online MS in Health Informatics and an online IBHE Post Master Certificate in Health Informatics, in addition to an online postbaccalaureate certificate in Health Information Management (HIM), and an on-campus and online undergraduate bachelor degree in HIM.

Admission Requirements

Applications are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field Baccalaureate Field** No restrictions. Prior academic work must include four drawing courses (at least two must be life drawing), one course each in graphic design, computer graphics, comparative anatomy (or an advanced biology course that includes mammalian dissection), and human physiology. Two additional science classes are required from the following list: histology, developmental anatomy

(vertebrate embryology), neuroanatomy, cell biology, molecular biology, pathology, immunology, pharmacology or genetics. Courses in chemistry or biochemistry are highly recommended. Course work in sculpture is recommended for applicants interested in prosthetics; course work in 3-D modeling/animation is recommended for applicants interested in computer visualization; and course work in painting, digital imaging, and illustration is recommended for applicants interested in illustration and design.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and for all cumulative graduate work previously taken.
- **Tests Required** GRE General and Writing assessment or GMAT. Test scores are required for all but applicants with a graduate or professional degree at the master's and doctoral level (e.g., MS, MA, MFA, PhD, ScD, MD, DDS, DO, DrPH, PharmD) from an accredited U.S. or Canadian school. The prior training must be relevant to the basic field of the area of concentration. Applicants with the above stated degree from foreign schools whose application processes are sponsored by an accepted referral services, such as AFGRAD or AMIDEAST, are considered.
- **Minimum English Competency Test Score**
  - **TOEFL** If the applicant has taken the paper-based TOEFL, minimum scores in the range of 585–600 will be considered; in addition, the applicant must take the Test of Written English and submit scores in the range of 5–6. Applicants taking the iBT Internet-based TOEFL must have a minimum score of 95, with subscores of Reading 24, Listening 22, Speaking 24, and Writing 24. **OR**
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three required from instructors or employers using Graduate College forms.
- **Personal Statement** The statement should address the applicant's goals for graduate study and career development.
- **Other Requirements** A personal interview with departmental faculty is required. Additionally, a portfolio review by departmental faculty is required. Contact the department for information on required portfolio content.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the program for information on current deadlines.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 45–48.
- **Course Work** *Required Core Courses:* ANAT 441; BHIS 405, 499, 500, and 595; BVIS 502, 510, 518, 528, 575, and 595.
- *Selectives:* 17 hours from among BVIS 522, 535, 552, 515, 520, 525, 530, 540, 542, 543, 545, 546, 554, 555, 580, 594, and 596. Additional courses may be taken with approval of advisor and instructor if in another college.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options are available.
- *Thesis:* Students must earn at least 7 hours in BVIS 598.
- *Project:* Students must earn at least 4 hours in BVIS 597.
- **Other Requirements** *Continuous Registration:* Students who have completed all degree requirements except the thesis/project must register for zero credit hours to maintain continuous registration.

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Disability and Human Development

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Department of Disability and Human Development (MC 626)
1640 West Roosevelt Road
Chicago, IL 60608-6904

Campus Location: 436 DHSP
Program Code: 20FS1165MS
Telephone: (312) 413-1647
E-mail: DHD@uic.edu
Web Site: http://www.ahs.uic.edu/dhd
Head of the Department: Tamar Heller
Director of Graduate Studies: Carrie Sandahl
Academic Coordinator: Maitha Abogado, maitha@uic.edu

The Department of Disability and Human Development (DHD) offers work leading to the Master of Science in Disability and Human Development. Study and research are available in the concentrations of (1) Disability Studies and Social Policy and (2) Rehabilitation Technology. An interdepart-mental concentration in Gender and Women's Studies is available to students in this program. The program articulates closely with the PhD program in Disability Studies For further information on the Doctor of Philosophy in Disability Studies, see *Disability Studies* in the *College of Applied Health Sciences* section of the catalog.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study. In exceptional cases applicants having a lower GPA may be admitted if they can demonstrate substantial evidence of their ability to complete the program successfully.
- **Tests Required** GRE General with a combined verbal and quantitative score of 297 (tests taken August 2011 or after) or combined verbal and quantitative score of 1000 (tests taken prior to August 2011).
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL), **OR**,

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Other Requirements** Applicants must complete all forms included in the department's application packet.
- **Deadlines** To receive full consideration for fall admission, including consideration for graduate assistantships, applications should be received by January 1 of the year in which admission is being sought.

Degree Requirements

In addition to the minimum requirements of the Graduate College, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** This program requires a minimum of 36 semester hours of credit. At least 12 of these 36 hours must be attained in courses at the 500-level. A minimum of 13 elective hours must be taken. A maximum of 25% of the 36 hours (9 semester hours) may be transferred from accredited and acceptable graduate study at other institutions. Therefore, all students are required to earn a minimum of 27 semester hours of credit in formal course work and thesis/project work within the Master of Science program. Thesis research or thesis project credit may not exceed 40% of the required 36 hours, or a maximum of 14 hours.
- *Required Core Courses:* DHD 401 and DHD 510.
- *Concentration Courses:*
    - Disability Studies and Social Policy—Must complete the following two additional courses: DHD 581 and DHD 570.
    - Rehabilitation Technology—Must complete the following two additional courses: DHD 440; and DHD 551 or 565.
- **Comprehensive Examination** A written comprehensive examination is required only for students who do not elect the thesis option.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options are available.
- *Thesis:* A thesis is strongly recommended for students interested in pursuing careers in scholarship or research. Students electing a thesis must complete either DHD 546 or DHD 515 or an equivalent graduate-level statistics course, and must complete at least 8 hours of DHD 598.
- *Project:* Students must complete at least 4 hours of DHD 597. Students electing the project option must complete an additional 7 semester hours of course work to reach the 36 hours required for the degree. The additional hours may be taken in the form of elective courses or project hours.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling for a concentration in Gender and Women's Studies after consulting with their graduate adviser. See *Gender and Women's Studies* in the *College of Liberal Arts and Sciences* section for more information.

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Disability Studies

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Admission Requirements

- Doctor of Philosophy

Degree Requirements

- Doctor of Philosophy

Mailing Address:
Department of Disability and Human Development (MC 626)
1640 West Roosevelt Road
Chicago, IL 60608

Campus Location: 215 DHSP
Program Code: 20FS1166PHD
Telephone: (312) 413-1647
E-mail: dhd@uic.edu
Web Site: http://www.ahs.uic.edu/dis
Department Head: Tamar Heller
Director of Graduate Studies: Carrie Sandahl, csandahl@uic.edu
Academic Coordinator: Maitha Abogado, maitha@uic.edu

The Department of Disability and Human Development offers work leading to the Doctor of Philosophy in Disability Studies. The department also offers the Master of Science in Disability and Human Development; see that section of the catalog for more information. The Interdepartmental Concentration in Gender and Women's Studies is available to students in these degree programs.

Admission Requirements

Applicants will be considered on an individual basis by the Admission Committee for the doctoral program in Disability Studies. Individuals who fail to meet one or more criteria for admission may be admitted conditionally if their applications are otherwise strong and the applicant agrees to work with her/his mentor to address these gaps through courses and other recommended work.

To establish a mentor relationship, all applicants for the program are strongly encouraged to meet one or more faculty members whose research interests most closely match those of the student. The coordinator of the PhD program will arrange such meetings for applicants upon request.

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy

- **Baccalaureate Field** No restrictions.

- **Prior Degrees** A master's degree is not required but is recommended for admission to the program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and a minimum of 3.00/4.00 for all work beyond the baccalaureate level.
- **Tests Required** GRE General with a combined verbal and quantitative score of 297 (tests taken August 2011 or after) or combined verbal and quantitative score of 1000 (tests taken prior to August 2011).
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Deadlines** The application deadline is January 1.

Degree Requirements

The Disability Studies Program is designed primarily as a full-time course of study. Students who are full time will be expected to maintain a course load of three or more classes per semester. Each student will have an advisor chosen from the faculty of the program. The advisor will monitor the student's progress through the program and serve as the chair for the dissertation committee.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 semester hours beyond the baccalaureate degree.
- **Course Work** *Required Courses:* DHD 501, 502, 510, 541, and 2 hours of 592. At least 2 additional research methods courses appropriate to the student's research interests are chosen with an advisor. and must total a minimum of 9 additional credit hours.
- *Elective Courses:* 24 semester hours of study in a content area, chosen in consultation with the student's advisor. At least 12 hours must be from within the College of Applied Health Sciences.
- **Examinations** *Preliminary Examination:* Required, written and oral.
- **Dissertation** Required. A minimum of 24 semester hours required. The dissertation must be defended at a public session before the dissertation committee and other members of the academic community.
- **Other Requirements** Students entering the program with a baccalaureate degree are required to participate in a research project approved by their advisor. Students entering with a master's degree may have this requirement waived if they have completed equivalent work on a master's thesis.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling for a concentration in Gender and Women's Studies after consulting with their graduate advisor. See *Gender and Women's Studies* in the *College of Liberal Arts and Sciences* section for more information.

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Health Informatics (IBHE Certificate)

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Admission Requirements

- IBHE Certificate

Degree Requirements

- IBHE Certificate

Technical Requirements

- PC
- Mac

Mailing Address:
Office of Graduate Programs (MC 530)
Biomedical and Health Information Sciences
1919 West Taylor Street
Chicago, IL 60612-7249

Campus Location: 250 AHSB
Program Code: 20FS1303CASU
Telephone: (866) 674-4842
E-mail: admissionsuic@healthinformatics.uic.edu
Web Site: http://healthinformatics.uic.edu
Department Head: Dr. Larry Pawola
Director of Graduate Studies: Dr. Larry Pawola
Program Director: Dr. Michael Dieter

UIC's online IBHE postmaster's certificate in health informatics program provides opportunities for self-motivated, experienced health care or IT professionals who have already attained at least a master's-level degree, to attain high level knowledge about the application and management of computers within the healthcare setting.

All courses are delivered using online instruction that provides quality learning in a structured environment for healthcare professionals, as well as those working in public health, health information or technology management, and management-level business professionals.

This certificate signifies that graduates are conversant in the implementation, operation, and control of health information systems. Course work emphasizes development of a state of the art skill set and knowledge base grounded in healthcare information sciences.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

IBHE Certificate

- **Prior Degrees** At minimum, an earned degree at the master's level from any accredited graduate program is required. For those with an MBA, the degree must be granted either by UIC or another school accredited by AACSB International—The Association to Advance Collegiate Schools of Business.
- **Transcripts** An official transcript sent in a signed, sealed envelope from each postsecondary institution attended.
- **Grade Point Average** At least 3.00/4.00 for the terminal degree work.
- **Minimum English Competency Test Score**
  - **TOEFL** If the applicant has taken the paper-based TOEFL, minimum scores in the range of 585–600 will be considered; in addition, the applicant must take the Test of Written English and submit scores in the range of 5–6. Applicants taking the iBT Internet-based TOEFL must have a minimum score of 95, with subscores of Reading 24, Listening 22, Speaking 24, and Writing 24. **OR**
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Personal Statement** The statement should address the applicant's desired outcomes and benefits from completion of the certificate program.
- **Interview** Applicant must interview by phone to determine eligibility, interest, and purpose of graduate study.
- **Resume** Applicant should submit a resume that highlights education and work experience (applicant should have at least two years of work experience in industries that can directly translate to health informatics, such as health care, IT, health information management, consulting, or law. This excludes academic student jobs).
- **Deadlines** The application deadlines are as follows: July 15 for fall semester; November 15 for spring semester; and April 15 for summer session.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

IBHE Certificate

- **Prerequisites** This certificate requires completion of the following prerequisite courses (or equivalent course work or professional experience). These courses are most typically taken upon admission to the certificate program.
  - HIM 486—Foundations of Health Information Management
  - BHIS 406—Medical Terminology in Health Information Management
- **Minimum Semester Hours Required** 24.
- **Course Work** *Required Courses:* BHIS 437, 460, 510, 515, 520, 525, 530.

Technical Requirements

- **Computer Literacy** All students enrolled in this program are expected to have working knowledge of the following: microcomputer operating system, word processing, spreadsheets, electronic mail, Internet browsers.
- **Technology Recommendations** The student should have access to a computer with the following minimum requirements:

PC Users

- Processor: Minimum Pentium 4
- Memory: 1GB RAM minimum
- Hard Drive: 160 GB or more with 40 GB free space preferred
- Modem: A cable or DSL connection
- CD-ROM: A CD-ROM reader
- Sound Card: SoundBlaster 32-bit compatible
- Video Card: SVGA 1024 x 768 resolution-—Higher resolution recommended
- Monitor: 17 inch SuperVGA color monitor
- Operating System: XP, Vista, Windows 7
- Software
  - An active antivirus program and an office suite such as Microsoft Office 2007.
  - BHIS courses 437, 515, 520 require the use of Microsoft Visio Pro (professional version) as the drawing tool.
  - Adobe Acrobat Reader 9.3 or later http://www.adobe.com/products/acrobat/readstep2.html
  - Internet Explorer 7.x or later OR Mozilla Firefox 3.x
    - Flash plug-in (latest version)
    - Java plug-in (latest version)

- High speed broadband access. Wireless networks are acceptable for static Web pages but are not sufficient for working in a learning management system.

Mac Users

- Intel processor running OS 10.5 (or higher)
- Minimum of 1 GB RAM
- 160 GB HD
- Software:
  - An active antivirus program and an office suite such as Microsoft Office 2007.
  - BHIS courses 437, 515, 520 require the use of OmniGraffle Pro as the drawing tool.
  - Adobe Acrobat Reader http://www.adobe.com/products/acrobat/readstep2.html
  - Safari 5.x OR Mozilla Firefox 3.x
    - Flash plug-in (latest version)
    - Java plug-in (latest version)
- High speed broadband access. Depending on the bandwidth requirement for coursework applications, wireless networks may or may not be sufficient for working in a learning management system.

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Health Informatics

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Admission Requirements

- Master of Science
- MS in Health Informatics/MS in Nursing (Administrative Studies)
- MS in Health Informatics/Doctor of Pharmacy

Degree Requirements

- Master of Science
- MS in Health Informatics/MS in Nursing (Administrative Studies)
- MS in Health Informatics/Doctor of Pharmacy

Mailing Address:
Office of Graduate Programs (MC 530)
Biomedical and Health Information Sciences
College of Applied Health Sciences
University of Illinois at Chicago
1919 West Taylor Street, Room 250 AHSB
Chicago, Illinois 60612-7249

Campus Location: 250 AHSB
Program Code: 20FS1303MSU
Telephone: (866) 674-4842
E-mail:admissionsuic@healthinformatics.uic.edu
Web Site: http://healthinformatics.uic.edu
Department Head: Dr. Larry Pawola
Director of Graduate Studies: Dr. Larry Pawola

The Department of Biomedical and Health Information Sciences (BHIS) offers course work leading to an online Master of Science in Health Informatics. Health Informatics is the science of healthcare-related information, encompassing clinical care and clinical, financial, IT, and enterprise management. BHIS participates in two joint-degree programs: the MS in Nursing (Administrative Studies) / MS in Health Informatics and the Doctor of Pharmacy / MS in Health Informatics. An online postmaster's IBHE-Approved Certificate in Health Informatics is available for healthcare and IT professionals who already have a master's degree. BHIS also offers the MS in Biomedical Visualization, as well as an online post-baccalaureate certificate in Health Information Management (HIM), and an on-campus and online undergraduate bachelor degree in HIM.

Admission Requirements

Applicants will be considered on an individual basis by the BHIS Committee on Academic Affairs. Individuals determined to be deficient in one or more areas may be recommended to the Graduate College for admission upon the condition that any deficiencies are remedied through appropriate course work.

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study or for all terminal graduate degrees. In addition to the previous requirements, the cumulative GPA for any graduate-level course work must be at least 3.00/4.00.
- **Minimum English Competency Test Score**
  - **TOEFL** If the applicant has taken the paper-based TOEFL, minimum scores in the range of 585–600 will be considered; in addition, the applicant must take the Test of Written English and submit scores in the range of 5–6. Applicants taking the iBT Internet-based TOEFL must have a minimum score of 95, with subscores of Reading 24, Listening 22, Speaking 24, and Writing 24. **OR**
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three required using the program's forms.
- **Personal Statement** Required. The statement should address the applicant's goals for graduate study and career development.
- **Resume** Applicant should submit a resume that highlights education and work experience (applicant should have at least two years of work experience in industries that can directly translate to health informatics, such as health care, IT, health information management, consulting, or law. This excludes academic student jobs).
- **Other Requirements** Prior academic work must include a course in basic computing skills (or comparable experience) and one course in graduate-level basic statistics taken within the last five years for students in the project research and thesis tracks. The latter may be taken upon matriculation. The following prerequisites for the health informatics program may be taken upon matriculation, as equivalent course work, or as healthcare experience: HIM 486—Foundations in Health Information Management and BHIS 406—Medical Terminology in Health Information Management.

MS in Health Informatics/MS in Nursing (Administrative Studies)

To be admitted to the joint program, a student must meet the admissions criteria of each individual master's degree program. The program of study may be completed on a full- or part-time basis. Because there is some crossover of course credit across the health informatics and nursing programs, students are encouraged to apply as a joint program student before 16 credit hours of UIC graduate credit are completed.

MS in Health Informatics/Doctor of Pharmacy

To be admitted to the joint program, a student must meet the admissions criteria of each individual degree program. Students are considered for admission to the PharmD program with a minimum of 62 semester hours of accrued undergraduate credit; however, the MS in Health Informatics requires an earned bachelor's degree. For students who apply to the PharmD without a baccalaureate degree, the program provides a course planner showing the sequence of course work that meets the intent of the previously earned bachelor's degree admissions requirement for the MS. Students will be permitted to take BHIS 460, available to upper-level undergraduate students, in the fall of their second year in the PharmD curriculum. They will be accepted to the MS in Health Informatics the spring of their second year, at the point in the PharmD curriculum in which they will have accrued 128 semester hours—the baccalaureate equivalent.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 45.
- **Course Work** *Required Courses for All Tracks:* BHIS 437, 499, 503, 505, 510, 511, 515, 520, 525, 537, and 593.

- *Required Courses for Project and Thesis Research Tracks:* BHIS 500 and 595.
- *Required Courses for Course-Work-Only Track:* BHIS 530.
- *Electives:* Choice of electives to reach the minimum 45 hours should be guided, in consultation with the advisor, by the area of interest and the student's professional experience. BHIS 508, 509, 517, 527, 528, 538, 543, 546, or 580 are recommended electives for those in the course-work-only track.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Option**
- *Thesis:* Students must earn at least 8 hours in BHIS 598.
- *Project:* Students must earn at least 4 hours in BHIS 597.
- *Course Work Only:* Requires course work as indicated above and electives to total a minimum of 45 credit hours.
- **Other Requirements** *Continuous Registration:* Students who have completed all degree requirements except the thesis / project must register for zero credit hours to maintain continuous registration.

MS in Health Informatics/MS in Nursing (Administrative Studies)

- **Minimum Semester Hours Required** 65.
- **Course Work** *Core Courses in Nursing:* NURS 525, 526, 527, 528, 529, and 597 or 598.
- *Specialty Courses in Nursing:* NUSP 501, 502, 503, 504, and 505; NUPR 513.
- *Required Courses in Health Informatics:* BHIS 437, 503, 505, 510, 511, 525, 537, 593, and 13–15 hours of BHIS electives. BHIS 515, 517, and 520 are recommended electives for the Informatics Nurse Certification Exam.

MS in Health Informatics/Doctor of Pharmacy

- **Minimum Semester Hours Required** 153–157.
- **Course Work** *Core Courses in Pharmacy:* PHAR 321, 322, 323, 324, 331, 332, 333, 341, 342, 343, 344, 345, 346, 352, 353, 354, 355, 356, 365, 400, 401, 402, 403, 404, 405, 406, 407, and 408; PHYB 301 and 302.
- *Clerkship Courses in Pharmacy:* 24 hours.
- *Core Courses in Health Informatics:* BHIS 437, 500, 510, 511, 525, 537, 580; BHIS 597 or 598.
- *Elective Courses in Health Informatics:* BHIS 515, 520, and 530.
- **Thesis, Project, or Course-Work-Only Option** Thesis or project. No other options are available.

Technical Requirements

- **Computer Literacy** All students enrolled in this program are expected to have working knowledge of the following: microcomputer operating system, word processing, spreadsheets, electronic mail, Internet browsers.
- **Technology Recommendations** The student should have access to a computer with the following minimum requirements:

PC USERS

- **Processor** Minimum Pentium 4
- **Memory** 1GB RAM minimum
- **Hard Drive** 160 GB or more with 40 GB free space preferred
- **Modem** A cable or DSL connection
- **CD-ROM** A CD-ROM reader
- **Sound Card** SoundBlaster 32-bit compatible
- **Video Card** SVGA 1024 x 768 resolution--Higher resolution recommended
- **Monitor** 17-inch SuperVGA color monitor
- **Operating System** XP, Vista, Windows 7
- **Software**
  - An active antivirus program and an office suite such as Microsoft Office 2007.
  - BHIS courses 437, 515, 520 require the use of Microsoft Visio Pro (professional version) as the drawing tool.
  - Adobe Acrobat Reader 9.3 or later http://www.adobe.com/products/acrobat/readstep2.html
  - Internet Explorer 7.x or later OR Mozilla Firefox 3.x
    - Flash plug-in (latest version)
    - Java plug-in (latest version)
- **High speed broadband access** Wireless networks are acceptable for static Web pages but are not sufficient for working in a learning management system.

MAC USERS

- **Processor** Intel processor running OS 10.5 (or higher)
- **Memory** Minimum of 1 GB RAM
- **Hard Drive** 160 GB HD
- **Software**
  - An active antivirus program and an office suite such as Microsoft Office 2007.
  - BHIS courses 437, 515, 520 require the use of OmniGraffle Pro as the drawing tool.
  - Adobe Acrobat Reader http://www.adobe.com/products/acrobat/readstep2.html
  - Safari 5.x OR Mozilla Firefox 3.x
    - Flash plug-in (latest version)
    - Java plug-in (latest version)

- **High speed broadband access** Depending on the bandwidth requirement for coursework applications, wireless networks may or may not be sufficient for working in a learning management system.

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Health Information Management (IBHE Certificate)

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Admission Requirements

- IBHE Certificate

Degree Requirements

- IBHE Certificate

Technical Requirements

- PC
- Mac

Mailing Address:
Office of Graduate Programs (MC 530)
Biomedical and Health Information Sciences
1919 West Taylor Street
Chicago, IL 60612-7249

Campus Location: 250 AHSB
Program Code: 20FS1304CERU
Telephone: (866) 674-4842
E-mail: admissionsuic@healthinformatics.uic.edu
Web Site: http://healthinformatics.uic.edu
Department Head: Larry Pawola
Director of Graduate Studies: Larry Pawola
Academic Program Director: Karen Patena, RHIA

UIC's online Postbaccalaureate IBHE Certificate in Health Information Management provides opportunities for self-motivated, experienced healthcare, IT, or business professionals who have already attained at least a bachelor's degree, to attain a solid foundation in the application and management of computers within the healthcare setting, as well as eligibility to sit for the Registered Health Information Administrator (RHIA) certification exam. All courses will be delivered using online instruction that provides quality learning in a structured environment. Field work at a location convenient to the student is also required.

The Postbaccalaureate IBHE Certificate in HIM signifies that graduates are conversant in the planning, implementation, operation, and control of health data and information systems, and are eligible to sit for the RHIA exam. Course work emphasizes development of a state of the art skill set and knowledge base grounded in healthcare information sciences.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

IBHE Certificate

- **Prior Degrees** At minimum, an earned bachelor's degree from any accredited college or university is required.
- **Transcripts** An official transcript sent in a signed, sealed envelope from each postsecondary institution attended.
- **Grade Point Average** A cumulative GPA of 2.75/4.00 or above for the last 60 semester hours of the undergraduate degree **OR** a cumulative GPA of 3.00/4.00 or above for a minimum of 12 hours of graduate level course work beyond the baccalaureate.
- **Minimum English Competency Test Score**
  - **TOEFL** If the applicant has taken the paper-based TOEFL, minimum scores in the range of 585–600 will be considered; in addition, the applicant must take the Test of Written English and submit scores in the range of 5–6. Applicants taking the iBT Internet-based TOEFL must have a minimum score of 95, with subscores of Reading 24, Listening 22, Speaking 24, and Writing 24. **OR**
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Personal Statement** The statement should address the applicant's desired outcomes and benefits from completion of the certificate program.
- **Interview** Applicant must interview by phone to determine eligibility, interest, and purpose of graduate study.
- **Resume** Applicant should submit a resume that highlights education and work experience.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

IBHE Certificate

- **Prerequisites** This certificate requires completion of the following prerequisite courses (or equivalent course work or professional experience). These courses are most typically taken upon admission to the certificate program.
  - KN 251 and 252—Human Physiological Anatomy I and II **OR** KN 253 and 254—Human Physiology and Anatomy I and II
  - PSCH 242—Introduction to Research in Psychology **OR** STAT 101—Introduction to Statistics
  - IDS 200—Introduction to Management Information Systems
- **Minimum Semester Hours Required** 23-40. While 40 hours are required for the full program, a minimum of 31 hours may be taken if proficiency can be demonstrated in up to nine hours of specific core courses (see Note below) for students seeking the Postbaccalaureate IBHE Certificate in HIM only. While 32 hours are required for the full program concurrently with the MS in Health Informatics, a minimum of 23 hours may be taken if proficiency can be demonstrated in up to nine hours of specific core courses. (In this case, the Postbaccalaureate IBHE Certificate in HIM is awarded only upon completion of both the 23 or 32 hours required for the certificate and the 45 hours required for the MS in Health Informatics degree.) Proficiency will be demonstrated through reviewing the student's petition, personal statement and experience, and completion of a written exam.
- **Course Work**
- *Required Courses for students completing the full 40 hours for the IBHE Certificate in HIM only:* HIM 410, 432, 433, 481, 451, 452, 453, 454, 455; BHIS 405, 406, 460, and 580.
- *Required Courses for students completing the full 32 hours for the IBHE Certificate in HIM concurrently with MS in Health Informatics*: HIM 410, 432, 433, 481, 451, 452, 453; BHIS 405, 406, and 580. Additional courses taken as part of the MS in Health Informatics curriculum—11 hours. **Note:** These courses count toward the MS in Health Informatics degree and are substituted for courses in the Postbaccalaureate Certificate in HIM program: BHIS 500, 517, 535, and 546.
- **Note:** Upon satisfactory demonstration of proficiency in HIM 410, HIM 453, BHIS 405, or BHIS 406, students may waive up to 9 hours. In addition, students may substitute up to 4 hours from the following: BHIS 437, 515, 517, 525, 528 for required course work. Proficiency will be demonstrated though reviewing the student's petition, personal statement and experience, and completion of a written exam. Students completing the certificate concurrently with the MS in Health Informatics may substitute only BHIS 528, as all other courses are existing requirements of the MS with concurrent certificate.

Technical Requirements

- **Technical Requirements**

- **Computer Literacy** All students enrolled in this program are expected to have working knowledge of the following: microcomputer operating system, word processing, spreadsheets, electronic mail, Internet browsers.
- **Technology Recommendations** The student should have access to a computer with the following minimum requirements:

- **PC USERS**
  - **Processor** Minimum Pentium 4
  - **Memory** 1GB RAM minimum
  - **Hard Drive** 160 GB or more with 40 GB free space preferred
  - **Modem** A cable or DSL connection for high speed broadband access. Wireless networks are acceptable for static Web pages but are not sufficient for working in a learning management system and should not be used for quizzes or exams.
  - **CD-ROM** A CD-ROM reader
  - **Sound Card** SoundBlaster 32-bit compatible
  - **Video Card** SVGA 1024 x 768 resolution--Higher resolution recommended
  - **Monitor** 17-inch SuperVGA color monitor
  - **Operating System** XP, Vista, Windows 7
  - **Software**
    - An active antivirus program and an office suite such as Microsoft Office 2007.
    - Adobe Acrobat Reader 9.3 or later http://www.adobe.com/products/acrobat/readstep2.html
    - Internet Explorer 7.x or later OR Mozilla Firefox 3.x
      - Flash plug-in (latest version)
      - Java plug-in (latest version)
  - **High-Speed Broadband Access** Wireless networks are acceptable for static Web pages but are not sufficient for working in a learning management system.
- **MAC USERS**
  - **Intel Processor** running OS 10.5 (or higher)
  - **Memory** Minimum of 1 GB RAM
  - **Hard Drive** 160 GB HD
  - **Modem** A cable or DSL connection for high speed broadband access. Wireless networks are acceptable for static Web pages but are not sufficient for working in a learning management system and should not be used for quizzes or exams.
  - **Software**
    - An active antivirus program and an office suite such as Microsoft Office 2007.
    - Adobe Acrobat Reader http://www.adobe.com/products/acrobat/readstep2.html
    - Safari 5.x OR Mozilla Firefox 3.x
      - Flash plug-in (latest version)
      - Java plug-in (latest version)
  - **High-Speed Broadband Access** Depending on the bandwidth requirement for coursework applications, wireless networks may or may not be sufficient for working in a learning management system.

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Kinesiology

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Department of Kinesiology and Nutrition (MC 517)
1919 West Taylor Street
Chicago, IL 60612-7256

Campus Location: 650 AHSB
Program Codes: 20FS0351MS
Telephone: (312) 996-4600
E-mail: kndept@uic.edu
Web Site: http://www.ahs.uic.edu/kn
Head of the Department: Charles Walter
Director of Graduate Studies: Ziaul Hasan

The Department of Kinesiology and Nutrition offers work leading to degrees at both the master's and doctoral levels.

- MS in Kinesiology (see below)
- MS in Nutrition
- PhD in Kinesiology, Nutrition, and Rehabilitation

Kinesiology, nutrition, and rehabilitation are multidisciplinary fields that draw upon and integrate subject matter from a variety of disciplines. The master's degree program in Kinesiology as a terminal degree (i.e., not leading to a PhD) is most appropriate for students who wish to apply and critically evaluate their knowledge through practice in healthcare or industry settings and can be combined, for example, with focused course work in other fields such as public health, toxicology, business, or education. Doctoral studies are also available and are designed to lead to academic research and teaching careers or to research careers in government or industry.

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Applicants for graduate study may come from the entire spectrum of undergraduate fields, or from other health professions such as medicine or nursing. Some applicants may not meet all course prerequisites without having to take selected additional undergraduate course work. Minimum prerequisites for full admission to graduate study can be obtained from the department.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study (3.25 preferred); and 3.50/4.00 for all graduate work.
- **Tests Required** GRE General, with minimum verbal score of 151 (460 for tests taken before August 2011) and quantitative score of 150 (630 for tests taken before August 2011).
- **Minimum English Competency Test Score**
  - TOEFL 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL), OR,
  - IELTS 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Master of Science in Kinesiology—concentrations in Applied Exercise Physiology; and Motor Control and Biomechanics

- **Minimum Semester Hours Required** 32 for thesis or project options. 40-hour course-work-only or internship options are also available.
- **Course Work** MS students completing a thesis or project will generally take 27 hours of course work and independent research and then earn 5 hours for the thesis or project.
- The Applied Exercise Physiology concentration offers an internship option. Students completing the internship option will take 28 hours of course work and independent research and complete an internship worth 12 semester hours.
- Students who complete the 40-hour, course-work-only option are required to take at least 12 hours at the 500-level.
- All MS students are required to take KN 500—Evidence-Based Practice in Kinesiology and Nutrition.
- The required courses in each concentration are as follows:
- *Applied Exercise Physiology:* KN 452, 460, 545, and 594.
- *Motor Control and Biomechanics:* KN 472, KN/PT 571, KN 572, and KN/PT 574.
- Remaining hours can be met by kinesiology and nutrition electives, cognates, or independent research projects. Grades lower than B in the required concentration courses will not be counted toward the degree. In addition, students cannot graduate with a grade of less than B in any of the required concentration courses; students earning less than a B must retake the course until a grade of B or higher is earned, but receiving two grades lower than B in the same concentration course will result in dismissal from the graduate program.
- **Comprehensive Examination** Students who wish to perform an internship in Applied Exercise Physiology must first pass a comprehensive examination.
- **Thesis, Project, Internship, or Course-Work-Only Options** Students select the thesis, project, internship, or course-work-only option.
- *Thesis:* A minimum of 5 hours of KN 598 is required; generally 6 hours are taken.
- *Project:* A minimum of 5 hours of KN 597 is required; generally 6 hours are taken.
- *Internship:* A minimum of 12 hours of KN 593 is required.
- *Course Work Only:* 40 hours course work only.

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Kinesiology, Nutrition, and Rehabilitation

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Admission Requirements

- Doctor of Philosophy

Degree Requirements

- Doctor of Philosophy

Mailing Address:
Department of Kinesiology and Nutrition (MC 517)
1919 West Taylor Street
Chicago, IL 60612-7256

Campus Location: 650 AHSB
Program Codes: 20FS0351MS (MS in Kinesiology); 20FS1506MS (MS in Nutrition); 20FS5173PHD (PhD in Kinesiology, Nutrition, and Rehabilitation)
Telephone: (312) 996-4600
E-mail: kndept@uic.edu
Web Site: http://www.ahs.uic.edu/kn
Department Head: Charles Walter
Director of Graduate Studies: Ziaul Hasan and Renee Taylor

The Department of Kinesiology and Nutrition offers programs leading to degrees at both the master's and doctoral levels.

- MS in Kinesiology
- MS in Nutrition
- PhD in Kinesiology, Nutrition, and Rehabilitation (see below)

Kinesiology, nutrition, and rehabilitation are multidisciplinary fields that draw upon and integrate subject matter from a variety of disciplines (e.g., anatomy, biochemistry, biomechanics, motor control, molecular and cell biology, neuroscience and physiology as well as epidemiology, physical and cultural anthropology, sociology, and behavioral psychology). The master's degree programs in Kinesiology or Nutrition as a terminal degree (i.e., not leading to a PhD) are most appropriate for students who wish to apply their knowledge through practice in healthcare or industry settings and can be combined, for example, with focused course work in other fields such as public health, toxicology, business, or education. Doctoral studies are designed to lead to academic research and teaching careers or to research careers in government or industry. Students are given the opportunity to conduct research that is related to fundamental questions related to kinesiology, nutrition, and rehabilitation. In addition, there is a focus on rehabilitation issues of clinical relevance to the professions of occupational therapy and physical therapy

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy

- **Baccalaureate Field** Applicants for graduate study may come from the entire spectrum of undergraduate fields, or from other health professions such as medicine or nursing. Some applicants may not meet all course prerequisites without having to take selected additional undergraduate course work. Minimum prerequisites for full admission to graduate study can be obtained from the department.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study (3.25 preferred); and 3.50/4.00 for all graduate work.
- **Tests Required** GRE General, with minimum verbal score of 152 (480 for tests taken before August 2011) and quantitative score of 151 (640 for tests taken before August 2011).
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL), OR,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Other Requirements** Candidates for direct admission to PhD study may be asked to submit a sample of their prior published or unpublished written work. Prior work or research experience indicative of the ability for laboratory, clinical, or community-based research will be considered. In addition, exploratory queries and interviews from potential candidates are welcomed at any time. All applicants for admission for PhD study are encouraged to interview with the graduate faculty, and such interviews may be required before an admissions decision is made. Contact the department at (312) 996-4600 for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** At least 24 credit hours of 400- and 500-level courses are required. A minimum of 9 credit hours of 500-level courses must be letter-graded courses (A to F), not project, thesis, or independent study, or seminar courses that are graded Satisfactory (S) or Unsatisfactory (U).
- **Examinations**
  1. Preliminary exam
  2. Dissertation proposal
  3. Dissertation defense
- **Dissertation** Required. Students must earn at least 32 hours using a 599 rubric.
- **Other Requirements** All PhD students are expected to participate in the teaching programs of the College of Applied Health Sciences.

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Nutrition

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Department of Kinesiology and Nutrition (MC 517)
1919 West Taylor Street
Chicago, IL 60612-7256

Campus Location: 650 AHSB
Program Codes: 20FS1506MS
Telephone: (312) 996-4600
E-mail: kndept@uic.edu
Web Site: http://www.ahs.uic.edu/kn
Head of the Department: Charles Walter
Director of Graduate Studies: Ziaul Hasan

The Department of Kinesiology and Nutrition offers programs leading to degrees at both the master's and doctoral levels.

- MS in Nutrition (see below)
- MS in Kinesiology
- PhD in Kinesiology, Nutrition, and Rehabilitation

Kinesiology, nutrition, and rehabilitation are multidisciplinary fields that draw upon and integrate subject matter from a variety of disciplines. The master's degree program in Nutrition as a terminal degree (i.e., not leading to a PhD) is most appropriate for students who wish to apply and critically evaluate their knowledge through practice in healthcare or industry settings and can be combined, for example, with focused course work in other fields such as public health, toxicology, business, or education. Doctoral studies are also available and are designed to lead to academic research and teaching careers or to research careers in government or industry

Admission Requirements

Applicants are considered on an individual basis. It should be noted that students needing prerequisites for admission can take these courses as nondegree students. In addition to the Graduate College minimum requirements, applicants must also meet the following program requirements:

Master of Science

- **Baccalaureate Field** Applicants for graduate study in nutrition may come from the entire spectrum of undergraduate fields, or from other health professions such as medicine or nursing. Some applicants may not meet all course prerequisites without having to take selected additional undergraduate course work. Minimum prerequisites for full admission to graduate study can be obtained from the department.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study (3.25 preferred); and 3.50/4.00 for all graduate work.
- **Tests Required** GRE General; minimum of 145 Quantitative and 155 Verbal (tests taken August 2011 or after) **OR** minimum combined verbal and quantitative score of 1000 (tests taken prior to August 2011).
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36 from the baccalaureate.
- **Course Work** Selected in consultation with an advisor and individualized to the student's goals.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Students select one of these options.
- *Thesis:* Students selecting the thesis track must earn at least 5 hours in HN 598.
- *Project:* Students selecting the project track must earn at least 5 hours in HN 597.
- *Course Work Only:* Students selecting course work only must complete at least 36 hours of 400- and 500-level courses.

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Occupational Therapy

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Admission Requirements

- Professional Master of Science Degree (Entry-Level Degree)
- Doctor of Occupational Therapy

Degree Requirements

- Professional Master of Science Degree (Entry-Level Degree)
- Doctor of Occupational Therapy

Mailing Address:
Department of Occupational Therapy (MC 811)
1919 West Taylor Street
Chicago, IL 60612-7250

Campus Location: 311 AHSB
Program Codes: 20FS1511MS (Professional/Entry-Level MS); 20FS5000OTD (OTD)
Telephone: (312) 996-3051
E-mail: OTDept@uic.edu
Web Site: http://www.ahs.uic.edu/OT
Head of the Department: Yolanda Suarez-Balcazar
Director of Graduate Studies: Elizabeth Peterson (Professional/Entry-Level MS); Joy Hammel (OTD)

The Department of Occupational Therapy offers a Master of Science (MS) degree for students who have a bachelor's degree in another subject. This course-only program prepares students to be eligible for a national certification examination and for practice as an occupational therapist. The MS program has been fully accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA). The ACOTE office at AOTA is located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. AOTA's telephone number is (301) 652-AOTA, and its Web site is http://www.aota.org.

The Department of Occupational Therapy offers a Doctor of Occupational Therapy (OTD) degree that prepares students to fulfill roles as advanced practitioners, educators, and leaders or managers. Students ordinarily choose a primary and secondary area of focus.

Two PhD programs are available to students who wish to complete advanced preparation for research. These programs are in the areas of Disability Studies and Kinesiology, Nutrition, and Rehabilitation. Please refer to the *Disability Studies* section of the graduate catalogue for a description of the PhD in Disability Studies and the *Kinesiology, Nutrition, and Rehabilitation* section for that program.

Admission Requirements

Applicants must obtain supplemental application materials from the department or Web site. MS applicants must apply at otcas.org. Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements

Master of Science Degree (Entry-Level Degree)

- **Baccalaureate Field** Any field, no restrictions. Baccalaureate degree in any field plus completion of the following prerequisites
  with a grade of C or above prior to enrollment: one introductory course in anthropology or sociology (equivalent to ANTH 101 or SOC 100); two courses in psychology—child psychology or child development (equivalent to PSCH 320) and abnormal psychology (equivalent to PSCH 270); one course in statistics (equivalent to PSCH 343); one course in human physiology with laboratory, covering all structures and functions of the body (minimum of four semester hours); and one course in human anatomy with laboratory for a minimum of 4 semester hours (laboratory with 30 hours of human cadaver lab study required). A two-course sequence in human anatomy and physiology is acceptable if it includes the cadaver laboratory (equivalent to KN 251 and 252). A cadaver lab is offered at UIC for accepted students who have not yet completed this requirement.
- **Grade Point Average** At least 3.00/4.00[a] calculated on the last 60 semester (90 quarter) hours toward the first bachelor's degree and subsequent course work.
- **Tests Required** GRE General. It is recommended that the applicant score at least at the 50th percentile[a] on each section: verbal, quantitative and analytical writing. There is no minimum score required.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **OT observation/volunteer work:** A specific number of hours of observation or volunteer work are not required; however, it is recommended that applicants have at least 50 hours of experience with an occupational therapist prior to application. Many applicants have over 200 hours of OT observation or volunteer experience.

If prerequisites were completed more than 3 years prior to beginning occupational therapy course work, it is highly recommended that the applicant review a current text prior to enrollment so he or she has up-to-date knowledge. If prerequisites were completed more than 8 years ago, it is recommended that the applicant retake the course(s) or complete an intensive self-study prior to enrollment. If the anatomy course was completed more than three years prior to beginning the occupational therapy courses, or if a grade of C was earned in the anatomy course, a 30-hour human cadaver lab will be required. This lab will be offered at UIC across the fall and spring semesters of the first year, and includes 30 contact hours.

Doctor of Occupational Therapy

- **Prior Degrees** The OTD is a post-professional degree and therefore all students must have either an earned entry-level occupational therapy credential (bachelor's or master's level) or be currently enrolled in the UIC Professional Master of Science degree in the Department of Occupational Therapy.
- Students who have earned a bachelor's degree in occupational therapy must complete a minimum of 90 hours. Students who have already earned a graduate degree can receive 32 credits toward their OTD, upon approval of the Graduate College. With this approval, students would be required to complete 58 credits to complete the OTD. Additional graduate credits that have not been applied to a previous degree can also be transferred, up to a maximum of 14 credits, upon approval of the OTD Admissions Committee and the Graduate College. Any additional transfer credits would reduce the 58 credit requirement. At minimum, 44 credits will be required for the OTD if all transfer credits are approved. The OTD Admissions Committee reserves the right to determine the appropriateness of any graduate work completed by an applicant and may limit transfer credit.

- **Grade Point Average** A minimum of 3.00/4.00[a] for all work beyond the baccalaureate level and at least 3.00[a] for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General; it is recommended that the applicant score at least at the 50th percentile[a] on each section: verbal, quantitative and analytical writing. There is no minimum score required.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80 with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL), **OR,**
  - **IELTS** 6.5, with subscores of6.0 for all four subscores.
- **Letters of Recommendation** Three references pertaining to the applicant's academic skills, accomplishments, and potential for doctoral study are required.
- **Personal Statement** Each applicant is required to submit a 3–5 page statement addressing his or her goals for professional doctoral study and career development. A curriculum vitae is also required.

[a] *Applicants who do not meet the GPA or GRE expectations, but who demonstrate strengths in other areas, may be considered.*

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science Degree (Entry-Level Degree)

- **Minimum Semester Hours Required** 36.
- **Course Work** In order to qualify for certification as an occupational therapist, students in the professional degree program must successfully complete clinical courses beyond the 36 credits required for graduation. Visit our Web site at www.ahs.uic.edu/OT for more information on the clinical courses required for certification.
- *Required Courses:* OT 500, 510, and 595.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options available.

UIC graduates are able to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam the individual will be an occupational therapist, registered (OTR). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT certification examination. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Doctor of Occupational Therapy

- **Minimum Semester Hours Required** 90 semester hours beyond the baccalaureate. Credit may be awarded for other relevant graduate work completed at UIC or another accredited institution. Any credit will be determined on an individual basis by the OTD Admissions Committee and must be approved by the Graduate College. All students are required to earn a minimum of 58 semester hours in formal course work in the program.
- **Course Work** *Core Courses (19 hours):* OT 500, 510, 590, 595, and a minimum of 8 credits across 530, 531, or 532.
- *Concentration Courses:* Up to 20 hours are required, depending on the student's route of entry into the OTD and whether graduate credit was transferred into the program. Students select a primary and secondary concentration from the following three options: Advanced Practice, Administration and Leadership, and Professional Education. The combination of courses for the concentration will be chosen by the student in consultation with the advisor and must be approved by the curriculum committee.
- *Elective Courses:* Students choose elective courses which may be taken from within and/or outside the department. The number of credits required will depend on the student's route of entry into the OTD and whether graduate credits were transferred into the program.
- **Field Examination** Required.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.

- *Project:* Students must complete 20 hours of OT 592.

Tuition and Fees

The total cost associated with either the Master of Science Degree program or the Doctor of Occupational Therapy program includes graduate tuition, the occupational therapy program tuition differential, fees and assessments. Information regarding all MS or OTD-related costs can be found at: (http://www.uic.edu/depts/oar/grad/tuition_grad.html). Fees include a general fee, service fee, health service fee, and a Chicago Transit Authority Fee. Also included is a health insurance fee which can be waived with proof of insurance. The assessments are for building maintenance, library upgrades and technology. Graduate tuition, the tuition differential, fees, and assessments are subject to change.

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Rehabilitation Sciences

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Department of Physical Therapy (MC 898)
1919 West Taylor Street
Chicago, IL 60612-7251

Campus Location: 456 AHSB
Program Code: 20FS5207MS
Telephone: (312) 996-7765
E-mail: aaruin@uic.edu
Web Site: http://www.ahs.uic.edu/pt/
Head of the Department: Yolanda Suarez-Balcazar
Director of Graduate Studies: Alexander Aruin

The Department of Physical Therapy offers a Master of Science program in Rehabilitation Sciences. The program will provide students with state-of-art knowledge in research design, measurement techniques, advances in rehabilitation sciences, and critical appraisal of the evidence needed to support contemporary clinical practice. Moreover, graduates of the Rehabilitation Sciences Program will be prepared to become faculty members in academia, or to assume leadership positions in the rehabilitation community, and/or contribute to the development of a scholarly basis in physical rehabilitation sciences. Areas of research concentration include all aspects of physical rehabilitation, in particular neurological, cardiopulmonary, and orthopedic rehabilitation. Both treatment effectiveness and basic underlying mechanisms will be addressed using quantitative and/or clinical measures.

Two PhD programs are available to students who wish to complete advanced preparation for research. These programs are in the areas of Disability Studies and Kinesiology, Nutrition, and Rehabilitation. Please refer to the *Disability Studies* section of the graduate catalogue for a description of the PhD in Disability Studies and the *Kinesiology, Nutrition, and Rehabilitation* section for that program.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Prior Degrees** Bachelor's degree in health-related sciences or entry-level professional degree in physical therapy.

- **Grade Point Average** At least 3.00/4.00.
- **Tests Required** GRE General. Applicants should have a combined verbal and quantitative score of at least 1000 (tests taken before August 2011) or minimum of 144 Quantitative and 153 Verbal (tests taken August 2011 or after).

- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three are required.
- **Personal Statement** Required. The statement should address the applicant's goals for graduate study and career development.
- **Other Requirements** Preference will be given to applicants with interests in an academic career in rehabilitation sciences.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36 for the thesis or project option. 39 hours for the course-work-only option.
- **Course Work**
  - Students completing a thesis will minimally take 22 hours of course work.
  - Students completing a project will minimally take 27 hours of course work.
  - Students completing the course-work-only option will take 39 hours of course work at the 500-level, with at least 6 hours devoted to a survey of literature and/or the conduction of case studies. 400-level courses may be applied to this requirement with advisor approval.
  - Students receiving 3 or more grades below B will be dismissed from the program.
- *Required courses:* All students are required to take 12 hours as follows:
  - PT 505—Advances in Rehabilitation Sciences I
  - PT 506—Advances in Rehabilitation Sciences II
  - A graduate-level statistics course (e.g., EPSY 505)
  - A research methods course (e.g., PT 563; NURS 573)
- *Electives:* The number of hours and choice of electives will vary according to the program option chosen and will be guided by student's area of interest in consultation with the advisor (e.g. PT 503, PT 510, PT 511, and PT 562).
- **Comprehensive Examination** Required; written. The Comprehensive Examination will be waived for a student who obtains an average grade of B or better in the core courses PT 505 and 506.
- **Thesis, Project, or Course-Work-Only Options:** Students select 1 of the 3 options offered as follows:
- *Thesis:* Students are required to take 14 hours in PT 598 in addition to 10 hours of elective courses.
- *Project:* Students are required to take 9 hours of PT 597 in addition to 15 hours of elective courses.
- *Course-Work-Only:* Students are required to take 27 hours of elective courses.

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Professional Program—Physical Therapy

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Mailing Address:
College of Applied Health Sciences
Department of Physical Therapy (MC 898)
1919 W. Taylor Street
Chicago, IL 60612-7251

Campus Location: 4th Floor, Applied Health Sciences Building
Web Site: http://www.ahs.uic.edu/pt/

The College of Applied Health Sciences offers the Doctor of Physical Therapy degree. The DPT is the entry-level degree for people who want to become physical therapists. At the University of Illinois at Chicago, students complete eight terms (33 months) of didactic and clinical education that includes lecture courses, laboratory courses, seminars, and clinical internships.

UIC DPT graduates are ahead of the curve: The overall licensure exam pass rates have been 100% for the last two years. The job market is strong. All graduates responding to a survey one year after graduation report they are working as physical therapists in diverse clinical settings.

The Doctor of Physical Therapy (DPT) program at the University of Illinois at Chicago is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: (703) 706-3245; email: accreditation@apta.org; website: http://www.capteonline.org. The program was first accredited in 1973. Our Doctor of Physical Therapy program was most recently accredited for 10 years, in November 2007. The Doctor of Physical Therapy program offers students the following:

- unique opportunities to work with different patient populations such as pediatrics and geriatrics
- a diverse student body representing a myriad of cultures and economic backgrounds
- access to the University of Illinois Medical Center, including opportunities for clinical internships
- world-class faculty in all major physical therapy specialties, including researchers with labs on site
- an ever-increasing selection of elective courses in pediatrics, women's health, and urban health
- a prime location in the heart of Chicago
- a top-notch academic program that is highly ranked by *U.S. News & World Report*

The Doctor of Physical Therapy at UIC is considered a professional clinical doctorate degree program, not a graduate program. Applications for this program are processed through the Department of Physical Therapy. For more information on the DPT program, admission requirements, and the application process, please consult the following Web sites:

- DPT admission process and requirements: http://www.ahs.uic.edu/pt/programs/dpt_apply.php
- DPT degree requirements: http://www.ahs.uic.edu/pt/programs/dpt_requirements.php
- DPT clinical opportunities: http://www.ahs.uic.edu/pt/programs/dpt_clinical.php
- DPT faculty information: http://www.ahs.uic.edu/ahs/php/section.php?sitename=pt&id=532

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- Architecture/Architecture in Health Design/Design Criticism (MArch, MS, MA)
- Art History/Museum and Exhibition Studies (MA, PhD)
- Graphic Design (MFA)
- Industrial Design (MFA)
- Moving Image (MFA)
- New Media Arts (MFA)
- Photography (MFA)
- Studio Arts (MFA)

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Architecture

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Admission Requirements

- Master of Architecture
- Master of Science in Architecture
- Master of Science in Architecture in Health Design
- Master of Arts in Design Criticism

Degree Requirements

- Master of Architecture
- Master of Science in Architecture
- Master of Science in Architecture in Health Design
- Master of Arts in Design Criticism

Mailing Address:
School of Architecture (MC 030)
845 West Harrison Street
Chicago, IL 60607-7024

Campus Location: 3100 A&A
Program Codes: 20FS0249MARC (MArch); 20FS5046MS (MS in Architecture); 20FS5127MS (MS in Architecture in Health Design); 20FS5245MA (MAD-Crit)
Telephone: (312) 996-3335
E-mail: archadmissions@uic.edu
Web Site: http://www.arch.uic.edu/admissions.php
Director, School of Architecture: Robert Somol
Director of Graduate Studies: David Brown
Academic Advisor: Stephanie Niebuhr, sniebuhr@uic.edu

The School of Architecture offers four graduate degrees: an NAAB-accredited* professional Master of Architecture degree (MArch), a post-professional Master of Science in Architecture degree (MS), a post-professional Master of Science in Health Design degree (MSAHD), and an academic Master of Arts in Design Criticism (MAD-Crit).

The three-year Master of Architecture (MArch) program, for those holding a bachelors degree in any field, provides a studio-centered curriculum supported by required and elective course work in architectural technology and theory. Applicants to the MArch program must have completed a calculus course with analytical geometry, as well as a year-long survey in architectural history or art history, prior to enrolling in the program. See program Web site: http://www.arch.uic.edu/programs/m-arch.php for more information.

The one-year Master of Science in Architecture (MS) program, starting with a summer term, is designed for holders of a first professional degree in architecture, or its international equivalent, and consists of studio-centered work in architecture and urbanism supported by elective course work in advanced technology and contemporary theory and criticism. See program Web site for more information: http://www.arch.uic.edu/programs/ms-arch.php.

The two-year Master of Science in Architecture in Health Design (MSAHD) program, including a required summer preceptorship, immerses the student in this rapidly evolving field through design-centered studios and related technical and research seminars. Given the school's larger focus and expertise, the program is especially concerned with the reinvention of the design of health delivery systems in an age of globalization and pandemics. In order to accommodate design professionals who may already be working in this area, the program may be taken part-time. See program Web site for more information: http://www.arch.uic.edu/healthdesign/index.php.

The Master of Arts in Design Criticism (MAD-Crit) is a two-year program that develops textual and visual argumentation in the areas of architecture, urbanism, landscape, and allied design practices. The program, open to those holding a bachelors degree in any field, is intended for students, including postgraduate and mid-career professionals, who are interested in re-focusing on research, writing, and publication. In addition to those with architectural backgrounds, the program is also suitable for those from other fields who are already practicing as critics, journalists, or curators but who want to develop expertise in the design areas considered; or those who would like a terminal, graduate degree in order to pursue an academic career. Revolving around intensive writing seminars and publication workshops, the MAD-Crit program aims to solicit and expand the audience for design criticism and reposition the significance of design in public discourse. See program Web site for more information: http://www.arch.uic.edu/programs/mad-crit.php.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the program requirements as listed below. For more information on the School of Architecture application instructions, please see: http://www.arch.uic.edu/admissions.php.

Master of Architecture

- **Baccalaureate Field** No restrictions. A year-long, university-level survey in art history or architectural history and a university-level course in calculus with analytical geometry offered through a mathematics department are required. Applicants must have a basic understanding of algebra, geometry, and trigonometry.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from individuals acquainted with the applicant's recent academic, professional, or creative work.
- **Personal / Research Statement** A 500-word statement should discuss the applicant's academic interests and objectives, how they can be pursued through study at UIC, and what the applicant would contribute to the program's environment. Applicants should also explain how their architectural interests have been shaped by significant past experiences.
- **Other Requirements** Portfolio review and evaluation of previous course work are required for all applicants. As a designed book, the portfolio indicates an individual's aesthetic sensibility and intellectual curiosity. It may include any visual, design, or creative work, such as paintings, collages, freehand drawings, sketches, photographs, sculpture, furniture design, etc. Both in the works themselves and in the inquiry or argument framed through their presentation, applicants should exhibit their potential to develop original design work. Individual work is preferred, but when including group work the applicant's role and contribution should be carefully noted. The portfolio should not document CAD drafting skills or technical course work that is independent from design work. Work from an architecture office, such as construction drawings or renderings, should not be included unless the applicant had a significant role in the design process. Portfolios should not exceed 8.5" by 11" in size, must be bound, and should not be on slides or CDs. Craft of the cover and binding should be kept to a minimum.

- *Advanced Standing:* Applicants seeking advanced standing in the program must submit a portfolio with examples of their creative work and must also meet the following additional requirements: prior completion of one year of history of architecture; a minimum of six (eight preferred) semesters in undergraduate design studio that the admissions committee deems equivalent to one year of graduate design studio at UIC; upper-level course work in theory and history equivalent to ARCH 531/532; and at least one year of architectural and environmental technology **OR** one year of structures.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; for information on current deadlines, please see: http://www.arch.uic.edu/admissions/grad.php.

Master of Science in Architecture

- **Baccalaureate Field** Applicants must have an accredited professional degree in architecture or its international equivalent.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required:** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from individuals acquainted with the applicant's recent academic, professional, or creative work.
- **Personal / Research Statement** A 500-word statement should address the reasons for applying to a graduate program in architecture, particularly the UIC School of Architecture; outline current or previous work as it relates to the applicant's plans and objectives for advanced study; include a description of professional goals and how these goals are to be realized, as well as areas of research or design inquiry the applicant is interested in pursuing.
- **Other Requirements** Portfolio review and evaluation of previous academic, creative, and professional work is required for all applicants. As a designed book, the portfolio indicates an individual's aesthetic sensibility and intellectual curiosity. Both in the works themselves and in the inquiry or argument framed through their presentation, applicants should exhibit their potential to develop original design work. Individual work is preferred, but when including group work the applicant's role and contribution should be carefully noted. The portfolio should not document CAD drafting skills or technical course work that is independent from design work. Work from an architecture office, such as construction drawings or renderings, should not be included unless the applicant had a significant role in the design process. Portfolios should not exceed 8.5" by 11" in size, must be bound, and should not be on slides or CDs. Craft of the cover and binding should be kept to a minimum.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; for information on current deadlines, please see: http://www.arch.uic.edu/admissions/grad.php.

Master of Science in Architecture in Health Design

Please note: The Master of Architecture in Heath Design has been suspended effective Fall 2010. Contact the department for more information.

- **Academic Degree Required** The MS in Architecture in Health Design is designed for holders of a first professional degree in architecture (Bachelor of Architecture or Master of Architecture) seeking a postprofessional degree.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Tests Required** GRE General.
- **Letters of Recommendation** Three required, preferably from individuals acquainted with the applicant's recent academic, professional, or creative work.
- **Personal Statement** A 500-word statement should address the relationship of this advanced training to the applicant's personal and professional objectives.
- **Other Requirements** Applicants for admission to the two-year MS in Architecture in Health Design program must submit a portfolio with examples of their creative work. Professional work should be separated from creative work.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the program for information on current deadlines.

Master of Arts in Design Criticism

- **Baccalaureate Field** Applicants may have an undergraduate degree in any field.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Tests Required** GRE General.
- **Letters of Recommendation** Three required, preferably from individuals acquainted with the applicant's recent academic, professional, or creative work.
- **Personal / Research Statement** A 500-word statement should address the reasons for applying to a graduate program in design criticism, particularly the UIC School of Architecture; outline current or previous work as it relates to the applicant's plans and objectives for advanced study; include a description of professional goals and how these goals are to be realized, as well as areas of research or design inquiry the applicant is interested in pursuing.
- **Other Requirements** A written portfolio is required as a part of the application process for the Master of Arts in Design Criticism program. Content is not restricted to any particular subject area, but the material should be representative of the applicant's previous experience and creative ability.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; for information on current deadlines, please see: http://www.arch.uic.edu/admissions/grad.php.

Degree Requirements

The requirements for the degree vary according to the student's previous studies and level of preparation. The Graduate Admissions Committee of the school will specify, at the time of admission, the program to which each student has been accepted. In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Architecture

- **Minimum Semester Hours Required** 68–104, depending on the student's level of preparation.
- **Course Work** At least 24 hours must be at the 500-level in architecture.
- *Required Courses:* ARCH 531, 532, 544, 551, 552, 553, 554, 561, 562, 563, 564, 565, 573, 574, 585, 586; 4 hours in each of the following: 520, 522, and an approved AH course; 4 hours of an approved elective; one research sequence either 566 + 567 or, by approval, 595 + 598. An annual portfolio review occurs during the first week of the spring term.
- *MArch with Advanced Standing:* From the above curriculum, full advanced standing students will be waived from the following course work: ARCH 531, 532, 551, 552, 561, 562, 573, and 4 hours of the required course work from 520, 522 or an approved AH course. Exact advanced standing placement will be determined by the school at the time of admission. An annual portfolio review occurs during the first week of the spring term.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available. Thesis is an option but not a requirement for graduation.

Master of Science in Architecture

- **Minimum Semester Hours Required** 46.
- **Course Work** At least 24 hours must be at the 500-level in architecture.
- *Required Courses*: ARCH 521, 524, 565, 566, 567, and 568; 4 hours from ARCH 520 or 522; 4 hours from ARCH 520 or 586; and 4 hours from ARCH 522 or 564. Portfolio review occurs during the first week of the spring term.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only.

Master of Science in Architecture Health Design

Please note: The Master of Architecture in Heath Design has been suspended effective Fall 2010. Contact the department for more information.

- **Minimum Semester Hours** Required 53 hours.

- **Course Work** *Required Core Courses (29 hours):* ARCH 500, 501, 502, 503, 504, 505, 579. 7 hours of ARCH 577 taken over 5 terms.
  - 4 hours of ARCH 535 (Research Track students) ***OR*** 4 hours of ARCH 536 (Design Track students)
  - 8 hours of ARCH 597, focused on evidence-based research or design
  - 12 hours of electives
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Capstone project required.

Master of Arts in Design Criticism

- **Minimum Semester Hours Required** 56.
- **Course Work** At least 44 hours must be at the 500-level in architecture.
- *Required Courses*: ARCH 566, 585, 587, 588, 589, and 590.
- *Electives:* A total of 32 hours selected from ARCH 520, 531, 532, 586, or an Art History (AH) 400- or 500-level course, or an elective approved by the advisor.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only.

***Required text from National Architecture Accrediting Board (NAAB):** "In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards. Master's degree programs may consist of a preprofessional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the preprofessional degree is not, by itself, recognized as an accredited degree."

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Art History

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Admission Requirements

- Master of Arts
- Master of Arts in Museum and Exhibition Studies
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Master of Arts in Museum and Exhibition Studies
- Doctor of Philosophy

Mailing Address:
Department of Art History (MC 201)
935 West Harrison Street
Chicago, IL 60607-7039

Campus Location: 302 HH
Program Codes: 20FS0250MA (MA); 20FS5265MA (MA in Museum and Exhibition Studies); 20FS0250PHD (PhD)
Telephone: (312) 996-3303
E-mail: susl@uic.edu
Web site: http://www.uic.edu/depts/arch/ah
Chairperson, Department of Art History: Virginia E. Miller
Director of Graduate Studies: Hannah B. Higgins

The Department of Art History offers work leading to degrees at both the master's and doctoral levels. The Master of Arts in Art History offers study and research in the general areas of the history of architecture and art. The Master of Arts in Museum and Exhibition Studies offers a synthesis of research, scholarly training, and professional practice appropriate to the professions in the museum and exhibition worlds. The PhD in Art History is designed to promote intellectual inquiry and provide professional-level training in the discipline, in a program that provides both wide coverage and particular depth in two broad areas of unusual and exceptional faculty strengths. These two areas, which encompass the entire faculty, are the History of Art of the Americas and the History of Architecture, Design, and Urbanism. Students may also pursue topics that cross both areas of focus or expand beyond them.

Interdepartmental concentrations in Gender and Women's Studies and Violence Studies are available to students in the MA and PhD in Art History.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions.

- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 650 (paper-based); 95, with subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based), **OR**,
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's training, ability, and experience.
- **Personal Statement** Applicants must submit a short statement of purpose.
- **Writing Sample** Applicants must submit a sample of their written work.
- **Application Deadlines** January 1 for applicants who wish to be considered for financial aid from the department, and March 15 for all other applicants.

Master of Arts in Museum and Exhibition Studies

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 650 (paper-based); 95, with subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based), **OR**,
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores
- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's training, ability, and experience.
- **Personal Statement** Applicants must submit a short statement of purpose.
- **Writing Sample** Applicants must submit a sample of their written work.
- **Application Deadlines** January 1 for applicants who wish to be considered for financial aid from the department, and March 15 for all other applicants.

Doctor of Philosophy

- **Baccalaureate Field** No restrictions.
- **Previous Degrees** Completion of a Master of Arts program in Art History or equivalent is required for admission to the PhD program. However, exceptional students may be admitted directly to the PhD program with a bachelor's degree, completing the requisite 96 semester credits of courses and the other requirements of the degree, without completing an MA. Students originally accepted in the department for the MA who wish to continue on to the doctorate must satisfy the department's Master of Arts degree requirements and be recommended by the department for further work. Doctoral applicants who have a Master of Arts degree in a related field may be accepted directly into the doctoral program with the transfer of up to 32 credits toward the doctorate. Examples of appropriate related degrees include: MArch, the MFA in Art, and the MA in such humanities areas as history, philosophy, or literature.
- **Grade Point Average** At least 3.00/4.00 in an appropriate MA from another institution; if applying with a BA, the applicant must have a 3.20 overall and a 3.50 in the major, or approval by the Graduate Program Committee.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 650 (paper-based); 95, with subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based), **OR**,
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three required, preferably from professors and others who are familiar with the applicant's potential for serious academic work.
- **Personal Statement** Applicants must submit a short statement of purpose that should address the reasons for wishing to do doctoral work and the relationship of this work to their professional and career objectives.
- **Writing Sample** Applicants must submit a sample of their written work.
- **Application Deadlines** January 1 for applicants who wish to be considered for financial aid from the department, and March 15 for all other applicants.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 36.
- **Course Work** A minimum of 16 hours at the 500-level in art history courses, excluding AH 590—MA Paper Research and AH 598—Thesis Hours. All students are required to take courses from at least four different tenured and tenure-track UIC Art History faculty members.
- *Required Courses:* AH 510 and 511. Teaching assistants are also required to take AH 512. Of the remaining course work selected with an advisor, all students are required to take at least one course in each of the following areas: Ancient/Medieval/Early Modern (before 1800); Modern/Contemporary (after 1800); and Africa/Asia/Indigenous Americas.
- **Foreign Language Requirements** Students must present evidence of advanced knowledge of a language other than English as it relates to the student's chosen area of research. Evidence of the ability to pursue research in additional languages may be necessary, depending on the availability of literature in the field selected, and the selection of those languages must be approved by the student's advisor.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.
- *Thesis:* Must take at least 5 hours in thesis research (AH 598). No more than 8 hours of AH 598 can be applied to the degree.
- *Course Work Only:* Students who do not write a thesis must submit two substantial research papers written in conjunction with graduate courses taken in the Department of Art History to the departmental Graduate Program Committee. At least one of these qualifying papers should have been written in conjunction with a seminar. Each paper must be approved by a faculty member in the Art History Department who has worked closely with the student in revising the paper, which must also be approved by a second faculty reader. Each paper should ask critical questions, use primary sources, and be potentially useful for other scholars; each paper also should be at least equivalent in quantity and quality to an excellent seminar paper or a paper for an academic journal. Qualifying papers should be 25–30 pages in length, but longer or shorter versions are acceptable depending on topic and approach. No more than 4 hours of AH 590—MA Paper Research may be applied to the degree.

Master of Arts in Museum and Exhibition Studies

- **Minimum Semester Hours Required** 51.
- **Course Work** *Required Courses (23 hours):* AH 532, 542, 543, 544, 545, 582.
- *Elective Courses (20 hours):* Chosen in consultation with a faculty advisor.
- **Comprehensive Examination** Not required.
- **Thesis, Project, or Course-Work-Only Options** Thesis, project or course work (exhibition) only. No other options are available. Students may choose one of the following:
  - *Thesis:* Must take at least 8 hours in thesis research (AH 598). No more than 8 hours of AH 598 can be applied toward the degree.
  - *Project:* Must take at least 8 hours of project (AH 597). No more than 8 hours of AH 597 can be applied toward the degree.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 semester hours beyond the baccalaureate degree.
- **Foreign Language Requirements** Students must present evidence of advanced knowledge of a language other than English as it relates to the student's chosen area of research. Evidence of the ability to pursue research in additional languages may be necessary, depending on the availability of literature in the field selected, and the selection of those languages must be approved by the student's advisor.
- **Course Work** Candidates must complete at least 64 semester hours of course work beyond the master's degree. Of this amount, 32 semester hours must be in graduate seminars, of which 18 semester hours must be taken in the department. At least 32 semester hours of credit beyond the MA degree must be at the 500-level. Of the 64 semester hours required beyond the master's degree, a maximum of 24 semester hours of dissertation research are allowed.
- *Required Core Courses:* AH 510 and 511; AH 513.
- *Areas of Focus:* The PhD program has two major areas of focus:
  - Art of the Americas
  - Architecture, Design, and Urbanism
- Students may also pursue topics that cross both areas of focus or expand beyond them. Each student will select 16 hours from seminars: AH 441, 460, 463, 464, 465, 470, 471, 513, 522, 530, 540, 550, 560, 561, 562, 563, 570, and directed reading courses in the area of focus, as approved by the director of graduate studies.

- Students who have taken equivalent course work as part of an MA degree may petition the director of graduate studies for a waiver of specific requirements; no course credit is given for a waived course.
- **Preliminary Examination** Required; written and oral, to be taken upon completion of the course work and satisfaction of the language requirement. The written examination will cover the area of focus; the oral examination will be based on the written sections.
- **Dissertation** Required; the dissertation will make a contribution to knowledge in art history and will be publicly defended before the scholarly community.
- **Grade Point Average Requirement** Students must maintain a minimum grade point average of 3.00. No credit will be given for a course taken as part of the doctoral program in which the grade earned was less than a B.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Graphic Design

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Admission Requirements

- Master of Fine Arts

Degree Requirements

- Master of Fine Arts

Mailing Address:
School of Art and Design (MC 036)
929 West Harrison Street
Chicago, IL 60607-7038

Campus Location: 106 JH
Program Code: 20FS0148MFA
Telephone: (312) 996-3337
E-mail: ebrady@uic.edu
Web Site: http://adweb.aa.uic.edu/web/?program
Director, School of Art and Design: Marcia Lausen
Director of Graduate Studies: Jennifer Reeder

The School of Art and Design offers work leading to the Master of Fine Arts (MFA) degree in Graphic Design. The school also offers programs leading to the MFA degree in Industrial Design, Moving Image, New Media Arts, Photography, and Studio Arts. Consult the appropriate sections of the catalog for more information on these programs. The School of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design (NASAD).

Matriculating students in the graphic design program are required to have a laptop computer and appropriate software for use during their course of study. Specifications will be provided upon acceptance into the program.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Fine Arts

- **Baccalaureate Field** No restrictions; however, individuals who apply must demonstrate an advanced level of competence in graphic design through their portfolio submission.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** 580 (paper-based); 92, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. This statement of purpose should outline the applicant's current or previous work as relevant to plans and objectives for advanced study; describe professional goals and how these goals were developed; and state why the applicant would like to study in a research-oriented design program.
- **Other Requirements** Applicants must submit a portfolio of 12 to 15 examples of current work demonstrating proficiency in the area of graphic design. Portfolios are submitted online at: http://uic.slideroom.com/. No portfolios are to be submitted with application material. Competence and understanding of design-related computer technology, including proficiency in industry standard page layout, illustration, and photographic manipulation programs. Prerequisites and/or technical experience specific to this field of study may be required prior to entrance.
- **Deadlines** The application deadline for this program is February 1; contact the School of Art and Design for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Fine Arts

- **Minimum Semester Hours Required** 64.
- **Course Work** *Required Courses:* 16 hours of AD 502, 16 hours of AD 510, and 20 hours of AD 511.
- *Electives:* At least 12 semester hours of graduate-level electives are required. The completion of at least two courses in art history is strongly recommended.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project:* All MFA candidates must present for review a public exhibition or showing. Documentation in the form of a major paper and CD with images of the project must be presented to the school for archival purposes.
- **Other Requirements** Continuation in the MFA program beyond the second semester requires an evaluation and recommendation of the Graduate Advisory Committee in the student's area.

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Industrial Design

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Admission Requirements

- Master of Fine Arts

Degree Requirements

- Master of Fine Arts

Mailing Address:
School of Art and Design (MC 036)
929 West Harrison Street
Chicago, IL 60607-7038

Campus Location: 106 JH
Program Code: 20FS0152MFA
Telephone: (312) 996-3337
E-mail: ebrady@uic.edu
Web Site: http://adweb.aa.uic.edu/web/?program
Director, School of Art and Design: Marcia Lausen
Director of Graduate Studies: Jennifer Reeder

The School of Art and Design offers work leading to the Master of Fine Arts (MFA) degree in Industrial Design. The school also offers programs leading to the MFA degree in Graphic Design, Moving Image, New Media Arts, Photography, and Studio Arts. Consult the appropriate sections of the catalog for more information on these programs. The School of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design (NASAD).

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Fine Arts

- **Baccalaureate Field** No restrictions; however, individuals who apply must demonstrate an advanced level of competence in industrial design through their portfolio submission.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** 580 (paper-based); 92, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. This statement of purpose should outline the applicant's current or previous work as relevant to plans and objectives for advanced study;

describe professional goals and how these goals were developed; and state why the applicant would like to study in the chosen area in the school.

- **Other Requirements** Applicants must submit a portfolio of images of current work demonstrating proficiency in the area of industrial design. Portfolios are submitted online at : http://uic.slideroom.com/ . No portfolios are to be submitted with application materials. Students who lack competence in computer-aided design will be required to take remedial work. Prerequisites and/or technical experience specific to this field of study may be required prior to entrance.
- **Deadline** The application deadline for this program is February 1; contact the School of Art and Design for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Fine Arts

- **Minimum Semester Hours Required** 64.
- **Course Work** *Required Courses:* 16 hours of AD 502, 16 hours of AD 520, and 20 hours of AD 521.
- *Electives:* At least 12 semester hours of graduate-level electives are required. The completion of at least two courses in art history is strongly recommended.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project:* All MFA candidates must present for review a public exhibition or showing. Documentation in the form of a major paper and CD of the project must be presented to the school for archival purposes.
- **Other Requirements** Continuation in the MFA program beyond the second semester requires an evaluation and recommendation of the Graduate Advisory Committee in the student's area.

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Moving Image

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Admission Requirements

- Master of Fine Arts

Degree Requirements

- Master of Fine Arts

Mailing Address:
School of Art and Design (MC 036)
929 West Harrison Street
Chicago, IL 60607-7038

Campus Location: 106 JH
Program Code: 20FS4095MFA
Telephone: (312) 996-3337
E-mail: ebrady@uic.edu
Web Site: http://adweb.aa.uic.edu/web/?program
Director, School of Art and Design: Marcia Lausen
Director of Graduate Studies: Jennifer Reeder

The School of Art and Design offers work leading to the Master of Fine Arts (MFA) degree in Moving Image. The school also offers programs leading to the MFA degree inGraphic Design, Industrial Design, New Media Arts, Photography, and Studio Arts. Consult the appropriate sections in this catalog for more information on these programs. The School of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design (NASAD).

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Fine Arts

- **Baccalaureate Field** No restrictions; however, individuals who apply must demonstrate an advanced level of competence in film/video through their portfolio submission.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** 580 (paper-based); 92, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. This statement of purpose should outline applicant's current or previous work as relevant to plans and objectives for advanced study;

describe professional goals and how these goals were developed; and state why applicant would like to study in the chosen area in the school.
- **Other Requirements** Applicants must submit a portfolio of visual work demonstrating proficiency in the area of moving image. Portfolios are submitted online at: http://uic.slideroom.com/. No portfolios are to be submitted with application materials
- **Deadlines** The application deadline for this program is February 1; contact the School of Art and Design for more information**.**

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Fine Arts

- **Minimum Semester Hours Required** 64.
- **Course Work** *Required Courses:* 16 hours of AD 502, 16 hours of AD 570, and 20 hours of AD 571.
- *Electives:* At least 12 semester hours of graduate-level electives are required. The completion of at least two courses in art history is strongly recommended.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project:* All MFA candidates must present for review a public exhibition or showing. Documentation in the form of a major paper and DVD of the project must be presented to the school for archival purposes.
- **Other Requirements** Continuation in the MFA program beyond the second semester requires an evaluation and recommendation of the Graduate Advisory Committee in the student's area.

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New Media Arts

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Admission Requirements

- Master of Fine Arts

Degree Requirements

- Master of Fine Arts

Mailing Address:
School of Art and Design (MC 036)
929 West Harrison Street
Chicago, IL 60607-7038

Campus Location: 106 JH
Program Code: 20FS5256MFA
Telephone: (312) 996-3337
E-mail: ebrady@uic.edu
Web Site: http://adweb.aa.uic.edu/web/?program
Director, School of Art and Design: Marcia Lausen
Director of Graduate Studies: Jennifer Reeder

The School of Art and Design offers work leading to the Master of Fine Arts (MFA) degree in New Media Arts. The school also offers programs leading to the MFA degree in Graphic Design, Industrial Design, Moving Image, Photography, and Studio Arts. Consult the appropriate sections of catalog for more information on these programs. The School of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design (NASAD).

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Fine Arts

- **Baccalaureate Field** No restrictions; however, individuals who apply must demonstrate an advanced level of competence in new media arts through their portfolio submission.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** 580 (paper-based); 92, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. This statement of purpose should outline applicant's current or previous work as relevant to plans and objectives for advanced study;

describe professional goals and how these goals were developed; and state why applicant would like to study in the chosen area in the school.
- **Other Requirements** Applicants must submit a portfolio of visual work demonstrating proficiency in the area of computer graphics, video, and/or new media arts. Portfolios are submitted online at: http://uic.slideroom.com/. No portfolios are to be submitted with application materials. Experience in digital video or computer graphics programming (C, C++, GL, Open GL) or mathematics may be required prior to entrance.
- **Deadlines** The application deadline for this program is February 1; contact the School of Art and Design for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Fine Arts

- **Minimum Semester Hours Required** 64.
- **Course Work** *Required Courses:* 16 semester hours of AD 502. At least 48 semester hours must be in the area of specialization and must include at least 36 semester hours at the 500-level.
- *Electives:* At least 12 semester hours of graduate-level electives are required**.** The completion of at least two courses in art history is strongly recommended.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project:* All MFA candidates must present for review a public exhibition or showing. Documentation in the form of a major paper and DVD of the project must be presented to the school for archival purposes.
- **Other Requirements** Continuation in the MFA program beyond the second semester requires an evaluation and recommendation of the Graduate Advisory Committee in the student's area.

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Photography

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Admission Requirements

- Master of Fine Arts

Degree Requirements

- Master of Fine Arts

Mailing Address:
School of Art and Design (MC 036)
929 West Harrison Street
Chicago, IL 60607-7038

Campus Location: 106 JH
Program Code: 20FS0151MFA
Telephone: (312) 996-3337
E-mail: ebrady@uic.edu
Web Site: http://adweb.aa.uic.edu/web/?program
Director, School of Art and Design: Marcia Lausen
Director of Graduate Studies: Jennifer Reeder

The School of Art and Design offers work leading to the Master of Fine Arts (MFA) degree in Photography. The school also offers programs leading to the MFA degree in Graphic Design, Industrial Design, Moving Image, New Media Arts, and Studio Arts. Consult the appropriate sections of the catalog for more information on these programs. The School of Art and Design is an accredited member of the National Association of Schools of Art and Design (NASAD).

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Fine Arts

- **Baccalaureate Field** No restrictions; however, individuals who apply must demonstrate an advanced level of competence in photography through their portfolio submission.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** 580 (paper-based); 92, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. This statement of purpose should outline applicant's current or previous work as relevant to plans and objectives for advanced study; describe professional goals and how these goals were developed; and state why applicant would like to study in the chosen area at the school.

- **Other Requirements** Applicants must submit a portfolio of 12 images of current work demonstrating proficiency in the area of photography. Portfolios are submitted online at: http://uic.slideroom.com/. No portfolios are to be submitted with application materials. Prerequisites and/or technical experience specific to this field of study may be required prior to entrance.
- **Deadlines** The application deadline for this program is February 1; contact the School of Art and Design for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Fine Arts

- **Minimum Semester Hours Required** 64.
- **Course Work** *Required Courses:* 16 semester hours of AD 502, 16 semester hours of AD 560, and 20 semester hours of AD 561.
- *Electives:* At least 12 semester hours of graduate-level electives are required. The completion of at least two courses in art history is strongly recommended.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project:* All MFA candidates must present for review a public exhibition or showing. Documentation in the form of a major paper and CD or DVD of the project must be presented to the school for archival purposes.
- **Other Requirements** Continuation in the MFA program beyond the second semester requires an evaluation and recommendation of the Graduate Advisory Committee in the student's area.

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Studio Arts

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Admission Requirements

- Master of Fine Arts

Degree Requirements

- Master of Fine Arts

Mailing Address:
School of Art and Design (MC 036)
929 West Harrison Street
Chicago, IL 60607-7038

Campus Location: 106 JH
Program Code: 20FS1715MFA
Telephone: (312) 996-3337
E-mail: ebrady@uic.edu
Web Site: http://adweb.aa.uic.edu/web/?program
Director, School of Art and Design: Marcia Lausen
Director of Graduate Studies: Jennifer Reeder

The School of Art and Design offers work leading to the Master of Fine Arts (MFA) degree in Studio Arts. The school also offers programs leading to the MFA degree in Graphic Design, Industrial Design, Moving Image, New Media Arts, and Photography. Consult the appropriate sections of the catalog for more information on these programs. The School of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design (NASAD).

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Fine Arts

- **Baccalaureate Field** No restrictions; however, individuals who apply must demonstrate an advanced level of competence in studio arts (painting, sculpture) through their portfolio submission.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** 580 (paper-based); 92, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. This statement of purpose should outline the applicant's current or previous work as relevant to plans and objectives for advanced study;

describe professional goals and how these goals were developed; and state why applicant would like to study in the chosen area of the school.
- **Other Requirements** Applicants must submit 12 images of visual work demonstrating proficiency in the area of studio arts. Portfolios are submitted online at: http://uic.slideroom.com/ . No portfolios are to be submitted with application materials. Prerequisites and/or technical experience specific to this field may be required prior to entrance. Site visitation with area coordinators is encouraged.
- **Deadlines** The application deadline for this program is February 1; contact the School of Art and Design for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Fine Arts

- **Minimum Semester Hours Required** 64.
- **Course Work** *Required Courses:* 16 semester hours of AD 502, 16 semester hours of AD 530, and 20 semester hours of AD 531.
- *Electives:* At least 12 semester hours of graduate-level electives are required. The completion of two courses in art history is strongly recommended.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project:* All MFA candidates must present for review a public exhibition or showing. Documentation in the form of a major paper and CD or DVD of the project must be presented to the school for archival purposes.
- **Other Requirements** Continuation in the MFA program beyond the second semester requires an evaluation and recommendation of the Graduate Advisory Committee in the student's area.

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College of Business Administration

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- Accounting (MS, MBA/MS)
- Business Administration (PhD)
- Management Information Systems (MS, MBA/MS, PhD)
- Real Estate (MA)
- Professional Program—Business Administration (MBA)

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Accounting

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Admission Requirements

- Master of Science
- MBA/MS in Accounting

Degree Requirements

- Master of Science
- MBA/MS in Accounting

Mailing Address:
UIC Liautaud Graduate School of Business
110 Douglas Hall, MC 077
705 South Morgan Street
Chicago, IL 60607

Campus Location: 110 Douglas Hall
Program Code: 20FS1000MS
Main Phone: (312) 996-4573 or (877) 622-8421 (toll free)
E-mail: lgsb@uic.edu
Web Site: www.lgsb.uic.edu
Head of the Department of Accounting: Somnath Das
Director of Graduate Studies: Ram Ramakrishnan

The Department of Accounting through the Liautaud Graduate School of Business offers work leading to the Master of Science in Accounting degree and participates with the MBA Program in the MBA/MS in Accounting joint degree program.

Admission Requirements

Applicants are considered on an individual basis. Transcripts for all undergraduate and any graduate work must be submitted to the Liautaud Graduate School of Business Program Office. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study. Applicants possessing a master's degree in business or an equivalent degree from a program accredited by the AACSB-International must have maintained a grade point average of at least 3.00/4.00 in that program.
- **Tests Required** GMAT; minimum score of 500.
- **Minimum English Competency Test Score**
  - **TOEFL** 570 (paper-based); 81, with subscores of Reading 20, Listening 20, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Two required.
- **Personal Statement** Required.

- **Resume** Required.
- **Deadlines** The application deadline for this program is the Graduate College deadline. There is no summer admission for the Accounting program.

MBA/MS in Accounting

Applicants to the joint degree program must satisfy the admission requirements of both the MBA and MS programs.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** Degree candidates must present a cumulative grade point average of at least 3.00/4.00 for all 400- and 500-level courses.
- *Required Courses* (2 courses, 8 hours): Select two courses from the following: ACTG 516, 525, 585, and 593.
- *Elective Courses* (3 courses, 12 hours): Select three courses from the following: ACTG 417, 446, 456, 465, 475, 484, 509, 515, 516, 525, 535, 537, 545, 570, 585, 593, and 594. (Courses used to fulfill the required course requirement do not count towards the elective course requirement.)
- *Accounting/Business Electives* (3 courses, 12 hours): Select three courses from the following or select three approved LGSB courses: 417, 446, 456, 465, 475, 484, 509, 515, 516, 525, 535, 537, 545, 570, 585, 593, and 594. (Courses used to fulfill the required or elective course requirement do not count towards the accounting/business course requirement.)
- At least 5 of the courses used toward the MSA degree must be at the 500-level.
- *Background and Breadth Courses* (11 courses, 44 hours): Students without an appr*oved undergraduate degree in A*ccounting must complete the following 11 courses in addition to the above requirements: ACTG 435, 474, 500, 502, 503, 506, 508, IDS 570, and three business electives. Up to 8 of the courses may be waived based on completion of prior satisfactory equivalent study.
- ***Comprehensive Examination*** *None*.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available

MBA/MS in Accounting

- **Minimum Semester Hours Required** 68.
- **Course Work** Students must maintain a cumulative grade point average of at least 3.00/4.00 for all course work.
- *Required Courses* (20 courses, 44 hours): ACTG 515 and 593; 3 electives from ACTG 417, 446, 456, 465*, 475, 484*, 509, 516*, 525*, 535*, 545*, 585 (with at least one marked *); ACTG 500; ECON 520; FIN 500; IDS 532; MGMT 541; MKTG 500; a 3-course concentration within the MBA program, excluding accounting; and one 500-level business course from a department other than accounting and the MBA concentration field.
- *Accounting Background Courses* (5 courses): ACTG 435, 502, 503, 506, 508.
- Any of the accounting background courses can be waived with prior credit and ACTG 500 can be waived with a competency examination. However, a minimum of 68 hours must be completed by taking additional accounting or business electives. No more than two 400-level courses can be counted toward the MS portion of the degree.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

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Business Administration

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Admission Requirements

- Doctor of Philosophy

Degree Requirements

- Doctor of Philosophy

Mailing Address:
UIC Liautaud Graduate School of Business
110 Douglas Hall, MC 077
705 South Morgan Street,
Chicago, IL 60607

Campus Location: 110 Douglas Hall
Program Code: 20FS0079PHD
Main Phone: (312) 996-4573 or (877) 622-8421 (toll free)
E-mail: lgsb@uic.edu
Web Site: www.lgsb.uic.edu
Graduate Program Head/Chair: Mark Shanley
Director of PhD Program: Robert Liden

The doctoral program is designed to produce scholars and practitioners who are well qualified to conduct creative and significant research in business disciplines. Currently three areas of inquiry are available: Business Statistics, Human Resource Management, and Marketing. Students will either select one of these areas or pursue unique interests in a course of study that is custom designed by business school faculty.

Admission Requirements

Admission is competitive. Applications for the Doctoral Studies Program can be found at the following Web site: http://www.uic.edu/cba/lgsb. Please see the application checklist for necessary documents: http://www.uic.edu/cba/lgsb/deadline-criteria.html#phd. All application materials, including transcripts and fees, must be submitted directly to the Liautaud program office, at the address above. Transcripts for all undergraduate and any graduate work must be submitted in a signed, sealed envelope. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work should include all of the following fields: mathematics/statistics, computing/analysis, and business.
- **Grade Point Average** At least 3.0/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GMAT (required for Marketing) or GRE. The score must be from a test administered within five years from the requested date of entry. The writing assessment is required.
- **Minimum English Competency Test Score**

    - **TOEFL** 600 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the intellectual skills, perseverance, and integrity of the applicant. At least one recommendation should be from an academic familiar with the applicant's work.
- **Personal Statement** Required; 500 words. The statement should address the applicant's interests and qualifications, including research interests and the impact this work is expected to have on the applicant's career.
- **Other Requirements** Interview with the faculty in the field of the degree, the PhD coordinator, the director of doctoral studies, or the department head is advised. Students are admitted only in the fall semester.
- **Deadlines** The application deadline for this program is January 1 for entry in the fall semester each year.

Degree Requirements

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate, 64 from the MBA.
- **Course Work** Study will include a two-course requirement in mathematics, statistics, or computing; a four-course breadth requirement (four MBA core courses, no two of which are from the same functional area and none of which is from the area of inquiry); and a six-course depth requirement (advanced courses, at least two of which are sufficiently rigorous to provide the basis for the qualifying exam). Following the qualifying exam, additional course requirements are determined by the student's advisor.
- **Examinations** *Qualifying Examination:* A written exam, based upon courses used for the student's depth requirement, is required and will be administered by faculty in the student's area of inquiry.
- *Preliminary Examination:* A written and/or oral exam, addressing advanced material in the area of inquiry and/or the student's plans for dissertation research, is required.
- **Dissertation** A dissertation demonstrating the ability to conduct original, scholarly research is required. No more than 32 hours of doctoral thesis research can be applied to the degree.
- **Other Requirements** Students must serve as a teaching assistant or research assistant. This requirement may be waived for students with appropriate teaching or research experience.

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Management Information Systems

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Admission Requirements

- Master of Science
- MBA/MS in Management Information Systems
- Doctor of Philosophy

Degree Requirements

- Master of Science
- MBA/MS in Management Information Systems
- Doctor of Philosophy

Mailing Address:
UIC Liautaud Graduate School of Business
110 Douglas Hall, MC 077
705 South Morgan Street
Chicago, IL 60607

Campus Location: 110 Douglas Hall
Program Codes: 20FS9890MS (MS); 20FS9890PHD (PhD)
Main Phone: (312) 996-4573 or (877) 622-8421 (toll free)
E-mail: lgsb@uic.edu
Web Site: www.lgsb.uic.edu
Head of the Department: Arkalgud Ramaprasad
Director of Graduate Studies: Ranganathan Chandrasekaran

The Department of Information and Decision Sciences through the Liautaud Graduate School of Business offers graduate programs leading to the Master of Science in Management Information Systems, an MBA/MS in MIS joint degree, and a Doctor of Philosophy in Management Information Systems. All programs are taught by nationally renowned faculty and are accredited by AACSB-International. The MS in MIS is an advanced degree in the application of information technology to solve business problems. The program is designed to train future CIOs, project managers, and technology leaders. A student in the program may specialize in managerial, technical, or a combination of the two areas. Some of the leading-edge topics that will be covered in the program include business process design, technology-enabled innovation, data warehousing, data mining, Web services, enterprise application platforms, corporate IT management, information systems security, project and vendor management, and business continuity.

The program is designed for professionals and students (a) in information systems who would like to gain advanced knowledge of the business use of information technology; and (b) in other business functions such as marketing, finance, and accounting who would like to use information systems effectively. The program is flexible and suitable for students with experience or education in information systems, business administration, computer science, engineering, healthcare, or other disciplines. A student may enroll full time or part time. A full-

time student with adequate foundation can complete the program in a year. The MS degree is also offered jointly with the MBA.

The program leading to the PhD in Management Information Systems focuses on an interdisciplinary business understanding of how technology can affect an organization's behavior, structure, and function, and on the effective use, control, and management of information and computer systems. Both the technical aspects and organizational impact of information management are assessed. A faculty on the cutting edge of modern MIS practices ensures dynamic research and teaching possibilities in this field.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Individuals from all baccalaureate fields are encouraged to apply. The exact course requirements will be determined based on an individual's baccalaureate field and work experience. All applicants must have had the following background course work: mathematics through the level of calculus covering integration and differentiation, and statistics through regression analysis.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate studies. Applicants with a master's degree must have maintained a GPA of at least 3.00/4.00 in that program.
- **Tests Required** GMAT or GRE taken within five years of entry into the program.
- **Minimum English Competency Test Score**
  - **TOEFL** 585 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Two required (waived for GAMIS applicants).
- **Personal Statement** Required.
- **Guaranteed Admissions to MIS (GAMIS)** UIC and UIUC students or alumni (graduated within 5 years of applying) with a cumulative GPA of 3.00/4.00 and a GPA of 3.00/4.00 in selected IDS- or MIS-related courses will be waived from the GMAT or GRE requirement.

MBA/MS in Management Information Systems

Applicants to the joint degree program must apply and be accepted to both the MBA and MS in MIS programs and must satisfy the admission requirements independently for both programs. Students already enrolled in the MBA program must apply to the joint degree program before completing more than 32 semester hours of study in the MBA program.

Doctor of Philosophy[a]

- **Baccalaureate Field** No restrictions. Prior academic work should include mathematics/statistics, computing/analysis, and business.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GMAT or GRE. The score must be from a test administered within five years from the requested date of entry. The writing assessment is required.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the intellectual skills, perseverance, and integrity of the applicant. At least one recommendation should be from an academic familiar with the applicant's work.
- **Personal Statement** Required; 500 words; the statement should address the applicant's interests and qualifications, including research interests and the impact this work is expected to have on the applicant's career. A specific statement format is available in the application packet.
- **Other Requirements** All applicants must have had mathematics through the level of calculus covering integration and differentiation, and statistics through regression. Students are admitted only in the fall semester. No part-time program is available.

- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the Liautaud Graduate School of Business Doctoral Studies Programs Office for information on current deadlines.

[a]Admission to the PhD program is competitive. Application packets and procedures are different for the PhD in MIS and must be submitted to the LGSB Office. All application materials, including transcripts and fees, must be submitted directly to this office. Transcripts for all undergraduate and any graduate work must be submitted in a signed, sealed envelope.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** No more than two 400-level courses can be counted towards the degree.
- *Required Courses:* Core Knowledge (0–12 hours)—IDS 517, 520, and 521. Each course may be substituted by an elective course if the student has equivalent prior course work or work experience.
- Capstone Project Experience (4 hours)—IDS 507, 508, or 596. To be taken only after the completion of at least two Core Knowledge courses.
- IS Management (4 hours)—IDS 514, 515, or 523.
- Technical Prerequisites (0–12 hours)—IDS 401, 405, and 410. Each course may be waived based on equivalent prior course work or appropriate work experience in the technical area. These courses will not count towards the minimum degree requirement of 32 hours.
- Business Prerequisites (0–12 hours)—Two introductory courses in any two functional areas of business: operations management, IDS 355 or 532; accounting, ACTG 110, 111, or 500; finance, FIN 300 or 500; marketing, MKTG 360 or 500; or management, MGMT 340 or 541. Each course may be waived based on equivalent prior course work or appropriate work experience in the functional area. These courses will not count towards the minimum degree requirement of 32 hours.
- *Electives:* Three to five courses chosen with the approval of the director of graduate studies. Courses from other departments and colleges may be taken as electives with his or her approval. These courses may be chosen so as to fit career tracks in IS Consulting, Auditing and Forensics, Corporate IS Management, Supply Chain and Service Operations, Business Analytics, Enterprise Applications or IS operations.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

MBA/MS in Management Information Systems

- **Minimum Semester Hours Required** 70.
- **Course Work** All requirements of both the MBA degree and the MS in MIS must be satisfied. At most 4 courses may be counted toward the requirements of both degrees. The MBA Core courses will fulfill the Business Prerequisites of the MS in MIS program. Technical prerequisites may not be used to satisfy any part of the eight-course requirement for the MS in MIS part of the joint program. No more than two 400-level courses can be counted toward the MS in MIS portion of the degree.
- *MBA Required Courses:* Core Courses (24 hours)—ACTG 500, ECON 520, FIN 500, IDS 532, MGMT 541, and MKTG 500.
- *MBA Electives:* 16 hours of 500-level courses from at least two departments within the College of Business Administration.
- *MS in MIS Required Courses:* Core Knowledge (0–12 hours)—IDS 517, 520, and 521. Each course may be substituted by an elective course if the student has equivalent prior course work or experience.
- Capstone Project Experience (4 hours)—IDS 507, 508, or 596. To be taken only after the completion of at least two Core Knowledge courses.
- IS Management (4 hours)—IDS 514, 515, or 523.
- Technical Prerequisites (0–12 hours)—IDS 401, 405, and 410. Each course may be waived based on equivalent prior course work or appropriate work experience in the technical area. These courses will not count towards the MS in MIS degree requirement of 32 hours. However, these or their equivalent courses may be counted towards a concentration or specialization in the MBA program.
- Business Prerequisites (0 hours)—This requirement will be fulfilled by the MBA core courses.

- *Electives:* Three to five courses chosen with the approval of the director of graduate studies. Courses from other departments and colleges may be taken as electives with his or her approval. These courses may be chosen so as to fit career tracks in IS Consulting, Auditing and Forensics, Corpo-rate IS Management, Supply Chain and Service Operations, Business Analytics, Enterprise Applications or IS operations.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate, 64 from MBA, MS in MIS, MSA, or a business-related master's degree; including between 24 and 32 hours of dissertation research.
- **Course Work** *Breadth Requirement:* Two introductory courses in any two functional areas of business (for example, IDS 532; ACTG 500; ECON 520, 521; FIN 500; MKTG 500; or MGMT 541). These courses will not count toward the 64-semester-hour requirement for entrants with a master's degree.
- *Technical Requirement:* IDS 401, 405, and 410. Each course may be waived based on equivalent prior course work or appropriate work experience in the technical area. These courses will not count towards the 64-semester-hour requirement for entrants with a master's degree.
- *Basic Competency:* IDS 517, 520, and 521. Each course may be waived based on equivalent prior course work or appropriate work experience in the technical area.
- *MIS Specialization:* Minimum of 6 courses (24 semester hours), including two IDS Research Seminars (IDS 529), three specialized courses in areas of individual interest, IS research topics (IDS 525), and additional courses in consultation with the director of the PhD program.
- *Research Methods:* 3–4 courses (12–16 semester hours), including statistical methods in research, behavioral research methods overview, quantitative methods in research, and additional courses to be decided in consultation with the director of the PhD program.
- **Examinations** *Annual Evaluation:* An evaluation will be held at the end of the spring semester each year that the student is in the program. The evaluation will be conducted by a committee, which will include the PhD director as the chairperson, the student's mentor, and the entire IDS faculty who taught the student during that year. The committee will administer a written exam each year until the student passes the preliminary examination; it will determine the type and scope of the exam.
- *Preliminary Examination:* A written and/or oral exam, addressing advanced material in the area of inquiry and/or the student's plans for dissertation research, is required.
- **Dissertation** A dissertation demonstrating the ability to conduct original, scholarly research is required. No more than 32 hours of doctoral thesis research can be applied to the degree.
- **Other Requirements** Students must serve as a teaching assistant or research assistant. This requirement may be waived for students with appropriate teaching or research experience.

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Real Estate

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Admission Requirements

- Master of Arts

Degree Requirements

- Master of Arts

Mailing Address:
UIC Liautaud Graduate School of Business
110 Douglas Hall, MC 077
705 South Morgan Street
Chicago, IL 60607

Campus Location: Room 220, Rice Building
Program Code: 20FS1657MA
Main Phone: (312) 996-4573 or (877) 622-8421 (toll free)
E-mail: lgsb@uic.edu
Web Site: www.lgsb.uic.edu
Graduate Program Head/Chair: Mark Shanley
Director of Graduate Studies: Thomas Bothen

The Master of Arts in Real Estate program at the University of Illinois at Chicago Liautaud Graduate School of Business combines economics, finance, and urban planning to provide students with a full perspective of the field of real estate. The program takes advantage of UIC's location by emphasizing urban real estate markets and by using metropolitan Chicago as a working laboratory. The program is intended for professionals working in either the private or public sectors that are concerned with real estate and real estate development issues. Students will learn the basic principles of economics, finance, urban planning, urban land use law, and sustainability issues that are needed to gain fundamental knowledge of the operation of urban real estate markets, methods of real estate finance, and systems used to plan and regulate urban real estate development. The purpose of the program is to turn students into educated professionals in the field of urban real estate.

Admission Requirements

All applications are considered on an individual basis. Transcripts for all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following requirements:

Master of Arts

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GMAT. The score must be from a test that was administered within five years of the requested date of entry. The writing assessment is required.

- **Minimum English Competency Test Score**
  - TOEFL 585 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - IELTS 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Two required.
- **Personal Statement** Required.

Degree Requirements

The MA in Real Estate is offered by the College of Business Administration in collaboration with the College of Urban Planning and Public Affairs. Students in the program can choose a concentration in either Business or Urban Planning. Students can pursue the degree on either a full-time or part-time basis.

Master of Arts

- **Minimum Semester Hours Required** 36.
- **Course Work** Degree candidates must present a cumulative grade point average of at least 3.00/4.00 for all course work, including background (foundation) courses.
- **Required Courses** (28 hours): ECON 520, ECON 571, ECON/FIN 472, FIN 500, UPP 501, UPP 553, MBA 590.
- *Areas of Concentration* (8 hours): Students must declare either a Business or Urban Planning concentration.
- Business Concentration (2 courses from the following)—ECON 475, 534, 572, 575; FIN 510.
- Urban Planning Concentration (2 courses from the following)—UPP 508, 530, 533, 542, 557.
- **Comprehensive Examination** None.
- **Thesis, Project or Course-Work-Only Options** Course work only. No other options are available.

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Professional Program—Business Administration (MBA)

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Mailing Address:
UIC Liautaud Graduate School of Business
110 Douglas Hall, MC 077
705 South Morgan Street
Chicago, IL 60607

Campus Location: 110 Douglas Hall
Main Phone: (312) 996-4573 or (877) 622-8421 (toll free)
E-mail: mba@uic.edu
Web Site: http://www.uic.edu/cba/mba/
Contact Person: Mary Clark, Assistant Dean

The Liautaud Graduate School of Business offers a Master of Business Administration with concentrations in Accounting, Economics, Entrepreneurship, Finance, International Business, Marketing, Management, Management Information Systems, Real Estate, and a Self-Directed option. The program is 54 credits in length composed of 24 credits of core courses (Financial Accounting, Corporate Finance, Marketing, Microeconomics, Operations Management, and Organizational Behavior) and 30 credits of electives. Twelve credits of the elective course work are taken to fulfill the concentration requirement.

- Most courses meet once per week from 6:00–8:30 p.m., Monday through Thursday. All of the core courses are offered online and some elective courses are offered on Saturday mornings.
- The program may be pursued on a part-time or full-time basis. Part-time students register for one or two courses per semester and complete the program in three to four years; full-time student complete the program in approximately two years.
- Ten concentration offerings including a self-directed option that allows students to customized their plan of study to reflect specific career goals.
- Six joint degree offerings including: MBA/MS in Accounting, MBA/MA in Economics, MBA/MS in Management Information Systems, MBA/Doctor of Medicine, MBA/MS in Nursing, and MBA/Master of Public Health.

The Master of Business Administration at UIC is considered a professional program and is not administered by the Graduate College. For more information on the MBA program, admission requirements, and the application process, please consult the following Web site: http://www.mba.uic.edu.

College of Dentistry

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- Oral Sciences (MS, PhD)
- Professional Program—Dental Medicine (DMD)

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Admission Requirements

- Master of Science
- Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
College of Dentistry (MC 621)
801 South Paulina Street
Chicago, IL 60612-7211

Campus Location: 402-E DENT
Program Code: 20FS1525MS (MS)
Telephone: (312) 996-3465
E-mail: longka@uic.edu
Program Code 20FS1525PHD (PhD)
Telephone: (312) 996-3465
E-mail: longka@uic.edu
Web Site: http://dentistry.uic.edu/admissions

Dean of the College: Bruce Graham
Director of Graduate Studies: Phillip T. Marucha

The College of Dentistry offers a program of study and research leading to the Master of Science degree in Oral Sciences. The program is primarily intended for those currently enrolled in one of the clinical specialty programs. The program provides graduate training to increase understanding of oral disease through an added research experience. The master's program provides education in areas including but not limited to molecular biology, biochemistry, cell biology, histology, pathology, biomaterials, immunology, behavioral sciences, clinical sciences, and functional morphology with an emphasis on the oral structures in health and disease.

The College of Dentistry also offers a program of study leading to the Doctor of Philosophy in Oral Sciences to train the next generation's cadre of oral health scientists. Oral Sciences utilizes cutting edge biomedical technology and knowledge to address basic and clinical research questions of importance for promoting and maintaining oral health. This interdisciplinary research training program will lead to a graduate degree with a focus in cancer biology; wound healing; tissue regeneration; cellular, molecular, and development biology; biomaterials science; microbiology/immunology or other biomedical field relevant to oral health and disease. The program also offers an opportunity to integrate the PhD training with a DMD or dental specialty training, as well as subsequent to a BS or DMD degree.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and postbaccalaureate work must be submitted. In addition to Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** BS, BA, or equivalent degree. Prior academic course work should include biology, general chemistry, histology, and other related sciences.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate and all postgraduate study.
- **Tests Required** The GRE General is required of all applicants. Candidates are expected to score in the upper 50th percentile.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from individuals acquainted with the applicant's recent academic work. These are sent directly to the head of the department where an endorsement has been received.
- **Personal Statement** Required. The statement should include a brief summary describing the applicant's career goals, area of interest, purpose, and desired discipline of study. This statement along with a current resume is sent directly to the department in which an endorsement is being sought.
- **Note: Applicants for the master's program must first obtain an endorsement from one of the academic units in the College of Dentistry before filing an application.** Endorsement is obtained by forwarding a personal statement and resume to the department where approval is sought. Endorsement is required but does not guarantee admission to the master's program. Contact the graduate program in the College of Dentistry for additional guidelines and a list of department contacts.

Doctor of Philosophy

- **Baccalaureate Field:** BS, BA in relevant field of science; DDS or equivalent.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate and all postgraduate study.
- **Tests Required** GRE General; candidates are expected to score in the upper 50th percentile. DAT or National Dental Boards may be considered for those currently enrolled or candidates for the DDS or a clinical specialty program.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's previous academic training, academic and research potential, and research experience. The letters should be sent directly to the director of graduate studies.
- **Personal Statement** Required. The personal statement should be sent directly to the director of graduate studies. The statement must address the applicant's area of interest, research experience, and professional goals.

Degree Requirements

Master of Science

- **Minimum Semester Hours Required** 32 semester hours as specified below.
- **Course Work** *Required Core Courses:* BSTT 400 or equivalent; OSCI 451, 580, 581; GC 470 if research involves animals.
- *Additional Requirements:* 9 semester hours of 500-level graduate courses, excluding research and repeating seminar courses.
- *Selectives:* A minimum of 11 semester hours; two courses must be in the student's area of research. Other courses must have application to the area of study and be selected in consultation with the student's faculty advisor. The 9 hours of 500-level course work may be used toward fulfilling the selective requirement.
- *Electives:* Up to 3 semester hours of independent study may be applied toward degree requirements.
- **Comprehensive Examination** None.

- **Thesis, Project, or Course-Work-Only Options** Thesis required.
- *Thesis:* Students must earn a minimum of 6 semester hours in OSCI 598; no more than 13 hours may be applied toward degree requirements.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 (including research). A specific requirement may be waived by the Graduate Studies Committee for any course if proficiency is demonstrated.
- **Course Work** *Required Core Courses:* GCLS 501, 502, 503, 504, 505, and GC 401; GC 470 if research involves animals; Investigator 101 or CITI online course is also required. See the UIC Research Web site for instructions http://www.uic.edu/index.html/research.shtml.
- *Additional Requirements:* BSTT 400, 401; OSCI 580, 581, 583, a minimum of 4 credit hours in OSCI 594, and participation in the Oral Science Journal Club.
- Students will complete up to three laboratory rotations (OSCI 583) and the curriculum for their specific concentration.
- *Required Concentrations:* Students must select one of the following:
  - Cellular, Molecular, and Developmental Biology Concentration—12 hours as follows: BCMG 513, GCLS 510, GCLS 515, and PHYB 586.
  - Biomaterials Science Concentration—A minimum of 16 hours from the following: BIOE 494, 460, 550, 560, 594, 595, and PROS 504.
  - Microbiology/Immunology Concentration—12 hours as follows: MIM 551, 553, 560, and 594.
- The student and advisor may petition the Graduate Studies Committee to develop an Individualized Concentration consisting of a minimum of 12 semester hours.
- **Preliminary Examination** Required; written grant proposal and oral defense.
- **Dissertation** Required, including oral defense. Students must earn a minimum of 48 semester hours in OSCI 599.

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Dental Medicine

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Mailing Address:
College of Dentistry
Office of Student and Diversity Affairs, Room 104 (MC 621)
801 South Paulina Street
Chicago, IL 60612

Campus Location: Dentistry—Room 104
Telephone: (312) 996-1020
Web Site: http://dentistry.uic.edu

The UIC College of Dentistry offers a program leading to the Doctor of Dental Medicine degree. The UIC College of Dentistry curriculum, supported by innovative information technologies, provides an interdisciplinary, collaborative learning environment in which students achieve the competencies for 21st century oral healthcare in the context of patient management.

For more information on the DMD program and the application process, please visit the UIC College of Dentistry Web site at http://dentistry.uic.edu.

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College of Education

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- Curriculum and Instruction (PhD)
- Educational Psychology (PhD)
- Instructional Leadership (MEd)
- Measurement, Evaluation, Statistics, and Assessment (MEd)
- Policy Studies in Urban Education (PhD)
- Special Education (MEd, PhD)
- Urban Education Leadership (EdD)
- Youth Development (MEd)

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Curriculum and Instruction

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Admission Requirements

- Doctor of Philosophy: Curriculum Studies Concentration
- Doctor of Philosophy: Literacy Language, and Culture Concentration

Degree Requirements

- Doctor of Philosophy: Curriculum Studies Concentration
- Doctor of Philosophy: Literacy Language, and Culture Concentration

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Campus Location: 3145 EPASW
Telephone: (312) 996-4532
Program Code: *Curriculum Studies:* 20FS5129PHD; *Literacy, Language, and Culture:* 20FS4070PHD
E-mail: wilson@uic.edu
Web Site: http://education.uic.edu
Dean of the College of Education: Victoria Chou
Department Chairperson: Timothy Shanahan
Director of Graduate Studies: Aria Razfar; Alfred Tatum

The College of Education offers work leading to the Doctor of Philosophy in Education: Curriculum and Instruction, with concentrations in (1) Curriculum Studies and (2) Literacy, Language, and Culture.

Admission Requirements

Applicants are considered on an individual basis. Applicants must submit transcripts from the last 60 hours of undergraduate work and from all post baccalaureate work. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy: Curriculum Studies Concentration

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all post baccalaureate course work.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's previous academic training, academic and research ability, and

experience.
- **Personal Statement** Required. The statement must address the applicant's professional and scholarly goals.
- **Other Requirements** The College of Education application form must also be submitted. This program requires two packets of admissions materials. One set of transcripts and the official university application should be sent to the Admissions Office. Submit the following materials in one package to the College of Education: a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE scores, three letters of recommendation, and personal statement.
- **Deadlines** The application deadline for this program is January 1. Admission is restricted to the summer and fall terms.

Doctor of Philosophy: Literacy, Language, and Culture Concentration

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all post baccalaureate course work.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's previous academic training, academic and research ability, and experience.
- **Personal Statement** Required. The statement must address the applicant's professional and scholarly goals.
- **Other Requirements** The College of Education application form must also be submitted. This program requires two packets of admissions materials. One set of transcripts and the official university application should be sent to the Admissions Office. Submit the following materials in one package to the College of Education: a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE scores, three letters of recommendation, writing samples, and personal statement.
- **Deadlines** The application deadline for this program is January 1. Admission is restricted to the fall term.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Doctor of Philosophy: Curriculum Studies Concentration

- **Minimum Semester Hours Required** 96 from the baccalaureate or 64 hours beyond the master's degree.
- **Course Work** ED 500, 501, and 502, EPSY 503, CI 574, and at least 1 hour of CI 500. Students should contact their advisor for additional required courses.
- **Preliminary Examination** Required; written and oral. The written examination is based on the student's program of study. The oral portion of the examination is based on both the written examination and the student's dissertation proposal.
- **Dissertation** Required. Students must register for doctoral thesis research for at least 16 semester hours.
- **Other Requirements** Students must participate in a research project in collaboration with a faculty member or a team of faculty members and students. Eight semester hours of credit are awarded for the project, requiring at least two semesters to complete. Students must complete a course sponsored by the Office for the Vice Chancellor for Research on the ethics of conducting research with human subjects. Students required to submit an annual report of their academic and professional progress.

Doctor of Philosophy: Literacy, Language, and Culture Concentration

- **Minimum Semester Hours Required** 96 from the baccalaureate or 64 hours beyond the master's degree.
- **Course Work** ED 500, 502, and 503; CI 562, 563, 556, 557. All students must also take 20 semester hours from the following selectives: CI 558, 559, 561, 568, 577, 579, 581, 582, 583, 584, 585, 586, 587, 588, 589, and 592. Additional courses may be required for students without a master's degree approved by program faculty.

- **Preliminary Examination** Required; written and oral. The written exam consists of the student's dissertation proposal. The oral portion of the examination is based on the student's oral defense of the dissertation proposal.
- **Dissertation** Required. Students must register for doctoral thesis research for at least 16 semester hours.
- **Other Requirements** Students must participate in a research project in collaboration with a faculty member or a team of faculty members and students. Eight semester hours of credit are awarded for the project, requiring at least two semesters to complete. Students must complete a course sponsored by the Office for the Vice Chancellor for Research on the ethics of conducting research with human subjects. Students are required to submit an annual report of their academic and professional progress.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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Educational Psychology

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Admission Requirements

- Doctor of Philosophy

Degree Requirements

- Doctor of Philosophy

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Campus Location: 3145 EPASW
Telephone: (312) 996-4532
Program Code: 20FS0210PHD
E-mail: ewilson@uic.edu
Web Site: http://education.uic.edu

Dean: Victoria Chou
Department Chairperson: Kimberly Lawless
Program Coordinator: George Karabatsos
Director of Graduate Studies: Theresa Thorkildsen

The PhD in Educational Psychology prepares students to conduct research on psychological processes as they affect student learning and successful teaching in urban settings. Graduates become research experts and innovators in one of two areas of emphasis: *Human Development and Learning* or *Measurement, Evaluation, Statistics, and Assessment*. Interdepartmental concentrations in Gender and Women's Studies and Violence Studies are available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. Applicants must submit transcripts from the last 60 hours of undergraduate work and from all postbaccalaureate work. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all postbaccalaureate course work.
- **Tests Required** GRE General. Minimum of 1000 on combined Verbal and Quantitative (for tests taken before August 1, 2011), or minimum of 300 on combined Verbal and Quantitative (for tests taken on or after August 1, 2011).
- **Minimum English Competency Test Score**

    - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), or equivalent. **Note:** Total score is higher than the sum of the subscores. **OR**
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores, or equivalent.
- **Letters of Recommendation** Three letters from faculty members or others familiar with the applicant's previous academic training, academic and research ability, and experience are required.
- **Personal Statement** This required statement must address the applicant's professional and scholarly goals.
- **Other Requirements** A College of Education application form must be submitted as well as the official university application. This program requires two packets of admissions materials. One set of transcripts and the official university application must be sent to the Graduate Admissions Office. A second set of materials must be sent directly to the College of Education, including a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE scores, three letters of recommendation, and the personal statement.
- **Admission Deadlines** The application deadline for this program is January 1 for admission in summer or fall terms

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate or 64 hours beyond the master's degree.
- **Course Work** *Research Design and Methods Core:* 16 semester hours: Required; ED 500, 501, 502, and EPSY/ED 503. Recommended; EPSY 509.
- *Educational Psychology Core:* 10 semester hours: EPSY 500, 501 or 529, 502.
- *Area of Specialization*: 14 semester hours of approved courses selected in consultation with the faculty advisor, are required. Of the 14 hours, a minimum of 3 hours must focus on Psychology. A minimum of 14 hours is taken in this area of specialization if the student has a master's degree, 46 hours if admitted without a masters degree.
- **Preliminary Examination** A three step process involving a written examination, dissertation proposal, and oral defense of the student's readiness to complete a dissertation are required.
- **Dissertation** 16 semester hours: Students are required to register for doctoral thesis research for at least 16 semester hours.
- **Other Requirements** 8 semester hours: Students participate in a research project in collaboration with a faculty member or a team of faculty members and students. Eight semester hours of credit are awarded for the project, requiring at least two semesters to complete. Students must complete a training course sponsored by the Office for the Vice Chancellor for Research on the ethics of conducting research with human subjects. Students are required to submit an annual report of their academic and professional progress.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Instructional Leadership

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Admission Requirements

- Master of Education

Degree Requirements

- Master of Education

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Chicago, IL 60607-7133
Campus Location: 3145 EPASW
Telephone: (312) 996-4532
Program Code: *Early Childhood Education*: 20FS8549MED; *Elementary Education*: 20FS8550MED; *Literacy, Language, and Culture:* 20FS4070MED; *Science Education: TBA; Secondary Education:* 20FS8547MED; *Educational Studies:* 20FS4069MED *Policy Studies:* 20FS5102MED.
E-mail: agarci5@uic.edu
Web Site: http://education.uic.edu/
Dean of the College of Education: Victoria Chou
Department Chairperson: Timothy Shanahan
Director of Graduate Studies: William Watkins, Alfred Tatum

The College of Education offers course work which leads to the Master of Education in Instructional Leadership, with concentrations in Early Childhood Education (with strands leading to the MEd only or to Type 04 certificate with an endorsement in Early Childhood Special Education); Elementary Education; Literacy, Language, and Culture (with strands leading to the MEd only, or with the Reading Endorsement, or with the Type 10 certificate); Policy Studies; Secondary Education (Type 09 certificate); Science Education (with a strand leading to the MEd with a Type 09 certificate and a strand with advanced studies in science education only); or Educational Studies, an individualized program designed by the student with the approval of an advisor. The Bilingual and/or English as a Second Language (ESL) approval or endorsement can be awarded with the Type 04, Type 03, Type 10, and Type 09 certificates; contact the College of Education for specific course requirements. The middle school endorsement can be awarded with the Type 03 and Type 09 certificates, or to individuals who already have one of these certificates; see the college Web site for requirements.

Admission Requirements

Applicants are considered on an individual basis. The following requirements for admissions represent recommended minimum levels of performance. Decisions are made on the strength of the overall evidence of academic and professional capacities and on available enrollment

space. Applicants to the Secondary Education concentration must submit transcripts from all undergraduate work; applicants to the other concentrations must submit transcripts from the last 60 hours of undergraduate work. Applicants to all concentrations must also submit transcripts from all postbaccalaureate work. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Education

- **Baccalaureate Field** No restrictions.
- **Grade Point Average**
- *Science Education* (Strand A: Certification Option): Requires a 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study, a 3.00 for any post baccalaureate/graduate course work, with the exception of a 2.50/4.00 in a science field.
- *Science Education* (Strand B: Noncertification Option): Requires a 3.00/4.00 for the final 60 semester hours (90 quarter) hours of undergraduate study and for all postbaccalaureate/graduate course work.
- *Secondary Education:* Requires a 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study, a 3.00 for any postbaccalaureate/graduate course work, and a 3.00/4.00 for the courses in the undergraduate major or in the intended teaching subject.
- *Policy Studies:* Requires a 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and for all postbaccalaureate/graduate course work.
- *Other Concentrations:* Recommended minimum of 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and at least 3.00 for all postbaccalaureate/graduate course work.
- **Tests Required** For programs leading to Illinois certification, passing scores on the Illinois Basic Skills Test or the Illinois Test of Academic Proficiency. Scores must be received by the application deadline.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation**
- *Early Childhood Education, Elementary Education, Secondary Education, Science Education, and Educational Studies:* Three letters addressing the applicant's academic qualifications, teaching experience, and ability to carry on advanced degree studies. Letters should be from current or former professors or supervisors.
- *Literacy, Language, and Culture:* Two letters required addressing the applicant's academic qualifications, teaching experience, research ability, and ability to carry on advanced degree studies. At least one of these letters should be written by a former professor or supervisor familiar with the applicant's academic work in an undergraduate or graduate setting.
- *Policy Studies:* Three letters of recommendation attesting to the applicant's capacity for graduate-level studies. Letters may be from current or former professors or supervisors.
- **Other Requirements**
- *Early Childhood Education:* A 3–4 page questionnaire addressing the applicant's relevant background and experience, interest in young children, and goals for the MEd program. Applicants must also interview with program faculty.
- *Elementary Education:* A 3–4 page statement of professional goals addressing the applicant's relevant background and experience, interest in elementary-aged children, and goals for the MEd program.
- *Literacy, Language, and Culture:* A resume and personal statement (500–1000 words) that indicates strand of interest and addresses relevant personal background, professional experiences, and professional goals. For Strand B, two years of teaching experience are required. For Strands A and B, test results are required from the Basic Skills Test (or the Illinois Test of Academic Proficiency) and Content Test are required. Strand B also requires test results from the Assessment of Professional Teaching.
- *Policy Studies:* Applicants must submit a 3–4 page statement of professional goals and reasons for seeking admission to this concentration.
- *Secondary Education:* A 3–4 page statement addressing the applicant's commitment to and/or experiences working with urban youth. The Secondary Education concentration also requires 18 hours of courses in the subject area the applicant would like to teach and an interview with advisory staff. This concentration requires transcripts from all undergraduate and postbaccalaureate work.
- *Science Education* (Strand A: Certification Option): A 3–4 page statement addressing the applicant's commitment to and/or experiences working with urban youth, and experiences with learning science. The Science Education concentration also requires a minimum of 18 hours (toward the the total hours required) in the science area the

applicant would like to teach and an interview with advisory staff. This concentration requires transcripts from all undergraduate and postbaccalaureate work.
- *Science Education* (Strand B: Noncertification): A 3–4 page statement of the professional goals addressing the applicant's reasons for pursing this MEd and relevant background and experiences with urban education and science education.
- *Educational Studies:* A 3–4 page statement of the professional goals addressing the applicant's relevant background and experience, and goals for the MEd program.
- **All Concentrations** Submit materials required by the specific concentration directly to the College of Education at one time in a large envelope. All materials must be submitted by the stated application deadlines. Applicants should give themselves enough time to gather all materials (especially letters of recommendation) and submit them by the deadline.
- **Deadlines** The application deadlines for these concentrations are earlier than the Graduate College deadline; contact the College of Education for information on current deadlines.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Education

- **Minimum Semester Hours Required** Varies by concentration.
- *Early Childhood Education*—Strand A (includes Type 04 Certificate with an endorsement in Early Childhood Special Education): MEd, 33–34 hours. Note that students complete additional hours for certification, 11 or 15 hours.
- *Early Childhood Education*—Strand B (MEd only): 32 hours.
- *Elementary Education*: 35 hours. Note that students complete additional hours for student teaching to earn Type 03 certification
- *Science Education*—Strand A (Certification Option): 34 hours. Note that students complete additional hours to earn Type 09 certification.
- *Science Education*—Strand B (Noncertification Option) 32–36 hours
- *Secondary Education*: 34 hours. Note that students complete additional hours student teaching to earn Type 04 certification.
- *Educational Studies*: 32 hours.
- *Literacy, Language, and Culture*: 39 hours.
- *Policy Studies*: 32 hours.
- **Course Work**
- *Early Childhood Education*—Strand A–Certification Option: ED 422 or EPSY 526; SPED 506; EPSY 429, EPSY 449; EPSY/SPED 582; CI 509; EPSY/SPED 466; EPSY 520; and SPED 508. Courses required for certification are: EPSY 519; and EPSY 521 or EPSY 522.
- *Early Childhood Education*—Strand B–Degree Only: ED 402 or ED 403 or EPSY 449; ED 422 or EPSY 526; ED 430 or 431; EPSY 429; EPSY/SPED 582; CI 509; EPSY 519 or EPSY 520 or SPED 508 or EPSY 596. 6–8 semester hours of graduate work offered by the College of Education and selected with consent of the faculty advisor.
- *Elementary Education*: ED 402 or 403; ED 421 or ED 422; SPED 410; CI 410, 411, 412, 413, 507, 508, 511, and 512; CI 464 or 505.
- *Science Education*
  - Strand A (Certification Option): ED 402 or 403; ED 421 or 445; ED 432; EPSY 553; SPED 410; CI 529, 504, 551; and CHEM 572 or PHYS 494 or CI 530; and student teaching, which is required for teacher certification.
  - Strand B (Non-Certification Option): ED 402 or 403 or EDPS 500; ED 421 or 445 or EPSY 501; EPSY 416 or 553; CI 518, 551, 570, 573; one selective chosen from an approved science education concentration list; and one elective in science or engineering selected with the consent of the faculty advisor.
- *Secondary Education*: ED 402 or 403; ED 421 or 445; ED 429, 432, and 580; SPED 410; CI 428, 504; and all required teaching areas and methods courses for teachers in designated teaching field, and other course work selected with the consent of the faculty advisor.
- *Educational Studies*: ED 402 or 403; ED 421 or 422 or 445; ED 430 or 431; and 14 semester hours of graduate work offered by the College of Education and selected with consent of the faculty advisor.
- *Literacy, Language, and Culture*: ED 402 or 403; ED 421 or 422 or 445; CI 450; CI 503 or 504; CI 535 and CI 536. In addition to the above courses, students must complete one of the following 3 strands:
  - Strand A (Reading Endorsement and Literacy Leadership)—EPSY 553, CI 528, CI 542, and two from: CI 541, 543, 544, 546, 547.

    - Strand B (Reading Specialist Certification)—CI 525, 526, 527; and 2 elective courses (8 hours) taken with advisor approval.
    - Strand C (Literacy Studies)—20 hours of electives selected in consultation with and approved by the program advisor.
- *Policy Studies*:
    - Core Requirements (9 hours)—ED 402 or 403; ED 421, 422, or 445; and ED 430 or 431.
    - Concentration (12 hours)—Twelve semester hours of selectives in policy studies (400- and 500-level courses from the EDPS rubric that are not designated as courses reserved for doctoral students) chosen with an advisor.
    - Electives (11 hours)—Eleven semester hours of general electives to be chosen in consultation with and approved by a faculty advisor. A maximum of four semester hours of EDPS 596—Independent Study may be taken as a general elective.
    - Nine of the concentration/elective hours must be taken at the 500-level.
- **Comprehensive Examination** Required only for students in the Literacy, Language, and Culture concentration; written.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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Measurement, Evaluation, Statistics, and Assessment

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Admission Requirements

- Master of Education

Degree Requirements

- Master of Education

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Campus Location: 3145 EPASW
Program Code: 20FS5106MED; Online 20FS5105MEDU
Telephone: (312) 996-4532 for face-to-face program; (866) 772-2268, option 1 for online program
E-mail: agarci5@uic.edu for face-to-face program; info@online.uic.edu for online program
Web Site: http://education.uic.edu for face-to-face program;
http://www.go.uic.edu/OnlineMESA for the online program
Dean: Victoria Chou
Department Chair: Kimberly Lawless
Program Coordinator: Everett Smith
Director of Graduate Studies: Theresa Thorkildsen

The MEd in Measurement, Evaluation, Statistics, and Assessment is designed to address the current industry-wide shortage of individuals who can function effectively in educational research and applied settings by providing rigorous training in quantitative and qualitative methodologies. The MEd in MESA will address this pressing need for more trained professionals in these critical areas and will service the student population interested in upgrading their skills without having to complete a dissertation.

The primary objective of the program is to produce graduates who are well prepared to draw upon the specialized knowledge and skills acquired in the measurement, evaluation, statistics, and assessment courses they have taken, and function effectively in a variety of positions in research and applied settings. Two versions, one delivered online and the other face-to-face are offered.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Education

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study, and a 3.00/4.00 on all postbaccalaureate or graduate course work combined.
- **Tests Required** GRE General. Minimum of 1000 on combined Verbal and Quantitative (tests taken before August 2011) or minimum of 300 on combined Verbal and Quantitative (tests taken August 2011 or after).
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), or equivalent. **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores, or equivalent.
- **Letters of Recommendation** Three letters of recommendation are required.
- **Personal Statement** This required statement must address the applicant's professional and scholarly goals.
- **Interview** If being considered for admission, the applicant will be required to participate in a face-to-face or phone interview with faculty.
- **Other Requirements** A College of Education application form should be submitted as well as the official university application. This program requires two packets of admissions materials. One set of transcripts and the official university application should be sent to the Graduate College Admissions Office. A second set of materials should be sent directly to the College of Education, including a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE scores, three letters of recommendation, and the personal statement.
- **Application Deadlines** The application deadlines for this program are October 1 for enrollment in spring and March 15 for enrollment in fall terms for the face to face program, and May 15th for enrollment in the online program.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Education

- **Minimum Semester Hours Required** 32 hours beyond the baccalaureate, at least 9 hours must be at the 500-level, excluding independent study and thesis courses. At least 24 hours, or one-half the minimum number of semester hours of graduate work required for the degree, whichever is greater, must be earned as a degree candidate at UIC.
- Only 400- and 500-level courses can be applied to the degree. Credit toward the degree is only given for courses in which a student received a grade of A, B, C, CR, or S.
- **Face-to-Face Program Course Work** *Research Methods Core (12 hours):* ED 501, ED/EPSY 503, and EPSY 509.
- *Electives:* Elective hours as needed to meet the minimum 32 hours for the degree; ordinarily this is a minimum of 15 hours of electives. Students should consult their advisor for a list of approved electives in the College of Education. Other College of Education and non-College of Education courses may be selected with the approval of the advisor. Only one of these course selections may be Independent Study.
- **Online Program Course Work** *Research Methods Core (12 hours):* ED 501 or EPSY 561, ED/EPSY 503, and EPSY 509.
- *Electives:* Elective hours as needed to meet the minimum 32 hours for the degree; ordinarily this is a minimum of 15 hours of electives and courses are selected from EPSY 504, EPSY 505, EPSY 506, EPSY 512, EPSY 546, EPSY 553, EPSY 560, and EPSY 583. Students should consult their advisor if thesis research will be undertaken.
- **Comprehensive Examination** None.
- **Optional Thesis or Research Project** Students electing to complete an optional thesis or research project should earn a minimum of 5 hours in thesis research (EPSY 598). For a thesis involving 5 credit hours, two types of research are appropriate. The first would emphasize the ability to conduct and write up a secondary data analysis. The second would require the student to write a literature review of publishable quality on a chosen topic. This would include a thesis rationale and review of predominant methods used to investigate the phenomena of interest. For those students wanting to conduct original research, 8 credit hours will be required.

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Policy Studies in Urban Education

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Admission Requirements

- Doctor of Philosophy

Degree Requirements

- Doctor of Philosophy

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Campus Location: 3252 EPASW
Telephone: (312) 413-2414
Program Code: 20FS1592PHD
E-mail: psphd@uic.edu
Fax: (312) 996-8134
Web Site: http://education.uic.edu/ps-phd/
Dean of the College of Education: Victoria Chou
Department Chairperson: Mark Smylie
Director of Graduate Studies: Mark Smylie

The College of Education offers course work which leads to the Doctor of Philosophy in Policy Studies in Urban Education with concentrations in (1) Educational Organization and Leadership and (2) Social Foundations of Education.

Interdepartmental concentrations in Gender and Women's Studies and Violence Studies are available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. Applicants must submit transcripts from the last 60 hours of undergraduate work and from all postbaccalaureate work. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all postbaccalaureate course work.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.

- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's previous academic training, academic and research ability, and experience.
- **Personal Statement** Required. The statement must address the applicant's goals for graduate study and career development. Recommended minimum length of 750 words.
- **Other Requirements** The College of Education application form must be submitted. This program requires two packets of admission materials. One set of transcripts and the official University application should be sent to the Admissions Office. Submit the following materials in one package to the College of Education: a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE scores, 3 letters of recommendation, and the personal statement.
- **Deadlines** The application deadline for this program is January 1. Admission is restricted to the summer and fall terms.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Doctor of Philosophy

- **Minimum Semester Hours Required** *Educational Organization and Leadership:* 111–116 from the baccalaureate, 79–84 from the master's. *Social Foundations of Education:* 100 from the baccalaureate, 68 from the master's.
- **Course Work** *Required Course Hours:* Educational Organization and Leadership—Minimum beyond the master's 16 hours in concentration specific courses; 24 hours in research methods; 23 to 28 hours of education electives and related field courses. Social Foundations of Education—Minimum beyond the master's 24 hours in concentration-specific courses; 16 hours in research methods; 12 hours of education electives and related field courses.
- *Required Concentration-Specific Courses for Educational Organization and Leadership:* EDPS 510, 571, 579, 589.
- *Required Concentration-Specific Courses for Social Foundations of Education:* EDPS 505, 510, and four courses taken from the following: EDPS 500, 502, 503, 555, 563, 565, 566, 567, 570, 571, 572, 582, 583, 588.
- *Required Research Methods Courses for Educational Organization and Leadership:* ED 500, EPSY 503; EDPS 512, 587, 544; and at least one additional methods course selected with faculty advisor.
- *Required Research Methods Courses for Social Foundations:* ED 502, 503; EDPS 512, 544.
- *Related Field Courses for Educational Organization and Leadership:* Three courses taken outside the College of Education in one related discipline or field of study (e.g., business and management, economics, political science, sociology) to add depth to knowledge and research methods (9–12 hours); selected with the faculty advisor.
- *Related Field Courses for Social Foundations:* None.
- *Electives for Educational Organization and Leadership:* Each student will support the concentration with 14–16 elective hours (4 courses) from the College of Education, selected with the faculty advisor.
- *Electives for Social Foundations:* Each student will support the concentration with 12 elective hours (3 courses), selected with the faculty advisor to meet one or more of three criteria: expand breadth of study; deepen depth of study; enrich study of research methodology.
- **Examinations** *Comprehensive Written Qualifying Examination:* Required. Successful completion of the comprehensive exam qualifies students to enter the dissertation proposal stage of the program. The examination focuses on program curriculum, the student's area of concentration, and research methods. No student with a cumulative GPA below 3.00/4.00 will be permitted to take the qualifying examination. Students who fail to pass all components after the second attempt will be recommended by the program faculty to the Graduate College for dismissal from the program.

- *Preliminary Examination:* Required. The preliminary examination is taken at the completion of all course work. The examination is primarily oral but may contain a written component. The primary purpose of the preliminary examination is review and approval of the dissertation proposal and admission of the student to degree candidacy.
- **Dissertation** Required. Students must earn at least 16 semester hours in EDPS 599.
- **Other Requirements** All students must complete a training course sponsored by the Office for the Vice Chancellor for Research on the ethics of conducting research with human subjects. Students are required to submit an annual report of their academic and professional progress.

Interdepartmental Concentration in Gender and Women's Studies
Students earning a graduate degree in this department may complement their courses by enrolling for a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

Interdepartmental Graduate Concentration in Violence Studies
Students earning a graduate degree in this department may complement their courses by enrolling for a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Special Education

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Admission Requirements

- Master of Education
- Doctor of Philosophy

Degree Requirements

- Master of Education
- Doctor of Philosophy

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Campus Location: 3145 EPASW
Telephone: (312) 996-4532
Program Codes: 20FS0093MED (MEd); 20FS1183PHD (PhD)
E-mail: agarci5@uic.edu (MEd); ewilson@uic.edu (PhD)
Web Site: http://education.uic.edu/

Dean, Victoria Chou
Department Chairperson: Elizabeth Talbott
Director of Graduate Studies: Marie Tejero Hughes
Master of Education Program Coordinator: Michelle Parker-Katz
Doctor of Philosophy Program Coordinator: Marie Tejero Hughes

The College of Education offers course work that leads to the Master of Education in Special Education with concentrations of study for the Learning Behavior Specialist I certificate, the Learning Behavior Specialist II certificate (for Assistive Technology, Behavior Intervention Specialist, Bilingual Special Education Specialist, Curriculum Adaptation Specialist, Multiple Disabilities Specialist, and Transition Specialist), or the degree only; and the Doctor of Philosophy in Education: Special Education. The Bilingual and/or English as a Second Language (ESL) approval or endorsement, and the Early Childhood Special Education approval, can also be awarded; contact the College of Education for specific course requirements.

Interdepartmental concentrations in Gender and Women's Studies and Violence Studies are available to students in these programs.

Admission Requirements

Applicants are considered on an individual basis. Applicants must submit transcripts from the last 60 hours of undergraduate work and from all postbaccalaureate work. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Education

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, and at least 3.00/4.00 for all postbaccalaureate course work.
- **Tests Required** For the LBS I and LBS II certificate options, passing scores on the Illinois Basic Skills Test or the Illinois Test of Academic Proficiency. Scores must be received by the application deadline.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required; addressing the applicant's academic qualifications, teaching experience, and potential for advanced-degree studies. Letters should be from current or former professors or supervisors.
- **Personal Statement** Required; the statement must address the applicant's professional goals, in a minimum of 300 words.[a]
- **UIC Disposition Rating Chart** Required; to be completed by applicant and by at least one recommender, for MEd Plus LBS II option.[a]
- **Impromptu Writing** This is assessed at the time of the interview.[a]
- **Professional Resume** Required for students applying for the MEd Plus LBS II Option; the resume must include all teaching experience.
- **Other Requirements** All materials must be submitted by the stated application deadline. Applicants should give themselves enough time to gather all application materials (especially letters of recommendation) and submit them by the deadline.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the College of Education for information on current deadlines. Admission is restricted to the fall term.

[a] *For information about the personal statement, impromptu writing requirement, interview, and UIC Disposition Rating Chart, contact the Special Education office at (312) 996-5650.*

Doctor of Philosophy

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all postbaccalaureate course work.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from faculty members or others familiar with the applicant's previous academic training, academic and research ability, and experience.
- **Personal Statement** Required. The statement must address the applicant's professional and scholarly goals.
- **Interview** If being considered for admission, the applicant will be required to participate in a face-to-face or phone interview with faculty.[a]
- **Other Requirements** The College of Education application form must also be submitted. This program requires two packets of admission materials. One set of transcripts and the official University application should be sent to the Admissions Office. Applicants should submit the following materials in one package to the College of Education: a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE scores, 3 letters of recommendation, and a personal statement.
- **Deadlines** The application deadline for this program is January 1. Admission is restricted to the summer and fall terms.

[a] *For information about the personal statement, impromptu writing requirement, interview, disposition rating chart, and interview, contact the Special Education office at (312) 996-5650.*

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Education

- **Minimum Semester Hours Required** MEd Only Option: 35 semester hours.
- *MEd Plus LBS II Option:* Areas of specialization include Assistive Technology, Behavior Intervention Specialist, Bilingual Special Education Specialist, Curriculum Adaptation Specialist, Multiple Disabilities Specialist, and Transition Specialist. Contact the Special Education department in the College of Education.
- *MEd Plus LBS I Certificate Option:* 50 hours. 9 hours are required at the 500-level.
- **Course Work** *MEd Only Option:* ED 445, SPED/EPSY 582, and SPED 573 are required. In addition, courses must be taken from the following areas:
  - 1 course in political and social context: DHD 401; DHD 430; DHD 514; DHD 535; DHD 570; ED 402; ED 403; EPSY 449; EDPS 406; EDPS 570; EDPS 571; EDPS 582; SPED/ED 461.
  - 1 course in characteristics of learners: ED 421; ED 422; EPSY 420; EPSY 429; EPSY 446; EPSY 502; SPED/EPSY 465; SPED/EPSY 466; SPED/EPSY 467.
  - 1 course in promoting academic learning: CI/SPED 480; CI 482; SPED/ED 473; SPED 463; SPED 471; SPED 583.
  - 1 course in promoting social and emotional learning: SPED/ED 472; SPED 572.
  - 1 course in assessing students' needs: SPED 462; SPED 576.
  - 1 three-hour internship course: SPED 577; SPED 578; SPED 579.
  - 5–9 hours of electives based on the above course selections and with advisor approval.
- *MEd Plus LBS II Certificate Option:* Contact the Special Education department in the College of Education for further information on course work required for the Assistive Technology, Behavior Intervention Specialist, Bilingual Special Education Specialist, Curriculum Adaptation Specialist, Multiple Disabilities Specialist, and Transition Specialist certificates.
- *MEd Plus LBS I Certificate Option:* SPED/ED 461; SPED 462; SPED/EPSY 465; SPED/EPSY 466; SPED/EPSY 467; SPED 573; SPED 463; SPED/ED 473; SPED 471; SPED/ED 472; SPED 572; SPED 576; SPED 577 or SPED 578; SPED/EPSY 582; SPED 583; SPED 580.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only: No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate or 64 from the master's degree.
- **Course Work** *Required Courses:* ED 500, 501, and 502; EPSY 503. Courses required in the area of specialization include SPED 564 and three research seminars (i.e., SPED 592). Students may take their remaining courses within the Special Education area, in other areas of the College of Education, or in other departments of the University (e.g., Anthropology, Disability Studies, Psychology, Public Policy, Sociology, and Gender and Women's Studies). Twenty-four hours are required if a student already possesses a master's degree, 56 are required without the master's degree.
- **Preliminary Examination** Written and oral. The written exam is based on the student's program of study. The oral portion of the examination is based on both the written examination and the student's dissertation proposal.
- **Dissertation** Required. Students must register for doctoral thesis research for at least 16 semester hours.
- **Other Requirements** Students must participate in a research project in collaboration with a faculty member or a team of faculty members and students. Eight semester hours of credit are awarded for the project, requiring at least two semesters to complete. Students must complete a training course sponsored by the Office for the Vice Chancellor for Research on the ethics of conducting research with human subjects. Students are required to submit an annual report of their academic and professional progress.

Interdepartmental Concentration in Gender and Women's Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

Interdepartmental Graduate Concentration in Violence Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Urban Education Leadership

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Admission Requirements

- Doctor of Education

Degree Requirements

- Doctor of Education

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, IL 60607-7133

Campus Location: 3145 EPASW
Telephone: (312) 996-4532
Program Code: 20FS4015EDD
E-mail: jeisen@uic.edu
Web Site: http://education.uic.edu/
Dean of the College of Education: Victoria Chou
Director of Graduate Studies: Mark Smylie

The College of Education offers a program of academic work leading to the Doctor of Education in Urban Education Leadership with strands of study for the Illinois Type 75 General Administrative Certificate, the Illinois Superintendent Endorsement, and general advanced professional studies in urban education leadership.

Admission Requirements

Applicants are considered on an individual basis. Applicants must submit transcripts from the last 60 hours of undergraduate work and from all postbaccalaureate work. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Education

- **Baccalaureate Field** No restrictions.
- **Master's Degree** Required.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all postbaccalaureate course work.
- **Tests Required** GRE or GMAT.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required attesting to potential for excellence in urban education leadership.
- **Personal Statement** Required. Statement must identify and explain applicant's career objectives.

- **Other Requirements** Evidence of successful classroom teaching experience and leadership experience in educational settings. The College of Education Application form must also be submitted. This program requires two packets of admissions materials. One set of transcripts and the official University application should be sent to the Admissions Office. Applicants should submit the following materials in one package to the College of Education: a copy of the official UIC application, the College of Education application, a second set of transcripts, GRE or GMAT scores, 3 letters of recommendation, and a personal statement as specified for this program on the College of Education Web site.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline. Contact the College of Education for information on current deadlines. Admission is restricted to the spring term, beginning in January.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Doctor of Education

- **Minimum Semester Hours Required** 80–92 from the master's degree, depending on strand of study.
- **Course Work** *Required Courses for All Strands of Study:* EDPS 571, EDPS 579 or 589, ED 500, EDPS 586, CI 545, and EDPS 544.
- *Required Courses in Illinois Type 75 Certificate Strand:* EPSY 501, CI/EDPS 548; EDPS 500, 501, 550, 552, 556, 568, 559, 573.
- *Required Courses in Illinois Superintendent Endorsement Strand:* CI/EDPS 548; EDPS 412, 500, 501 or 567, 550, 553, 556, 568, 581, 559, 573.
- *General Study Non-Certification/Endorsement Strand:* In addition to required courses for all strands, minimum of 10 courses (40 hours minimum) related to educational leadership and administration, chosen in consultation with faculty advisor.
- **Examinations** *Comprehensive Written Qualifying Examination:* Required. Successful completion of the comprehensive exam qualifies students to enter the research proposal stage of the program. No student with a cumulative GPA below 3.00/4.00 will be permitted to take the qualifying examination. As appropriate to each strand of study, the exam will include a review of a portfolio of performance assessments in clinical fieldwork and academic course work, and may require additional writing on educational leadership knowledge. Students have two opportunities to pass the comprehensive qualifying examination. Students who fail to pass all components after the second attempt will be recommended by the program faculty to the Graduate College for dismissal from the program.
- *Preliminary Examination:* Required. The preliminary examination is taken at the completion of all course work. The examination is primarily oral but may contain a written component. The primary purpose of the preliminary examination is review and approval of the thesis research proposal and admission of the student to the research stage of degree candidacy.
- **Thesis Research** Required. Students must earn at least 16 semester hours in EDPS 599. The completed research must be defended orally and publicly before a thesis committee.
- **Other Requirements** All students must complete a training course sponsored by the Office for the Vice Chancellor for Research on the ethics of conducting research with human subjects. Students are required to submit an annual report of their academic and professional progress.

Interdepartmental Concentration in Gender and Women's Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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Youth Development

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Admission Requirements

- Master of Education

Degree Requirements

- Master of Education

Mailing Address:
College of Education (MC 147)
1040 West Harrison Street
Chicago, Illinois 60607-7133

Campus Location: 3145 EPASW
Program Code: 20FS5105MED
Telephone: (312) 996-4532
E-mail: agarci5@uic.edu
Web Site: http://education.uic.edu
Dean: Victoria Chou
Department Chairperson: Kimberly Lawless
Program Coordinator: Stacey Horn
Director of Graduate Studies: Theresa Thorkildsen

The Youth Development program provides students with strong grounding in research and theory concerning the cognitive, social, emotional, moral, and physical development of youth, as well as knowledge of contextual and institutional factors that lead to positive developmental outcomes for youth. The program has two primary strands: (A) an Applied Strand aimed at producing high quality professionals to work within the field of youth development and (B) a Research Strand aimed at providing students planning to seek doctoral degrees with preparatory training and background in developmental theory, research methods, and statistics.

The Interdepartmental Graduate Concentration in Violence Studies is available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Education

- **Baccalaureate Field** No restrictions. Previous course work in psychology preferred.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and a 3.00/4.00 grade point average for all postbaccalaureate or graduate course work combined.
- **Tests Required** None.

- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21, or equivalent (iBT Internet-based). **Note:** Total score is higher than the sum of the subscores. **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores, or equivalent.
- **Letters of Recommendation** Three letters of recommendation are required.
- **Personal Statement** This required statement must address the applicant's previous experiences working with youth, specifically work with youth in urban contexts, as well as professional and scholarly goals.
- **Other Requirements** A College of Education application form should be submitted as well as the official University application. This program requires two packets of admissions materials. One set of transcripts and the official University application should be sent to the Graduate College Admissions Office. A second set of materials should be sent in one package directly to the College of Education, including a copy of the official UIC application, the College of Education application, a second set of transcripts, three letters of recommendation, and the personal statement.
- **Admission Deadlines** The application deadline for this program is March 15 for admission in the fall term.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Education

- **Minimum Semester Hours Required** 32 beyond the baccalaureate: at least 9 hours must be at the 500-level, excluding independent study and thesis courses. At least 24 hours must be earned as a degree candidate at UIC.
- Only 400- and 500-level courses can be applied to the degree. Credit toward the degree is only given for courses in which a student received a grade of A, B, C, CR, or S.
- **Course Work for Applied Track**
  - *Developmental Theory Core (minimum of 7 hours):* EPSY 517; Select one additional course from: EPSY 420, 429, 446, 447, 525; ED 421, 422, 445.
  - *Research and Methodology Core (minimum of 10 hours):* Select three courses from: ED 501, 502; EDPS 587; EPSY 414, 503, 509, 560, 582 (or other courses as approved by advisor).
  - *Electives (9 hours):* Determined in conjunction with advisor.
- **Course Work for the Thesis Track**
  - *Developmental Theory Core (minimum of 6 hours):* Select two courses from: EPSY 420, 429, 446, 447, 517, 525; ED 421, 422, 445.
  - *Research and Methodology Core (minimum of 12 hours):* EPSY 509. Select additional courses from: ED 501, 502; EDPS 587, EPSY 503, 560 (or other courses as approved by advisor).
  - *Electives (9 hours):* Determined in conjunction with advisor.
- **Comprehensive Examination** None required.
- **Culminating Experience** Required.
  - *Culminating Experience for the Applied Strand (6 hours):* Either two semesters of EPSY 415; or one semester of EPSY 415 and one semester of EPSY 596 (minimum of three hours). Students electing to complete the Applied Strand should earn at least 6 hours and complete a minimum of two semesters of fieldwork in a youth service organization or an approved program aimed at promoting positive development among youth. The student's advisor should approve the fieldwork site prior to work beginning at the site. Students will complete a comprehensive professional practice portfolio related to their fieldwork and developed in conjunction with their advisor. Students are required to present their portfolio to a committee of at least three members chosen by the student, in conjunction with the advisor, and approved by the program director or department head.
  - *Culminating Experience for the Thesis Strand (5 hours):* In accordance with Graduate College guidelines, students electing to complete a thesis must earn a minimum of 5 hours in thesis research (EPSY 598). Students earning 5 hours may write a literature review of publishable quality on a chosen thesis topic or conduct a secondary data analysis to explore a research question related to a chosen thesis topic. Students who elect to conduct an original study on chosen thesis topic must complete 8 hours of thesis research. Once the student has completed all graduation requirements and is in good academic standing, s/he must defend the thesis before a committee appointed by the dean of the Graduate College on the recommendation of the student's department or

program. Not more than one fail vote by the committee is allowed for approval of the thesis.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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- Bioengineering (MS, PhD)
- Bioinformatics (MS, PhD)
- Chemical Engineering (MS, PhD)
- Civil Engineering (MS, PhD)
- Computer Science (MS, PhD)
- Electrical and Computer Engineering (MS, PhD)
- Energy Engineering (MEE)
- Industrial Engineering/Industrial Engineering and Operations Research (MS, PhD)
- Materials Engineering (MS, PhD)
- Mechanical Engineering (MS, PhD)
- Professional Program—Engineering (MEng)

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Bioengineering

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Admission Requirements

- Master of Science
- Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Bioengineering (MC 063)
851 South Morgan Street
Chicago, IL 60607-7052

Campus Location: 218 SEO
Program Codes: 20FS0408MS (MS); 20FS0408PHD (PhD)
Telephone: (312) 996–2335
E-mail: gradbioe@uic.edu
Web Site: http://bioe.uic.edu
Head of the Department: Thomas Royston
Director of Graduate Studies: David Eddington

The Department of Bioengineering offers graduate programs leading to Master of Science and Doctor of Philosophy degrees in Bioengineering, and participates in the Medical Scientist Training Program (see Medical Scientist Training Program in the *College of Medicine* section of the catalog for more information). The Interdepartmental Concentration in Neuroscience is also available to doctoral students. The areas of study are Cell and Tissue Engineering, Neural Engineering, Bioinformatics and Genomics, and Nanobiomolecular Engineering. The Bioinfomatics programs have been approved by the State of Illinois, and interested students may obtain MS or PhD degree in Bioinformatics. Biocompatibility, immunotolerance, drug discovery and delivery, molecular targeting and transport, biotransduction, imaging and inducible bioactivity, computational genomics, structural bioinformatics, and proteomonics are collaborative disciplines found in the areas of study. The Bioengineering Bioinformatics Lab (BBI), established by the University within its Medical Center, coordinates and implements clinically based bioengineering activities. The departmental programs are directed toward applying advanced methods of interfacial molecular bioengineering to clinical problems of diagnosis and treatment. The curriculum provides students with an introduction to molecular modeling, targeting, transport, detection, and nanofabrication complemented by collaborative molecular bioengineering research with biologists, chemists, and clinicians. In addition, curricula in the traditional bioengineering areas of signal and image processing, biocontrol, biomaterials, medical visualization, biomechanics, pattern recognition, and rehabilitation engineering are available.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Physical sciences, engineering, computer science, mathematics, biology, or medicine. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General, quantitative reasoning percentile rank above 50%**.**
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR,**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Doctor of Philosophy

- **Baccalaureate Field** Physical sciences, engineering, computer science, mathematics, biology, or medicine. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General, quantitative reasoning percentile rank above 50%**.**
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR,**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Deadlines** The application deadline for applicants requiring funding is December 15.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** At least twelve hours must be at the 500-level, excluding BIOE 595 and 598. Limited credit hours in BIOE 596 are allowed upon departmental approval.
- *Required Courses:* 1 hour of BIOE 595. Additional required courses vary by area; contact the department for the specific requirements of each area.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options**
- *Thesis:* Required. No other options are available. Students must earn at least 8 hours in BIOE 598.
- **Other Requirements** Each student must present at least one seminar prior to graduation.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Course Work** Students admitted with a prior master's degree in bioengineering or a related field must complete a minimum of 24 hours of course work, at least 12 hours of which must be bioengineering courses. At least 12 hours must be at the 500-level, excluding BIOE 595 or 599. Limited credit hours in BIOE 596 are allowed upon department approval. A maximum of 4 hours of BIOE 590 may be applied toward the degree, provided credit for BIOE 590 or a similar course was not applied toward the prior MS degree.
  Students admitted with a bachelor's degree in bioengineering or a related field must complete a minimum of 48 hours of course work. At least 24 hours must be bioengineering courses. At least 20 hours must be at the 500-level, excluding BIOE 595, 596, and 599. A maximum of 4 hours of BIOE 590 may be applied toward the degree.

- *Required Courses:* Two hours of BIOE 595. Additional required courses vary by area of study; contact the department for the specific requirements of each area.
- **Examinations** *Departmental Qualifying Examination:* Required
- **Preliminary Examination:** Required.
- **Dissertation** Required. Students must earn at least 60 semester hours in BIOE 599.
- **Other Requirements** Each student is required to present at least two seminars prior to graduation. Students must be registered during the semester of intended graduation.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Bioinformatics

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Admission Requirements

- Master of Science
- Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Bioengineering (MC 063)
851 South Morgan Street
Chicago, IL 60607-7052

Campus Location: 218 SEO
Program Codes: 20FS1909MS (MS); 20FS1909PHD (PhD)
Telephone: (312) 996-2335
E-mail: bioe@uic.edu
Web Site: http://bioe.uic.edu
Head of the Department: Thomas Royston
Program Chairperson: Jie Liang
Director of Graduate Studies: David Eddington

The Department of Bioengineering offers a program leading to degrees in Bioinformatics at both the master's and doctoral levels.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Physical sciences, engineering, computer science, mathematics, or biology. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General, quantitative reasoning percentile rank above 50%.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Doctor of Philosophy

- **Baccalaureate Field** Physical sciences, engineering, computer science, mathematics, or biology. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General, quantitative reasoning percentile rank above 50%.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Deadlines** The application deadline for applicants requiring funding is December 15.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** At least 12 hours must be at the 500-level, excluding BIOE 595, 596, or 598.
- *Required Courses:* 1 hour of BIOE 595. Additional required courses vary by area; contact the department or program for the specific courses offered.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- *Thesis:* Students must earn at least 8 hours in BIOE 598.
- **Other Requirements** Each student must present at least one seminar prior to graduation.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Course Work** At least 32 hours must be at the 500-level, excluding BIOE 599.
- *Required Courses:* Two hours of BIOE 595. Additional required courses vary by area; contact department or program for additional required courses in the elective areas.
- **Examinations** *Departmental Qualifying Examination:* Required.
- *Preliminary Examination:* Required.
- **Dissertation** Required. Students must earn at least 44 semester hours in BIOE 599.
- **Other Requirements** Each student is required to present at least two seminars prior to graduation. Students must be registered during the semester of intended graduation.

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Chemical Engineering

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Chemical Engineering (MC 110)
810 South Clinton Street
Chicago, IL 60607-4408

Campus Location: 216 CEB
Program Codes: 20FS0300MS (MS); 20FS0300PHD (PhD)
Telephone: (312) 996-3424
E-mail: kmilla@uic.edu
Web Site: http://www.uic.edu/depts/chme/
Head of the Department: Sohail Murad
Director of Graduate Studies: Lewis Wedgewood

The Department of Chemical Engineering offers a program leading to degrees in Chemical Engineering at both the master's and doctoral levels. The primary areas on which this program is based are continuum and molecular fluid mechanics, heat and mass transfer, macroscopic and microscopic thermodynamics, chemical kinetics, and process analysis, microelectronic materials and processing, heterogeneous catalysis and surface science, drug delivery and medical imaging, and biotechnology.

Admission Requirements

The department reviews each applicant on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to meeting the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Engineering or chemistry.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, for the master's program, and at least 3.50 for the doctoral program. In exceptional cases, applicants with averages below 3.00 but above 2.75 may be admitted on limited standing if they show evidence of substantial ability to complete the program successfully.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.

- **Personal Statement** Required.

Degree Requirements

In addition to meeting the minimum requirements of the Graduate College, students must also meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** At least 12 semester hours must be at the 500-level.
- *Required Courses* (5 courses, 20 hours): CHE 410; either 431 or 445; either 501 or 502; either 510 or 511 or 512; and 527.
- *Elective Courses:* One course (4 hours) for thesis option; 3 courses (12 hours) for project option.
- *Research Credit:* 12 hours 598 for thesis option; 4 hours 597 for project option.
- **Comprehensive Examination** Not required.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options available.

Doctor of Philosophy

Entering with BS in Chemical Engineering

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Course Work** At least 24 semester hours must be at the 500-level.
- *Required Core Courses* (5 courses, 20 hours): CHE 410; either 431 or 445; either 501 or 502; either 510 or 511 or 512; and 527.
- *Elective Courses:* (7 courses, 28 hours): At least 3 courses (12 hours) at the 500-level. Of these, at least 8 semester hours of advanced math, including at least one 500-level course from the Department of Mathematics, Statistics, and Computer Science. Students must register in CHE 595 for one semester hour each term, to a maximum of 4 hours.
- *Research Credit***:** 60 semester hours of CHE 599.
- **Examinations** *Qualifying Examination* Not required.
- *Preliminary (Research) Examination:* Required; oral.
- **Dissertation** Required.
- **Other Requirements** Each student must present a seminar based on his or her research in CHE 595 at least once.

Entering with MS in Chemical Engineering

- **Minimum Semester Hours Required** 76 from the MS. 32 semester hours are given for the MS.
- **Course Work** *Courses* (6 courses, 24 hours): Courses in the core requirement above, not completed in the prior degree, must be taken. No course from prior degree may be repeated. At least 24 semester hours must be taken (or given credit from prior degree) at the 500-level. At least 8 semester hours of advanced math, including at least one 500-level course from the Department of Mathematics, Statistics, and Computer Science must be taken. Students must register in CHE 595 for one semester hour each term, to a maximum of 4 hours.
- *Research Credit:* 52 semester hours of CHE 599.
- **Examinations** *Qualifying Examination:* Not required.
- *Preliminary (Research) Examination:* Required; oral.
- **Dissertation** Required.
- **Other Requirements** Each student must present a seminar based on his or her research in CHE 595 at least once.

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Civil Engineering

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Civil and Materials Engineering (MC 246)
842 West Taylor Street
Chicago, IL 60607-7023

Campus Location: 2067 ERF
Program Codes: 20FS0106MS (MS); 20FS0106PHD (PhD)
Telephone: (312) 996-3411
E-mail: cmegrad@uic.edu
Website: http://www.uic.edu/depts/cme/cme.html
Head of the Department: Farhad Ansari
Director of Graduate Studies: Ernesto Indacochea

The Department of Civil and Materials Engineering (CME) offers programs leading to the Master of Science and Doctor of Philosophy degrees in Civil Engineering. Study and research leading to a degree in Civil Engineering is available in the areas of geotechnical and geoenvironmental engineering, environmental engineering, water resources engineering, structural engineering, structural mechanics, structural health monitoring, sensors and nondestructive testing, earthquake engineering, concrete materials, reinforced and prestressed concrete, steel structures, and transportation engineering.

The department also offers programs leading to degrees in Materials Engineering at both the master's and doctoral levels. Updated information about the faculty, staff, curriculum and courses is found on the CME home page at the following address http://www.uic.edu/depts/cme/cme.html.

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts for all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Civil engineering or a related field.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General, minimum combined Verbal and Quantitative score of 301 (tests taken August 2011 or after) or minimum combined Verbal and Quantitative score of

1100 (tests taken prior to August 2011).

- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required for PhD applicants.
- **Personal Statement** Required for PhD applicants.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** At least 24 semester hours must be in courses chosen from major courses listed on the department Web page. At least 12 hours must be at the 500-level, and at least 8 hours must be in 500-level courses in the department, excluding CME 596.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Course Work** *Required Courses:* Minimum requirement of 56 hours of postbaccalaureate course work, excluding CME 599.
- *Specific Course Requirements:* At least 28 hours must be at the 500-level, of which 16 hours must be in the department, excluding CME 596 and 599.
- *Credit for MS Degree:* Those having an MS degree from an accredited institution may be awarded 32 hours of credit towards the PhD degree requirement with 12 hours towards the 28-hour 500-level requirement.
- **Examinations** *Departmental Qualifying Exam*: Required.
- *Preliminary Examination:* Required.
- **Dissertation** Required. Students must earn at least 52 hours in CME 599.
- **Other Requirements** Students must be registered during the semester of intended graduation.

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Computer Science

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Admission Requirements

- Master of Science
- Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Computer Science (MC 152)
851 South Morgan Street
Chicago, IL 60607-7053

Campus Location: Department Office 1120 SEO; Student Affairs Office 905 SEO
Program Codes: 20FS0112MS (MS); 20FS0112PHD (PhD)
Telephone: (312) 996-2290 or (312) 413-4950
E-mail: grad@cs.uic.edu
Web Site: http://www.cs.uic.edu
Head of the Department: Robert Sloan, Head
Director of Graduate Studies: Robert Kenyon

The Department of Computer Science offers graduate programs leading to Computer Science degrees at the master's and doctoral levels. The department offers a comprehensive range of courses in the field of computer science. Special emphases lie in the areas of artificial intelligence, computational biology, databases, graphics and human-computer interaction, networks, security, software engineering, and theoretical computer science. Consult the CS Graduate Student Manual for current requirements, policies, and regulations. Updated information about the faculty, staff, curriculum, and courses is found on the CS Web site http://www.cs.uic.edu.

The department maintains and provides full-time technical staff for several specialized research laboratories, many housed in the Engineering Research Facility. The laboratories contain over 300 workstations and servers and an extensive array of computer-based multimedia equipment. All departmental computing facilities are networked to general university computing resources and national networks, which permits high-speed access to such facilities.

Admission Requirements

Applications are considered on an individual basis by the Graduate Admissions Committee. A complete set of transcripts of all undergraduate and graduate work is required before an applicant is considered. In addition to the application requirements of the Office of Admissions and Records and the policies set by the Graduate College, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Computer science or computer engineering. Outstanding candidates from other related fields with substantial course work in computer science will also be considered.
- **Grade Point Average** At least 3.50/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General scores are required for financial aid applicants and all students with degrees from outside the U.S. A total score of 308 or above (new GRE scoring system as of August 2011) on the GRE General Exam (153+ verbal, 155+ quantitative and 4.5/6.0 analytical). For the old GRE scoring system (prior to August 2011), a combined score of 1200 or above (500+ verbal, 700+ quantitative, and 4.5+/6.0 analytical). All international students are required to submit Test of English as a Foreign Language (TOEFL) or the IELTS (International English Language Testing System) scores as well.
- **Minimum English Competency Test Score**
  - **TOEFL** 570 PBT; 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Two Required. Applicants for financial assistance must provide three letters of recommendation.
- **Personal Statement** Required.
- **Deadlines** The application deadline is the same as the Graduate College deadline.

Doctor of Philosophy

- **Prior Degrees** Computer science or computer engineering. Outstanding candidates from other related fields will also be considered. Outstanding candidates holding a bachelor's degree in computer science can be considered for admission to the direct PhD program.
- **Grade Point Average** At least 3.50/4.00.
- **Tests Required** GRE General scores are required for financial aid applicants and all students with degrees from outside the U.S. A total score of 1200 or above on the GRE General Exam: 500+ verbal, 700+ quantitative, and 4.5+/6.0 analytical (for tests taken before August 2011); or a combined total of 308: 153+ verbal, 155+ quantitative, and 4.5/6.0 analytical (for tests taken August 2011 or after). All international students are required to submit Test of English as a Foreign Language (TOEFL) or IELTS (International English Language Testing System) scores as well.
- **Minimum English Competency Test Score**
  - **TOEFL** 570 PBT; 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Deadlines** The application deadline is the same as the Graduate College deadline. University fellowship nominations are due in the first week of February and department financial aid decisions (TA/TFW) are made about the middle of March. Applicants who want to be considered for these awards are encouraged to submit all required materials by the first week of January.
- Exceptional applicants who have completed a Bachelor of Science degree in Computer Science, or a related field, and wish to pursue a PhD will be considered for "Direct PhD Admission". Such students will pursue the PhD degree without the requirement of first completing a Master's degree. All students seeking this option must submit three letters of recommendation, a resume, and statement of purpose. Direct PhD Admission is competitive. For fullest consideration, any student seeking this admission should adhere to the early deadlines listed on the Graduate College Web site. See the section on Doctor of Philosophy Requirements for details on the course and research graduation requirements.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** At least 28 hours (with thesis) / 32 hours (with project), 12 of which must be CS course offerings at the 500-level (excluding CS 595–599). No more than one special topics course (CS 594) may be counted toward the 500-level CS requirement. At

most 8 hours of non-CS graduate courses may be counted toward the overall requirement.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. Course-work-only option is not available.
- *Thesis:* Thesis students must earn 8 hours in CS 598; no more than 8 hours of CS 598 may be applied toward the degree.
- *Project:* Project students must earn 4 hours in CS 597; no more than 4 hours of CS 597 may be applied toward the degree.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Course Work** *Students Admitted with Prior Master's Degree in CS or a Related Field:* Must complete a minimum of 28 hours of credit in CS or non-CS graduate course work. Credit for non-CS course work must have prior department approval. Of the 28 hours, at least 16 hours must be CS course work at the 500-level, excluding CS 595–599. Any course that is nearly equivalent to one taken in the bachelor's or master's program earlier will not earn PhD credit. Credit earned in CS 596 may not be applied toward the PhD degree.
- *Students Admitted Directly after Bachelor's Degree in CS or a Related Field:* Must complete a minimum of 48 hours of credit in CS or non-CS graduate course work. Credit for non-CS course work must have prior department approval. Of the 48 hours, at least 28 hours must be CS course work at the 500-level, excluding CS 595–599.
- **Examinations** *Departmental Qualifying Examination:* Required; written.
- *Preliminary Examination:* Required; oral.
- **Dissertation** Required. Candidates must earn CS 599 credit of at least 48 hours beyond a master's degree and at least 60 hours beyond a bachelor's degree

Support

The department offers guarantees of multiple-year teaching and/or research assistantships each year to highly qualified, new PhD students. These assistantships will provide a stipend of at least $17,393 per academic year, plus tuition and fee waivers.

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Electrical and Computer Engineering

Important Note: This is the archived version of the 2012–2014 Graduate Catalog. The information on these pages was archived on August 22, 2012 and will not be updated as requirement and/or program changes are approved.

Admission Requirements

- Master of Science
- Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Electrical and Computer Engineering (MC 154)
851 South Morgan Street
Chicago, IL 60607-7053

Campus Location: Department Office 1020 SEO; Student Affairs Office 1020 SEO
Program Codes: 20FS1200MS (MS); 20FS1200PHD (PhD)
Telephone: (312) 413-2291 or (312) 996-4325
E-mail: grad-info@ece.uic.edu
Web Site: http://www.ece.uic.edu/
Acting Head of the Department: Rashid Ansari
Director of Graduate Studies: Ashfaq Khokhar

The Department of Electrical and Computer Engineering offers graduate programs leading to the Electrical and Computer Engineering degrees at the master's and doctoral levels. Updated information about the curriculum, requirements, policies, courses, faculty, and staff is found on the ECE home page http://www.ece.uic.edu.

The department offers a comprehensive range of courses in the field of electrical engineering and computer engineering. Major research areas include bioelectronics and biomimetics, computer engineering, electromagnetics, device physics and electronics, and information systems.

Research facilities in ECE include the Nanotechnology Core Facility, a versatile MEMS/Nano facility, which also contains a microfabricaton laboratory with a 3,000 square-foot Class 100/1000 clean room that enables a broad spectrum of innovative multidisciplinary research, and, a microfluidics center for studying properties of nanodrops; Andrews Electromagnetics Laboratory; Communication and Sensing Laboratory; Computational Intelligence Laboratory; Computer Vision and Robotics Laboratory; Design Automation, Reconfiguration and Testing Laboratory; Laboratory for Energy and Switching Electronics Systems; Multimedia Communications Laboratory; Machine Vision Laboratory; Multimedia Systems Laboratory; Nanoengineering Research Laboratory; Signal and Image Research Laboratory.

Admission Requirements

Applications for admission are individually evaluated by the Graduate Admissions Committee. A complete set of transcripts of all undergraduate and graduate work is required before an

application is evaluated for admission. In addition to the application requirements of the Office of Admissions and Records and the policies set by the Graduate College, applicants should meet program requirements for admission. Meeting minimum requirements does not, however, guarantee admission. Program requirements are given below:

Master of Science

- **Baccalaureate Field** Electrical or computer engineering, or other closely related curriculum.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study is expected.
- **Tests Required** All international applicants should report general test scores of GRE. Applicants with a bachelor's degree from an accredited U.S. institution are not required to provide GRE scores; however, GRE scores may improve prospects for financial aid.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Not required for admission unless specifically requested by the Graduate Admissions Committee after reviewing academic and other credentials.
- **Personal Statement** Not required.
- **Deadlines** The application deadline is the same as the Graduate College deadline for each term.

Doctor of Philosophy

- **Prior Degrees** Applicants must have a bachelor's or master's degree in electrical engineering or computer engineering or a related field. Applicants with a bachelor's degree and an outstanding academic record are encouraged to seek admission directly to the PhD program.
- **Grade Point Average** At least 3.50/4.00.
- **Tests Required** All international applicants should report general test scores of GRE. Applicants with a bachelor's degree from an accredited U.S. institution are not required to provide GRE scores; however, GRE scores may improve prospects for financial aid. Graduates of non-English-speaking countries who seek appointment as Teaching Assistants are encouraged to submit a TSE score (minimum acceptable score is 50).
- **Minimum English Competency Test Score**
  - **TOEF**L 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Not required.
- **Other Requirements** No limited-status admissions.
- **Deadlines** The application deadline is the same as the Graduate College deadline. It is recommended that all application materials should be submitted by January 1 for admission in fall semester of that year in order to get full consideration for financial aid. University fellowship nominations are due in the first week of February and department financial aid decisions (RA/TA/TFW) are made about the middle of March.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Students must complete one of the two options.**
  - **I. Thesis option** (36 hours total)
    - A. 28 hours course work
      - 1. 12 hours at the ECE 500-level
        - a. Excluding ECE 596, ECE 598, and ECE 599.
      - 2. Remaining 16 hours, at 400- or 500-level.
        - a. 12 hours must be in ECE rubric.
        - b. Up to 4 hours of non-ECE graduate course work, completed with prior department approval, may be applied toward the MS degree.
        - c. A Computer Engineering (CE) student may fulfill part of the 500-level ECE course requirement by completing up to 4 hours of

graduate course work at the 500-level in the CS department, excluding CS 595, 596, 597, 598, and 599. CS course must be completed with prior department approval. This course does not count against the limit of non-ECE course work allowed.
        - B. 8 hours of ECE 598—MS Thesis Research
        - C. All students must enroll in ECE 595 at least one semester.
    - **II. Course-Work-Only option** (40 hours total)
        - A. 40 hours course work
            - 1. 16 hours at the ECE 500-level
                - a. Excluding ECE 596, ECE 598, and ECE 599.
            - 2. Remaining 24 hours, at 400- or 500-level.
                - a. 16 hours must be in ECE rubric.
                - b. Up to 8 hours of non-ECE graduate course work, completed with prior department approval, may be applied toward the MS degree.
                - c. A Computer Engineering (CE) student may substitute up to 4 hours of 500-level ECE course work with 400-level ECE course work if the student completes the same number of hours of non-ECE course work at 500-level in the CS department, excluding CS 595, 596, 597, 598, and 599. CS course must be completed with prior department approval. This course does count against the limit of non-ECE course work allowed.
        - B. All students must enroll in ECE 595 at least one semester
- Credit earned in ECE 596 may not be applied toward the MS degree.
- No graduation credit will be given for credit / no credit courses.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.
- *Thesis:* Thesis students must earn 8 hours in ECE 598; no more than 8 hours of ECE 598 may be applied toward the degree.

Doctor of Philosophy

- **Students must complete one of these two options.**
    - **I. PhD post MS** (108 hours total, 32 hours transferred from MS). **Credit for MS Degree:** Those having an MS degree from an accredited institution will be awarded 32 semester hours of credit towards the PhD degree requirement.
        - A. 28 hours of course work
            - 1. 16 hours at the ECE 500-level.
                - a. Excluding ECE 596, ECE 598, and ECE 599
            - 2. Remaining 12 hours, at the 400- or 500-level. Non-ECE graduate course work, completed with prior department approval.
                - a. A Computer Engineering (CE) student may replace up to 4 hours of 500-level ECE course work with 400-level ECE course work if the student completes the same number of hours of non-ECE course work at 500-level in the CS department, excluding CS 595, 596, 597, 598, 599. This course does count against the limit of non-ECE course work allowed.
                - b. Any course that is nearly equivalent to one taken in master's program earlier will not earn PhD credit.
        - B. 48 hours of ECE 599—PhD Thesis Research.
        - C. 32 hours transferred from MS degree
        - D. All students must enroll in ECE 595 in at least two semesters
        - Credit earned in ECE 596 may not be applied toward the PhD degree.
        - No graduation credit will be given for credit / no credit courses.
    - **II. Direct PhD** (108 hours total)
        - A. 52 hours course work
            - 1. 24 hours at the ECE 500-level
                - a. Excluding ECE 596, ECE 598, and ECE 599
            - 2. Remaining 28 hours, at the 400- or 500-level.
                - a. 12 hours must be in ECE.
                - b. Up to 16 hours of non-ECE graduate course work completed with prior department approval may be applied toward the PhD degree.
                - c. A CE student may substitute up to 8 hours of 500-level ECE course work with 400-level ECE course work if the student completes the same number of hours of non-ECE course work at 500-level in the CS department, excluding CS 595, 596, 597, 598, 599. This course does count against the limit of non-ECE course work allowed.

- B. 56 hours of ECE 599—PhD Thesis Research.
- C. All students must enroll in ECE 595 in at least two semesters
- A student may apply to receive an MS degree upon passing the preliminary examination, provided course work required for MS degree under course-work-only option is completed.
- If any one of the PhD degree requirements of passing the qualifying examination or passing the preliminary exam is not successfully completed, student may apply for transfer to the MS program for an opportunity to complete the MS degree requirements under the thesis option.
- Credit earned in ECE 596 may not be applied toward the PhD degree.
- No graduation credit will be given for credit / no credit courses.

- **Examinations** *Departmental Qualifying Examination:* Required; written.
- *Preliminary Examination:* Required; oral.
- **Dissertation** Required. Candidates must earn ECE 599 credit of at least 44 hours beyond master's degree and at least 52 hours beyond bachelor's degree.

Financial Aid

There are several different forms of financial aid available to incoming graduate students: University Fellowship, Teaching Assistantships, Research Assistantships, and Tuition and Fee Waivers. Applicants may seek financial aid by completing the downloadable Application for Graduate Appointment and mailing it to the ECE Department at UIC. They will automatically be considered for all four forms of financial aid listed above. Additional information and the procedure to apply for financial aid can be found on the ECE home page http://www.ece.uic.edu by clicking on the Graduate Program link.

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Energy Engineering

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Admission Requirements

- Master of Energy Engineering

Degree Requirements

- Master of Energy Engineering

Mailing Address:
Department of Mechanical and Industrial Engineering (MC 251)
842 West Taylor Street
Chicago, IL 60607-7022

Campus Location: 2041 ERF
Program Code: 20FS5085MEE
Telephone: (312) 996-6122
E-mail: megrad@uic.edu
Web Site: http://www.uic.edu/eng/energyengineering/
Head of the Department: Farzad Mashayek
Director of Graduate Studies: Michael J. Scott

The demand for Energy Engineers continues to grow as global concerns for energy supply and efficient energy systems intensifies. The energy industry from power production to storage to delivery is covered in this master's program. Whether you are concerned with power generation, HVAC design, management of engineering projects, energy efficiency or other energy issues, upon graduation you will have knowledge that can be immediately applied on the job. When you increase your technical expertise with a Master of Energy Engineering you will expand your career opportunities.

Admission Requirements

Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Energy Engineering

- **Baccalaureate Degree and Field** A baccalaureate degree or its equivalent in an engineering discipline, mathematics, computer science, or a natural science, such as physics or chemistry, from an accredited college or university will be required, except in special cases. Generally qualified candidates may be required by the department to remove specific course-work deficiencies by completing selected undergraduate courses prior to matriculation or graduation. In most cases the prerequisites for admission to the degree program would be satisfied by one course in thermodynamics and one in heat transfer, and these are prerequisites for several of the required courses in the degree.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and any postbaccalaureate course work.
- **Tests Required** GRE General for all applicants with degrees from outside the U.S.
- **Minimum English Competency Test Score**

- **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
- **IELTS** 6.5, with subscores of 6.0 for all four subscores.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Energy Engineering

- **Minimum Semester Hours Required** 32 hours of course work. No thesis is required.
- **Course Work** *Required Courses:* ENER 420, 422, 424, 429, 451, 501, 552, and 553.
- Students must get the approval of the director of graduate studies to take online courses.
- Any substitute courses to the above required courses must be approved first by the student's advisor and then by the director of graduate studies.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only.

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Industrial Engineering

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Mechanical and Industrial Engineering (MC 251)
842 West Taylor Street
Chicago, IL 60607-7022

Campus Location: 2041 ERF
Program Codes: 20FS0127MS (MS); 20FS1338PHD (PhD)
Telephone: (312) 996-6122
E-mail: megrad@uic.edu
Web Site: http://www.mie.uic.edu/
Head of the Department: Farzad Mashayek
Director of Graduate Studies: Michael J. Scott

The Department of Mechanical and Industrial Engineering offers graduate programs leading to the Master of Science in Industrial Engineering and the Doctor of Philosophy in Industrial Engineering and Operations Research. Course work and research is available in such topics as manufacturing information systems and manufacturing control, supply chain, logistics, optimization quality control, haptics and virtual reality, industrial automation, safety and reliability engineering, diagnostics, prognostics, controls and statistical modeling. The department also offers a program leading to degrees in Mechanical Engineering at both the master's and doctoral levels; consult the appropriate section of the catalog for more information on this program.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Industrial engineering or a related curriculum. The degree must be from an American Board of Engineering Technology (ABET) accredited college or university or the equivalent.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. A grade point average of at least 3.50 is preferred for applicants to the PhD program.
- **Tests Required** International applicants are required to take the GRE. Applicants seeking a teaching or research assistantship are strongly encouraged to take the GRE General.
- **Minimum English Competency Test Score**

    - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Other Requirements** Admission to the PhD program is not automatic for students completing their MS degree in the department. Master's students who desire to continue on to the PhD must see the department's graduate coordinator for forms to apply to the PhD program.
- **Nondegree Applicants** Nondegree applicants may be admitted for no more than 8 semester hours.
- **Deadlines** The application deadlines for these programs are the same as the Graduate College deadlines. For full consideration for all forms of financial aid including the University Fellowship, all application materials must be submitted by December 15for admission in fall semester of the following year.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Student must choose one of the following two options:**
    - **I. Thesis Option** 36 hours total
        - A. 24 hours of course work
            - 1. 12 hours at the 500-level
                - a. Excluding IE 596, IE 598, and IE 599
                - b. 4 hours must be in the IE rubric
            - 2. Remaining 12 hours at the 400- or 500-level
                - a. Up to 4 hours of IE 596 can be used
                - b. 4 hours must be in IE rubric
        - B. 12 hours of IE 598—MS Thesis Research
        - C. All students must enroll in IE 595 every fall and spring semester
    - **II. Course-Work-Only Option** 36 hours total
        - A. 16 hours at the 500-level
            - 1. Excluding IE 596, IE 598, and IE 599
            - 2. 8 hours must be in the IE rubric
        - B. Remaining 20 hours at the 400- or 500-level
            - 1. Up to 4 hours of IE 596 can be used
            - 2. 8 hours must be in the IE rubric
        - C. All students must enroll in IE 595 every fall and spring semester
- No graduation credit will be given for Credit/No Credit courses
- Students must get director of graduate studies' approval to take online courses
- All courses must be approved first by the student's advisor and then by the director of graduate studies.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Students must complete one of the following two options.**
    - **I. Direct PhD** (108 hours total from the baccalaureate)
        - A. 48 hours course work
            - 1. 24 hours at the 500-level
                - a. Excluding IE 596, IE 598, and IE 599
                - b. At least 12 hours must be in IE rubric
            - 2. Remaining 24 hours
                - a. Up to 4 hours of IE 596 can be used
                - b. At least 8 hours must be in IE rubric
                - c. 8 hours of mathematics and statistics
                    - i. These courses may be at 400- or 500-level.
                    - ii. Rubrics MATH and STAT are allowed with approval of the advisor and the director of graduate studies.

            - iii. IE 471 and IE 472 may be used toward this requirement.
        - B. 60 hours of IE 599—PhD Thesis Research
        - C. All students must enroll in IE 595 every fall and spring semester.
    - **II. PhD Post MS** (108 hours total, including 32 hours transferred from the MS). **Credit for MS Degree**: Those having an MS degree from an accredited institution will be awarded 32 semester hours of credit toward the PhD degree requirement, which includes 24 hours of course work and 8 hours of IE 599.
        - A. 24 hours of course work
            - 1. 12 hours at the 500-level
                - a. Excluding IE 596, IE 598, and IE 599
                - b. At least 8 hours must be in the IE rubric
            - 2. Remaining 12 hours at the 400- and/or 500-level
                - a. Up to 4 hours of IE 596 can be used
                - b. 8 hours of mathematics and statistics
                    - i. These courses may be at the 400- or 500-level.
                    - ii. Rubrics MATH and STAT are allowed with approval of the advisor and director of graduate studies.
                    - iii. IE 471 and IE 472 may be used toward this requirement.
                - c. At least 4 hours must be in the IE rubric
        - B. 52 hours of IE 599—PhD Thesis Research
        - C. 32 hours transferred from MS degree
        - D. All students must enroll in IE 595 every fall and spring semester.
- No graduation credit will be given for Credit/No Credit courses.
- Students must get the director of graduate studies' approval to take online courses.
- All courses must be approved first by the student's advisor and then by the director of graduate studies.
- **Examinations** *Departmental Qualifying Examination:* Required.
- *Preliminary Examination:* Required.
- **Dissertation** Required. Students in the Direct PhD program must earn at least 60 semester hours in IE 599. Postmaster's students must earn at least 52 hours in IE 599.
- **Other Requirements** Students must be registered during the semester of intended graduation.

Financial Aid

There are several different forms of financial aid available to incoming graduate students: University Fellowship, Teaching Assistantships, Research Assistantships, and Tuition and Fee Waivers. Applicants may seek financial aid by completing the downloadable Application for Graduate Appointment and mailing it to the MIE Department at UIC. They will automatically be considered for all four forms of financial aid listed above. Additional information and the procedure to apply for financial aid can be found on the MIE home page http://www.mie.uic.edu.

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Materials Engineering

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Civil and Materials Engineering (MC 246)
842 West Taylor Street
Chicago, IL 60607-7023

Campus Location: 2095 ERF
Program Codes: 20FS1434MS (MS); 20FS1434PHD (PhD)
Telephone: (312) 996-3428
E-mail: cmegrad@uic.edu
Web Site: http://www.uic.edu/depts/cme/cme.html
Head of the Department: Farhad Ansari
Director of Graduate Studies: Ernesto Indacochea

The Department of Civil and Materials Engineering (CME) offers programs leading to the Master of Science and Doctor of Philosophy degrees in Materials Engineering. Study and research is available in the areas of ceramics, polymers, electronic materials, composites, welding and joining, solidification, corrosion, tribology, and processing. The department also offers programs leading to degrees in Civil Engineering at both the master's and doctoral levels. Consult the appropriate sections of the catalog for more information. Updated information about the faculty, staff, curriculum, and courses is found on the CME home page http://www.uic.edu/depts/cme/cme.html.

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts for all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Engineering or a related field.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General, minimum combined Verbal and Quantitative score of 301 (tests taken August 2011 or after) or minimum combined Verbal and Quantitative score of 1100 (tests taken prior to August 2011).
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based) **OR**

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required for PhD applicants.
- **Personal Statement** Required for PhD applicants.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Course Work** At least 24 hours must be in courses chosen from major courses listed on the department Web page. At least 12 hours must be at the 500-level, and at least 8 hours must be in 500-level didactic courses in the department, excluding CME 596 and CME 598.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- *Thesis:* No more than 12 hours of CME 598 can be applied to the degree.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Course Work** *Required Courses:* Minimum requirement of 56 hours of course work postbaccalaureate (not including CME 599).
- *Specific Course Requirements:* At least 28 hours must be at the 500-level, of which 16 hours must be in the department (excluding CME 596 and 599).
- *Credit for MS Degree:* Those having an MS degree from an accredited institution may be awarded 32 hours of credit towards the PhD degree requirement (with 12 hours towards the 28-hour 500-level requirement).
- **Examinations** *Departmental Qualifying Exam:* Required.
- *Preliminary Examination:* Required.
- **Dissertation** Required. Students must earn at least 52 semester hours in CME 599.
- **Other Requirements** Students must be registered during the semester of intended graduation.

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Mechanical Engineering

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Mechanical and Industrial Engineering (MC 251)
842 West Taylor Street
Chicago, IL 60607-7022

Campus Location: 2041 ERF
Program Codes: 20FS0133MS (MS); 20FS0133PHD (PhD)
Telephone: (312) 996-6122
E-mail: megrad@uic.edu
Web Site: http://www.mie.uic.edu/
Head of the Department: Farzad Mashayek
Director of Graduate Studies: Michael J. Scott

The Department of Mechanical and Industrial Engineering offers graduate programs leading to degrees in Mechanical Engineering at both the master's and doctoral levels. In addition, the department offers a program leading to the Master of Science in Industrial Engineering and the Doctor of Philosophy in Industrial Engineering and Operations Research; consult the appropriate section of the catalog for more information. The department offers a broad range of courses in the field of mechanical engineering. A rich array of research topics of contemporary interest are structured into four major interdisciplinary research areas of emphasis: Biomedical and Biotechnology, Microsystems and Nanotechnology, Transportation and Infrastructure and Energy and Environment. Some examples of specific research focus areas within these emphasis areas include micro/nanoelectromechanical systems (MEMS/NEMS), micro/nanomanipulation, nanoparticle, nanofluidics, microtransducers and micromechanisms, electrospinning, acoustics, dynamics and vibration, medical imaging and diagnostics, biomechanics and computational mechanics, product design, mechatronics and automatic control, multi-body systems and vehicle dynamics, IC engines, combustors, plasma, combustion, heat transfer, turbulence, multi-phase flows, molecular dynamics and air pollution control. Interdisciplinary and interdepartmental work is encouraged with other engineering departments such as, bioengineering, chemical engineering, electrical engineering, and computer science as well as various departments in the College of Medicine.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Mechanical engineering. The degree must be from an American Board of Engineering Technology (ABET) accredited college or university or equivalent.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. A grade point average of at least 3.50 is preferred for applicants to the PhD program.
- **Tests Required** International applicants are required to take the GRE. Applicants seeking a teaching or research assistantship are strongly encouraged to take the GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Other Requirements** Admission to the PhD program is not automatic for students completing their MS degree in the department. Master's students who desire to continue on to the PhD must see the department's graduate coordinator for forms to apply to the PhD program.
- **Nondegree Applicants** Nondegree applicants may be admitted for no more than 8 semester hours.
- **Deadlines** The application deadlines for these programs are the same as the Graduate College deadlines. For full consideration for all forms of financial aid including the University Fellowship, all application materials must be submitted by December 15 for admission in fall semester of the year.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 36.
- **Student must choose one of the following two options:**
  - **I. Thesis Option** 36 hours total
    - A. 24 hours of course work
      - 1. 12 hours at the 500-level
        - a. Excluding ME 596, ME 598, and ME 599
        - b. 8 hours must be in the ME rubric
      - 2. Remaining 12 hours at the 400- or 500-level
        - a. Up to 4 hours of ME 596 can be used
        - b. 4 hours must be in ME rubric
    - B. 12 hours of ME 598—MS Thesis Research
    - C. All students must enroll in ME 595 every fall and spring semester
  - **II. Course-Work-Only Option** 36 hours total
    - A. 16 hours at the 500-level
      - 1. Excluding ME 596, ME 598, and ME 599
      - 2. 12 hours must be in the ME rubric
    - B. Remaining 20 hours at the 400- or 500-level
      - 1. Up to 4 hours of ME 596 can be used
      - 2. 8 hours must be in the ME rubric
    - C. All students must enroll in ME 595 every fall and spring semester
- No graduation credit will be given for Credit/No Credit courses.
- Students must get director of graduate studies' approval to take online courses.
- All courses must be approved first by the student's advisor and then by director of graduate studies.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 108 from the baccalaureate.
- **Students must complete one of the following two options:**
  - **I. Direct PhD** (108 hours total from the baccalaureate)
    - A. 48 hours course work

        - 1. 24 hours at the 500-level
            - a. Excluding ME 596, ME 598, and ME 599
            - b. 4 hours of mathematics and statistics
                - i. Rubrics MATH and STAT are allowed with approval of the advisor and director of graduate studies.
                - ii. ME 594—Math may be used toward this requirement.
            - c. At least 12 hours must be in ME rubric
        - 2. Remaining 24 hours
            - a. Up to 4 hours of ME 596 can be used
            - b. At least 8 hours must be in ME rubric
            - c. 4 hours of mathematics and statistics
                - i. These courses may be at the 400- or 500-level.
                - ii. Rubrics MATH and STAT are allowed with approval of the advisor and the director of graduate studies.
                - iii. ME 494—Math may be used toward this requirement.
    - B. 60 hours of ME 599—PhD Thesis Research
    - C. All students must enroll in ME 595 every fall and spring semester.
- **II. PhD Post MS** (108 hours total, including 32 hours transferred from the MS). **Credit for MS Degree:** Those having an MS degree from an accredited institution will be awarded 32 semester hours of credit toward the PhD degree requirement, which includes 24 hours of course work and 8 hours of ME 599.
    - A. 24 hours of course work
        - 1. 12 hours at the 500-level
            - a. Excluding ME 596, ME 598, and ME 599
            - b. 4 hours of mathematics and statistics
                - i. Rubrics MATH and STAT are allowed with approval of the advisor and director of graduate studies.
                - ii. ME 594—Math may be used toward this requirement.
            - c. At least 8 hours must be in ME rubric
        - 2. Remaining 12 hours at the 400- and/or 500-level
            - a. Up to 4 hours of ME 596 can be used
            - b. At least 4 hours must be in the ME rubric
            - c. 4 hours of mathematics and statistics
                - i. These courses may be at the 400- or 500-level.
                - ii. Rubrics MATH and STAT are allowed with approval of the advisor and director of graduate studies.
                - iii. ME 494—Math may be used toward this requirement.
    - B. 52 hours of ME 599—PhD Thesis Research
    - C. 32 hours transferred from MS degree
    - D. All students must enroll in ME 595 every fall and spring semester.
- No graduation credit will be given for Credit/No Credit courses.
- Students must get the director of graduate studies' approval to take online courses.
- All courses must be approved first by the student's advisor and then by director of graduate studies.
- **Examinations** *Departmental Qualifying Examination:* Required.
- *Preliminary Examination:* Required.
- **Dissertation** Required. Students in the Direct PhD program must earn at least 60 semester hours in IE 599. Postmaster's students must earn at least 52 semester hours in IE 599.
- **Other Requirements** Students must be registered during the semester of intended graduation.

Financial Aid

There are several different forms of financial aid available to incoming graduate students: University Fellowship, Teaching Assistantships, Research Assistantships, and Tuition and Fee Waivers. Applicants may seek financial aid by completing the downloadable Application for Graduate Appointment and mailing it to the MIE Department at UIC. They will automatically be

considered for all four forms of financial aid listed above. Additional information and the procedure to apply for financial aid can be found on the MIE website at http://www.mie.uic.edu.

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Professional Program—Engineering (MEng)

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Admission Requirements

Mailing Address:
Master of Engineering (MC 171)
851 South Morgan Street
Chicago, IL 60607

Campus Location: SEO 813
Telephone: (312) 996-9806
E-mail: meng@uic.edu, carolynw@uic.edu
Web Site: http://www.uic.edu/eng/meng/index.htm; http://www.meng.uic.edu
Professor and Associate Dean: Piergiorgio L. E. Uslenghi, PhD
Program Coordinator: Carolyn C. Williams

The UIC College of Engineering offers a Master of Engineering degree program, which is completed entirely on the Internet. The MEng is a professional degree based exclusively on course work, without a research component (no project or thesis) and without departmental affiliation. This program is fully approved by the Illinois Board of Higher Education.

In Illinois, in the United States, and in the rest of the world there exists a vast population of adults who already have a university education at the bachelor level and who would like to expand and update their knowledge by taking additional course work at the graduate level resulting, in many cases, in a master's degree. Up to now, many of these potential students have been unable to realize their educational dreams because they reside in a geographical area remote from a research university campus, or because of work or family obligations that do not allow them to pursue their educational goals in a synchronous classroom environment, or because of disability.

The main objectives of the MEng online program may be summarized as follows:

- To provide graduate training that is controlled by the employer's needs, and may respond to these changing needs in real time by creating new specializations with no delay.
- To provide graduate engineering education to students in remote areas of the state, the country, and the world, and/or to students who can access instruction only asynchronously.
- To provide interdisciplinary technical upgrading to engineers in small and medium-sized industries.
- To provide specialized technical training to a (possibly geographically dispersed) group of students.

All students must complete a minimum of 36 semester hours of graduate course work with a 3.00/4.00 GPA. All degree requirements must be completed within six years of admission. Of the 36 semester hours, all students are required to take the following 2 core courses: Engineering Law (4 credit hours) and Engineering Management (4 credit hours).

There are 4 certificates that the Master of Engineering degree program offers. Certificates are based on completion of 3 courses only:

- Bioinformatics Certificate (3 courses)
- Electromagnetics Technology Certificate (3 courses)
- Engineering Law and Management Certificate (3 courses)
- Wireless Communications Technology Certificate (3 courses)

Admission Requirements

- **Degree Requirements** Entering students must have received a baccalaureate or equivalent degree in an appropriate field of engineering or in a closely related field (such as biology, chemistry, computer science, mathematics, or physics) from a recognized institution of higher learning.
- **Grade Requirements** A cumulative grade point average of at least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study is required for admission to the MEng program.
- **Note:** Applicants who do not meet the admission qualifications, but whose professional experience in engineering might otherwise qualify them for entry into the program, may petition the Governing Committee for special consideration.
- **English Fluency Requirement** Students whose native language is not English must demonstrate fluency in written and spoken English by passing either the TOEFL exam or a comparable examination acceptable to the Governing Committee. In the case of the TOEFL, and according to the new iBT (Internet-based Testing), the minimum scores should be: Writing 21, Speaking 20, Listening 17, Reading 19; Total score 80.

For more information on the Master of Engineering professional degree program and the application process, please consult the following Web sites:

- Master of Engineering admissions information: http://www.uic.edu/eng/meng/admissions.htm
- Master of Engineering program information, including degree requirements and courses: http://www.uic.edu/eng/meng/program_info.htm
- Master of Engineering faculty: http://www.uic.edu/eng/meng/faculty.htm

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- Learning Sciences (PhD)
- Neuroscience (MS, PhD)
- Neuroscience (Interdepartmental Concentration)
- Survey Research Methodology (Interdepartmental Graduate Concentration)

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Learning Sciences

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Admission Requirements

- Doctor of Philosophy

Degree Requirements

- Doctor of Philosophy

Mailing Address:
1007 West Harrison Street (MC 057)
Chicago, IL 60607-7137

Campus Location: 2048 Behavioral Sciences Building
Program Code: 20FS5084PHD
Telephone: (312) 413-3901
E-mail: deana@uic.edu
Web Site: http://grad.lsri.uic.edu/
Graduate Program Head/Chair: Susan Goldman
Director of Graduate Studies: Donal Wink

The UIC Graduate College offers an interdisciplinary program of academic work leading to the Doctor of Philosophy in Learning Sciences. This doctoral degree complements and draws on expertise in learning sciences research conducted in several academic departments and degree programs on the campus, including those in Chemistry, Computer Science, Education, Mathematics, Psychology, and others. Consult the appropriate chapters in this catalog for information on degree programs in these related disciplines.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Doctor of Philosophy

- **Baccalaureate Field** No restrictions.
- **Master's Degree** Optional.
- **Grade Point Average** At least 3.25/4.00 (or 4.25/5.00) for the final 60 semester (90 quarter) hours of baccalaureate study and for all postbaccalaureate course work.
- **Tests Required** GRE.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required; attesting to potential for success in rigorous doctoral program in Learning Sciences.
- **Personal Statement** Required. Statement must identify and explain applicant's career objectives and qualifications for pursuing a doctoral degree in Learning Sciences. Statement must also specify an area of specialization (i.e., a field or discipline in which

the applicant intends to pursue the study of learning), and an explanation of the applicant's experience and background in that area. Personal statement must be 3 to 5 pages in length, typed, double-spaced.
- **Deadlines** The fellowship/priority application deadline is January 1. March 15 is the preferred application deadline and the extended application deadline is May 15. Admission is restricted to the fall term.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Doctor of Philosophy

- **Minimum Semester Hours Required** 96. For applicants holding a master's degree, the admissions process includes an evaluation of the applicant's record, desired specialization, and a decision regarding any modifications to the Learning Sciences program requirements.
- **Course Work** *Required Core Courses:* LRSC 500, 501, 503, 511, 512, 513, 540, 590, and 599.
- *Required area of disciplinary specialization:* Students take advantage of courses offered through existing doctoral programs at UIC, for example in Chemistry; Cognitive Psychology; Computer Sciences; Mathematics or Mathematics Education; Literacy, Language, and Culture; or Urban Educational Leadership). The specialization is selected in consultation with the student's Learning Sciences academic advisor and an advisor in the disciplinary specialization. A minimum of 12 hours of specialization course work is required.
- *Electives:* A minimum of 16 hours of electives to enroll in additional graduate courses in the disciplinary specialization, research methods, other disciplines, or special topics courses offered periodically in the Learning Sciences program. These courses will be selected in consultation with the student's advisor in the Learning Sciences program and in consultation with the course instructor to determine relevance and appropriateness of course content to the student's program goals and academic preparation for the course.
- *Supervised Research:* A required supervised research component of 30 hours, to include research-apprenticeship experiences as well as thesis research.
- **Examinations** Students will be required to submit an annual review,* following a template provided by the Learning Sciences program, to show evidence of academic and professional progress. Required courses specify examination requirements.
- *Comprehensive Qualifying Examination:* Required portfolio examination. From each core course, students generate at least one product or document that contributes to the portfolio. The student may also include such products from specialization and elective courses. In addition, evidence of research and inquiry activity is to be included in the portfolio. Upon completion of the core courses or the required portfolio items the student will orally defend the contents of the portfolio before a committee of LS faculty who will determine passing or failing of the comprehensive exam.
- *Preliminary Examination:* Required. The preliminary exam is an oral defense of the completed dissertation proposal and is taken after successful completion of the comprehensive qualifying exam. The primary purpose of the preliminary examination is review and approval of the thesis research proposal and admission of the student to the dissertation research stage of degree candidacy.
- **Thesis Research** Required. The completed thesis research must be defended orally and publicly before a thesis committee.

*Annual Review Required: *While it is not, strictly considered, an examination, an annual student assessment will constitute the first step in a two-step student assessment process, of which the comprehensive written exam is the second part. In the first part, each student will submit an annual review to the doctoral advisor, consisting of a record of progress through the program, relevant professional experiences, and, importantly, candidate self-assessment of academic and professional progress. Failure to submit an annual review upon repeat notification to students will constitute evidence of insufficient progress through the program,*

leading to consideration of dismissal from the program. Due process will be observed to protect student rights and program integrity.

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Neuroscience

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Admission Requirements

- Master of Science
- Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Director of Graduate Studies
Graduate Program in Neuroscience (MC 526)
840 South Wood Street
Chicago, IL 60612-4325

Campus Location: 320 CSN
Program Codes: 20FS0323MS (MS); 20FS0323PHD (PhD); 20FS0323NDEG (Nondegree)
Telephone: (312) 996-7370
E-mail: bwilli7@uic.edu
Web Site: http://www.uic.edu/depts/neurosci/
Program Director: Daniel M. Corcos
Director of Graduate Studies: John Larson

The Program in Neuroscience offers work leading to a Doctor of Philosophy degree in Neuroscience and a Master of Science degree in Neuroscience for physician residents in Psychiatry (see Note below). As a multidisciplinary program, students have numerous research opportunities in several departments across the campus. Fields of study cluster around three areas of concentration: neural signal transduction and molecular biology; systems and integrative neuroscience; human/therapeutic neuroscience, cognition, and neural imaging.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements for Doctor of Philosophy and Master of Science:

Master of Science

- **Degree Requirements** Doctor of Medicine (MD) degree from a nationally accredited program.
- **Grade Point Average** Successful completion of a Doctor of Medicine program from a nationally accredited program and admission to the Psychiatry Residency Program.
- **Tests Required** Successful completion of USMLE Steps 1 and 2.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from instructors and advisors who are familiar with the applicant's recent work.
- **Personal Statement** A one-to three-page statement of the applicant's professional goals, including the justification for pursuing a career in neurosciences, is required.
- **Deadlines** The application deadline is February 1 (January 1 is recommended).

NOTE: The *Master of Science in Neuroscience is for those currently holding an MD degree and completing a Psychiatry residency program at UIC. These master's candidates will be supported from an NIMH Training Grant that is already in place at UIC that represents a specific initiative by the NIH to support the training of physician/scientists. No other candidates for the Master of Science degree will be considered. Students with terminal master's degrees do not command any additional advantage in competing for academic positions; entry-level research assistant positions usually require no more than a Bachelor of Science degree. More appropriate master's degree programs for students who wish to advance in industry or education are available in the departments of Biological Sciences or Psychology.*

Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work in the following disciplines is strongly recommended:
    - Biology (8 hours)—introductory biology plus lab
    - Chemistry (16 hours)—general chemistry and organic chemistry, plus labs or biochemistry (3–4 hours)
    - Physics (6 hours)—introductory physics
- **Grade Point Average** A minimum average of 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
    - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from instructors and advisors who are familiar with the applicant's recent work.
- **Personal Statement** A one- to three-page statement of the applicant's professional goals, including the justification for pursuing a career in neurosciences, is required.
- **Deadlines** The application deadline is February 1 (December 15 is recommended).
- **Nondegree Applicants** Rarely accepted. Nondegree applicants must submit all credentials and meet the same admission requirements as degree applicants. The department only accepts nondegree applicants who have exceptional credentials and who desire to take a few specific courses for professional purposes. Nondegree students may not take practicum or individual study courses. Nondegree students will not be admitted to the degree program at a later time.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- Three areas of concentration are available for study. These concentrations are:
    - Neural Signal Transduction and Molecular Biology
    - Systems and Integrative Neuroscience
    - Human / Therapeutic Neuroscience and Methods of Neural Imaging
- **Minimum Semester Hours Required** 32 beyond the baccalaureate.
- **Course Work** All students must take or show proficiency in GCLS 503, ANAT/NEUS 403, NEUS 501 and NEUS 502, and NEUS 511. Students will be required to take two modules per semester of GCLS 504 in their first year of study. Remaining courses will be chosen depending upon the concentration selected by the student. Registration and attendance for NEUS 595—Journal Club is required each semester.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** A master's thesis is required.
- **Other Requirements** Each student must present at least one seminar prior to graduation.

Doctor of Philosophy

- Three areas of concentration are available for study. These concentrations are:
  - Neural Signal Transduction and Molecular Biology
  - Systems and Integrative Neuroscience
  - Human / Therapeutic Neuroscience and Methods of Neural Imaging
- **Minimum Semester Hours Required** Students must complete 96 hours of credit within 9 years from the baccalaureate. For those students entering the program with a valid Master of Science degree from an accredited institution, up to 32 hours of credit may be transferred if considered equivalent to core courses within the program.
- **Course Work** All students must take or show proficiency in GCLS 503, ANAT/NEUS 403, NEUS 501 and NEUS 502, and NEUS 511. Students will be required to take two modules per semester of GCLS 504 and GCLS 505 in their second year of study. A minimum of two research rotations (NEUS 506) is required during the first year. Of the 96 total credit hours, 32 will be from formal course work. Remaining courses will be selected depending upon the concentration chosen by the student. The remaining credit hours will be filled by research credit. Registration and attendance for Journal Club (NEUS 595) is required each semester.
- **Examinations** A preliminary examination, both written and oral, is required.
- **Dissertation** Required.
- **Other Requirements** Each student must present at least one midthesis seminar prior to graduation. A final public seminar and oral defense of the dissertation are required.

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Neuroscience (Interdepartmental Concentration)

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Concentration Requirements

Director of Graduate Studies
Graduate Program in Neuroscience (MC 526)
840 South Wood Street
Chicago, IL 60612-4325

Campus Location: 304 CSN
Telephone: (312) 996-7370
E-mail: bwilli7@uic.edu
Web Site: http://www.uic.edu/depts/neurosci/
Program Director: Daniel M. Corcos
Director of Graduate Studies: John Larson

The Graduate Program in Neuroscience offers work leading to the graduate Interdepartmental Concentration in Neuroscience. Students in the following graduate programs may be eligible to complete the Interdepartmental Concentration in Neuroscience:

Graduate Program	Level
Anatomy and Cell Biology	PhD
Biochemistry and Molecular Genetics	PhD
Bioengineering	PhD
Biological Sciences	PhD
Biopharmaceutical Science	PhD
Chemistry	PhD
Nursing Science	PhD
Philosophy	PhD
Physiology and Biophysics	PhD
Psychology	PhD

Concentration Requirements

Students pursuing a concentration in Neuroscience must take NEUS 501 and 502 and at least 12 additional hours of neuroscience courses at the 400- or 500-level or BIOS/PHIL/PSCH 484 and 485 and at least 10 additional hours of neuroscience courses at the 400- or 500-level. Neuroscience electives will be assessed and approved by the Graduate Studies Committee of the Graduate Program in Neuroscience. Research, departmental seminars (journal clubs), and independent study cannot be included in these 10–12 hours of course credit. Of these 10–12 hours, at least 50% must be outside the student's major department and must be divided among at least 2 other departments. Students must submit the topic of their doctoral dissertation and a list of the courses in neuroscience that they have successfully completed (a grade of B or better) to the Graduate Studies Committee of the Program in Neuroscience for approval no later than the time of the preliminary examination.

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Survey Research Methodology (Interdepartmental Concentration)

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Admission Requirements

Degree Requirements

Mailing Address:
Survey Research Laboratory (MC 336)
412 South Peoria Street, Sixth Floor
Chicago, IL 60607
Attn: Allyson Holbrook

Community Health Sciences (MC 923)
School of Public Health, 645 SPHPI
1603 West Taylor Street
Chicago, IL 60612-4394
Attn: Frederick J. Kviz

Campus Location: Survey Research Laboratory, CUPPA Hall, 6th Floor
Telephone: (312) 996-0471, (312) 996-4889
Co-Directors: Allyson Holbrook, Frederick J. Kviz
E-mail: allyson@uic.edu, fkviz@uic.edu
Web Site: http://www.srl.uic.edu/gcsrm.htm

The Interdepartmental Graduate Concentration in Survey Research Methodology (GCSRM) is available at both the master's and doctoral levels, in conjunction with several participating units. The primary goal of the interdisciplinary graduate curriculum in survey research methodology is to provide graduate students with the opportunity for systematic, integrated study of issues relevant to the conduct of professional survey research. Graduate students electing the concentration receive the masters or PhD after having fulfilled the requirements of the Graduate College, their major academic units, and the Interdepartmental Graduate Concentration in Survey Research Methodology. Students in the following graduate programs may be eligible to participate in the Interdepartmental Graduate Concentration in Survey Research Methodology:

Graduate Program	Level
Communication	MA, PhD
Pharmacy Administration	MS, PhD
Political Science	MA, PhD
Public Health-Community Health Sciences	MS, PhD

Public Administration	MPA, PhD
Rehabilitation Sciences	MS
Social Work	PhD
Sociology	MA, PhD
Urban Planning	MA, PhD

Note: Other academic units may have become participants since the publication of this catalog. Students in academic units not listed above should contact one of the GCSRM co-directors for current information.

Admissions Requirements

Applicants are considered on an individual basis. Applicants must be admitted or enrolled as regular graduate students in one of the participating academic units. Application forms can be obtained from the GCSRM Web site. Admission to the concentration must be made before the term in which the student will obtain the degree.

Degree Requirements

1. Fulfillment of all academic unit requirements.
2. In the case of doctoral students who have opted to use the concentration as a minor or collateral area, the student must include a member of the Survey Research Methodology Graduate Faculty as a voting member of his/her doctoral preliminary examination committee.
3. A minimum of 14 semester hours of course work, of which at least 7 must be from among the core courses in the concentration (CHSC 447, CHSC 577, BSTT 507, PA 576, PA 588, PA 579, and STAT 431). If a student elects to complete both BSTT 440 and STAT 431, only one of those courses may be counted toward fulfilling the core course requirement.
4. The remaining hours must come from survey research methodology elective courses, independent study decided in consultation with the advisor, or alternative courses approved by the advisor and the director(s). Doctoral students may not apply dissertation supervision credits toward the survey research methodology electives.

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College of Liberal Arts and Sciences

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- Anthropology (MA, MA/MPH, PhD)
- Biological Sciences (MS, PhD)
- Central and Eastern European Studies (Interdepartmental Graduate Concentration)
- Chemistry (MS, PhD)
- Communication (MA, PhD)
- Criminology, Law, and Justice (MA, PhD)
- Earth and Environmental Sciences (MS, PhD)
- Economics (MA, MBA/MA, PhD)
- English (MA, PhD)
- Environmental and Urban Geography (MA)
- French and Francophone Studies (MA)
- Gender and Women's Studies (Interdepartmental Concentration)
- Germanic Studies (MA, PhD)
- Hispanic Studies (MA, PhD)
- History (MA, MAT, PhD)
- Latin American and Latino Studies (MA)
- Latin American and Latino Studies (Interdepartmental Concentration)
- Linguistics (MA)
- Mathematics (MA, MS, MST, DA, PhD)
- Philosophy (MA, PhD)
- Physics (MS, PhD)
- Political Science (MA, PhD)
- Psychology (MA, PhD)
- Second Language Teaching (Interdepartmental Concentration)
- Slavic Studies (MA, PhD)
- Sociology (MA, PhD)
- Spanish (MAT)
- Violence Studies (Interdepartmental Graduate Concentration)

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Anthropology

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Admission Requirements

- Master of Arts
- Master of Arts/Master of Public Health
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Master of Arts/Master of Public Health
- Doctor of Philosophy

Mailing Address:
Department of Anthropology (MC 027)
1007 West Harrison Street
Chicago, IL 60607-7139
Campus Location: 2102 BSB

Program Codes: 20FS0340MA (MA); 20FS0340PHD (PhD)
Telephone: (312) 413-3570
E-mail: anth@uic.edu
Web Site: http://www.uic.edu/depts/anth/anthro.htm
Head of the Department: John Monaghan
Director of Graduate Studies: Brian S. Bauer

The Department of Anthropology offers a program leading to degrees in anthropology at both the master's and doctoral levels. Admissions preference is given to MA-seeking students who intend to pursue an MA-PhD sequence, rather than a terminal MA. The Interdepartmental Concentration in Gender and Women's Studies is available to students in this program, as well as the Interdepartmental Concentration in Latin American and Latino Studies. The department has research laboratories supporting studies in archaeology, sociocultural anthropology, and biological anthropology.

One of the unique strengths of our department is that we have a collaborative PhD program with the Field Museum. Under this program, curators in the Department of Anthropology at the Field Museum support, mentor, and help train our graduate students. For example, Field Museum curators frequently serve as chairs or members of PhD committees and they commonly include our graduate students in their research projects. Our graduate students also have access to many of the laboratories, collections, and other facilities of the Field Museum. While the collaborative UIC-Field Museum program can enhance the training opportunities of sociocultural and biological anthropology students, it is most widely used by archaeology students. This is because the collaborative UIC-Field Museum program establishes one of the largest concentrations of anthropological archeologists in the country and members of these two departments conduct field research across the world. Students who are interested in making use of the UIC-Field Museum connection do not need to submit any

additional information over what is requested for general admissions to the Anthropology graduate program.

The Department of Anthropology and the School of Public Health offer a joint degree program leading to a Master of Arts in Anthropology and a Master of Public Health. The joint degree program is designed to offer combined training in Anthropology and Public Health to graduate students intending to advance to the UIC doctoral program in Anthropology or Public Health. Students in the joint program may complete the Master of Public Health in either Community Health Sciences or Epidemiology.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three letters of recommendation addressing the applicant's academic accomplishments and potential.
- **Personal Statement** *Required:* A 700–1000 word statement of academic and professional intent and research interests.
- **Deadlines** The application deadline is December 15.

Master of Arts/Master of Public Health

To be admitted to the joint degree program, applicants must meet the admissions criteria of both programs and be admitted to each through separate applications. Consult the *School of Public Health Catalog* for information on the admission requirements of the MPH program. Joint degree students must take their MPH training in either Community Health Sciences (CHS) or Epidemiology.

Doctor of Philosophy

- **Prior Degrees** Students may enter either with an Anthropology MA or equivalent, from an accredited U.S. college or university.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three letters of recommendation addressing the applicant's academic accomplishments and potential.
- **Personal Statement** *Required:* 700–1000 word statement of academic and professional intent and research interests.
- **Deadlines** The application deadline is December 15.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 36.

- **Course Work** *Required Courses*: ANTH 500, 501, 502, 503, and 595. Candidates must complete ANTH 500, 501, 502, and 503 with grades of B or better and ANTH 595 with an S. Courses must be completed within the first two semesters of the program.
- *Electives*: All students must take 12 elective credit hours for the degree. Two of the electives must be anthropology courses. All elective courses must be at the 400- or 500-level.
- **Comprehensive Examination** *Required*: The final examinations in ANTH 500, 501, 502, and 503 constitute the four sections of the comprehensive examination.
- **Thesis, Project, or Course-Work-Only Options** Project or course work only. No other options are available.

Master of Arts/Master of Public Health

- **Minimum Semester Hours Required** 71–76.
- **Course Work** *Required Courses:*
- *Anthropology and Global Heath Core (12 hours):* ANTH/IPHS 415, 416, and 516.
- *Anthropology Core (18 hours):* ANTH 500, 501, 502, 503, and 595.
- *School of Public Health Core (20 hours):* CHSC 400, BSTT 400, HPA 400, EPID 403, EOHS 400, IPHS 650, IPHS 698.
- Students must choose one of the following two areas in Public Health: Community Health Sciences or Epidemiology.
- *Community Health Sciences Core (15 hours):* CHSC 431, 433, 446, 480, and one of the following: CHSC 527, CHSC 543, or HPA 430.
- *Epidemiology Core (18 hours):* EPID 404, 406, 410, 411, 591; BSTT 401.
- *Electives*: 6–8 credit hours chosen in consultation with graduate advisors.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Field experience and capstone project required. No other options available.
- **Other Requirements** Students in the joint program will have two advisors, one from the Department of Anthropology faculty in the College of Liberal Arts and Sciences, and one from the Community Health Sciences or Epidemiology program in the School of Public Health.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate, 64 hours from the Master of Arts.
- **Course Work** *Required Courses*: ANTH 500, 501, 502, 503, and 595. Candidates must complete ANTH 500, 501, 502, and 503 with grades of B or better and ANTH 595 with an S. Courses must be completed within the first two semesters of the program.
- **Preliminary Examination** Required, written.
- **Dissertation** Required.
- **Other Requirements** Students must demonstrate a reading knowledge of a research language.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.



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Biological Sciences

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Biological Sciences (MC 066)
845 West Taylor Street
Chicago, IL 60607-7060

Campus Location: 3250 SES
Program Codes: 20FS1072MS (MS); 20FS1072PHD (PhD)
Telephone: (312) 996-2931
E-mail: gradbios@uic.edu
Web Site: http://www.uic.edu/depts/bios/
Head of the Department: Brian K. Kay
Director of Graduate Studies: Roberta Mason-Gamer

The Department of Biological Sciences offers work leading to the Doctor of Philosophy and the Master of Science degrees in Biological Sciences. Areas of research include cell biology, development, ecology, evolution, genetics, molecular biology, neurobiology, and plant biology. The Interdepartmental Concentration in Neuroscience is available to qualified PhD students.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. It is recommended that prior academic work include courses in biological sciences beyond the introductory level to provide sufficient preparation for the proposed area of study. In addition, two semesters of organic chemistry, two semesters of physics, and mathematics through introductory calculus are recommended. Admitted applicants may be required to remove specific course work deficiencies by enrolling in undergraduate classes during their first year.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Score**
  - **TOEFL** 620 (paper-based); 84, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL). Recommended subscores of Reading 19, Listening 19, Speaking 23, and Writing 21 (iBT Internet-based TOEFL).

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from faculty who are familiar with the applicant's recent work.
- **Personal Statement** A one- to three-page statement of the applicant's professional goals and reasons for wishing to attend graduate school is required.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the program for information on current deadlines.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Two tracks are available, research or course work. (**Note:** Until further notice, no new students will be admitted to the course work track.)

Research Track

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 24 credit hours of 400- and 500-level courses are required. A minimum of 9 credit hours of 500-level courses must be letter-graded courses (A to F), not project (BIOS 597), thesis (BIOS 598), independent study (BIOS 596), or seminar courses which are graded Satisfactory (S) or Unsatisfactory (U).
- **Comprehensive Final Examination** Required. The examination typically includes an oral presentation and defense of the research thesis.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- *Thesis*: Students must earn at least 5 credit hours of BIOS 598.

Course Work Track

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 24 credit hours of 400- and 500-level courses are required. A minimum of 9 credit hours of 500-level courses must be letter-graded courses (A to F), not project (BIOS 597), thesis (BIOS 598), independent study (BIOS 596), or seminar courses which are graded Satisfactory (S) or Unsatisfactory (U).
- **Comprehensive Final Examination** Required. The examination typically includes an oral presentation of the project.
- **Thesis, Project, or Course-Work-Only Options** Project required. No other options are available.
- *Project*: Students must take at least 5 semester hours of BIOS 597.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** At least 22 credit hours of 400- and 500-level courses are required. A minimum of 8 semester hours of 500-level courses must be letter-graded courses (A to F), not project (BIOS 597), thesis (BIOS 599), independent study (BIOS 596), or seminar courses which are graded Satisfactory (S) or Unsatisfactory (U).
- **Preliminary Examination** Required.
- **Dissertation** Required. Students must earn at least 32 hours in BIOS 599.

Interdepartmental Concentration in Neuroscience

In addition to meeting the above requirements, qualified PhD students interested in pursuing a concentration in neuroscience may complement their studies through the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Central and Eastern European Studies (Interdepartmental Graduate Concentration)

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Concentration Requirements

Mailing Address:
Department of Slavic and Baltic Languages and Literatures (MC) 315
Office 1722 University Hall
601 South Morgan Street
Chicago, IL 60607-7117

Campus Location: UH 1729
Telephone: (312) 996- 5218
E-mail: mexotic@uic.edu
Web Site: http://www.uic.edu/depts/slav/
Head of the Department: Michal Markowski
Director of Graduate Studies: Michal Markowski
Graduate Program Administrator: Rocio Garcia

The Department of Slavic and Baltic Languages and Literatures offers work leading to the Interdepartmental Graduate Concentration in Central and Eastern European Studies. Students in the following graduate programs may be eligible to complete the Interdepartmental Graduate Concentration in Central and Eastern European Studies:

Graduate Program	Level
Germanic Studies	MA, PhD
History	MA, PhD
Teaching of History	MA
Slavic Studies	MA, PhD

Concentration Requirements

Students earning a graduate degree in the departments listed above may complement their course work by enrolling in a concentration in Central and Eastern European Studies (CEES) after consulting with their graduate advisor. Students pursuing this concentration must obtain approval from a CEES graduate faculty member, preferably within the department of the degree. This faculty member will then serve as the student's advisor and must approve the student's CEES course of study. Students fulfill the concentration by completing a total of 16

hours of graduate CEES cross-listed or other related course work approved by their advisor. Among these courses must be CEES 400—A Survey of Central and Eastern Europe and at least one other course (4 hours) from outside of their home department. Up to four of these hours can be in directed study or thesis research on an appropriate topic approved by the CEES advisor. The concentration will be awarded only upon completion of the degree.

The CEES Concentration requires four courses (16 credit hours):

- CEES 400—A Survey of Central and Eastern Europe (4 hours) is required. This course is an interdisciplinary historical and cultural overview of Central and Eastern Europe.
- Three courses (12 hours), one of which must be taken outside the student's home department, chosen with the approval of the student's CEES advisor from:
  - 400- or 500-level courses offered by the Department of Slavic and Baltic Languages and Literatures
  - The list of CEES cross-listed courses offered by the departments of History and of Germanic Studies
  - A list of topics courses in History and Germanic Studies that could be counted toward the concentration when the topic is Central Europe
  - Up to four of these hours can be in directed study or thesis research on an appropriate topic approved by the CEES advisor

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Chemistry

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Chemistry (MC 111)
845 West Taylor Street
Room 4500, SES
Chicago, IL 60607-7061

Campus Location: 4500 SES
Program Codes: 20FS0335MS (MS); 20FS0335PHD (PhD)
Telephone: (312) 996-3161
E-mail: chemgrad@uic.edu
Web Site: http://www.chem.uic.edu/
Head of the Department: Luke Hanley
Director of Graduate Studies: Scott Shippy
Associate Director of Graduate Studies: Duncan Wardrop

The Department of Chemistry offers work leading to Chemistry degrees at both the master's and doctoral levels, and participates in the Interdepartmental Concentration in Neuroscience. Study and research is available in analytical, inorganic, organic, physical, and biochemistry.

Admission Requirements

Applicants are considered on an individual basis. They are urged to contact the graduate coordinator (chemgrad@uic.edu) prior to submitting a formal application. Complete transcripts of all undergraduate and any graduate course work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Chemistry or biochemistry. Other fields are considered on an individual basis.
- **Grade Point Average** At least 3.00/4.00 in mathematics and science courses other than independent study or research courses and at least 2.75 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE Subject Test in Chemistry and GRE General Test.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.

- **Personal Statement** Required as part of the Application for Graduate Appointment (form accessible online at https://grad.uic.edu/pdfs/grad_appt.pdf). Statement should be submitted on a separate sheet. Research background and interests should be emphasized, and a discussion of the applicant's suitability to our graduate program should be provided.
- **Nondegree Applicants** Nondegree applicants must submit a transcript from their baccalaureate institution and a statement regarding their future plans.

Degree Requirements

After admission, all entering students must take placement examinations. The placement examinations, which are at a level of typical terminal college courses, are offered in the areas of analytical, inorganic, organic, physical, and biochemistry. All graduate students must show proficiency in three areas of their choice. A deficiency in an area must be remedied by taking an advanced undergraduate or a graduate-level course in the area.

The MS degree is not a prerequisite to the PhD degree in Chemistry. Students are normally admitted directly to the PhD program. In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Thesis, Project, or Course Work Only Options** Students elect one of three options: course work only, course work plus examination, or course work plus thesis.
  - *Course Work:* For students in all options, at least 24 of the 32 hours must be within the Department of Chemistry. All courses from outside the Department of Chemistry must be approved by the Graduate Advising Committee. At least four lecture courses must be taken at the 500-level. No more than 8 semester hours of seminar or research courses may be applied to the master's degree. If the CHEM 592 research course is used, a project report must be submitted and approved. Students in the course-work-only option must complete all course work for the master's degree within three semesters, excluding summers; those who fail to do so must then select one of the other two options.
  - *Course Work plus Examination:* Required for students who stay beyond 3 semesters and elect to pursue the examination option. These students must pass two cumulative examinations by the end of the second year in addition to all the course work requirements noted above.
  - *Course Work plus Thesis:* Students may elect to submit and defend a thesis based on their research in addition to 24 hours of graduate level course work in chemistry, as described above

Doctor of Philosophy

Students seeking a PhD degree are encouraged to enter this program immediately after completion of their undergraduate studies. The MS degree is not a prerequisite to the PhD degree in Chemistry.

- **Minimum Semester Hours Required** 96 hours beyond the baccalaureate.
- **Course Work** At least 9 hours must be in lecture courses at the 500-level in the student's major area and 3 hours must be in a chemistry lecture course at the 500-level (or 6 hours in lecture courses at the 400-level in one field) outside the student's major area. Students must meet the seminar requirements of their major concentration within the program. Students found to be deficient in specific areas of chemistry on the basis of placement examinations may have to complete additional courses.
- **Preliminary Examination** Required. Candidates must pass the cumulative examination requirement and have a Research Committee Meeting by the end of the second year in the program. Advancing to candidacy is dependent on satisfactory completion of these requirements within the time limit set by the department.
- **Dissertation** Required.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Communication

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Admission Requirements

- Master of Arts
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Communication (MC 132)
1007 West Harrison Street
Chicago, IL 60607-7137

Campus Location: 1140 BSB
Program Codes: 20FS1113MA (MA); 20FS9953PHD (PhD)
Telephone: (312) 996-3187
E-mail: comm@uic.edu
Web site: http://www.uic.edu/depts/comm/
Head of the Department: Zizi Papacharissi
Director of Graduate Studies: Kevin G. Barnhurst

The Department of Communication offers work leading to degrees at the master's and doctoral levels and participates in the interdepartmental concentrations in Gender and Women's Studies, Latin American and Latino Studies, and Survey Research Methodology.

The department goal is to produce scholars and researchers who will be critical consumers and producers of research about communication, whether in academic or applied settings, and who will contribute to the growth of knowledge in those settings.

At the master's level, study and research are available in two general areas, media studies and cultural diversity. Because the areas intertwine, program emphasis is on breadth and integration. Inquiry in media studies ranges, for example, from journalism ethics to electronic media and computer-mediated communication. Cultural inquiry includes language and symbolic representation, critical theory, social inequality and racism, and cross-cultural differences.

At the doctoral level, the program focuses on communication and technology. Students develop thorough understanding of the field, expertise in its theories, skills needed to conduct effective research, and experience teaching in a university setting. They also acquire a specialty from among those recognized in scholarly societies and reflected in current research emphases among department faculty.

A signature feature of department programs is their flexibility. Students pursue individual and professional aims with guidance from an advisor, designing a course of study to reach their

own educational goals. Because the department strongly encourages interdisciplinary work, students may study with scholars in allied disciplines.

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. Besides the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions. Applicants must have the equivalent of 20 semester hours of study in communication or related programs of social inquiry, like political science and sociology.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Score**
  - **TOEFL** 600 (paper-based); 95, with minimum subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based TOEFL).
  - **IELTS** 7.0, with subscores of 6.5 for all four modules.
- **Resume** Required; 1–2 pages.
- **Letters of Recommendation** Three required, each along with a completed Rating Form (available: http://www.uic.edu/depts/comm/graduates/gradprograms.shtml#app), at least two from academic recommenders.
- **Personal Statement** Required; 600 words. The statement should address how graduate study in the department relates to the applicant's career or other aims.
- **Writing Sample** Recommended.
- **Other Requirements** Students are only admitted for the fall semester.
- **Nondegree Applicants** Rarely accepted. Nondegree applicants must submit all credentials and meet the same admission requirements as degree applicants. Nondegree students may not take individual study courses.

Doctor of Philosophy

- **Prior Degrees** A master's degree in communication or a related field is required. Applicants who have earned (or are completing) a bachelor's degree and plan to pursue doctoral work should apply to the MA program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, and 3.50 for any graduate study. When other data warrant, the department may grant conditional admission to students with lower grade point averages.
- **Tests Required** GRE General.
- **Minimum English Competency Score**
  - **TOEFL** 600 (paper-based); 95, with minimum subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based TOEFL).
  - **IELTS** 7.0, with subscores of 6.5 for all four modules.
- **Resume** Required; 1–2 pages.
- **Letters of Recommendation** Three required each along with a completed Rating Form (available: http://www.uic.edu/depts/comm/graduates/gradprograms.shtml#app), preferably from professors.
- **Personal Statement** Required; 600 words.
- **Writing Sample** Required; MA thesis or similar sustained writing.
- **Other Requirements** Students are only admitted for the fall semester.

Degree Requirements

Besides the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32. Students may elect one of two options: examination or thesis. Students declare their intention for either the thesis or nonthesis option at the beginning of their second year of full-time studies, after completing 24 hours of course work.
- **Course Work** At least 20 hours (excluding thesis hours) must be at the 500-level. Credit in COMM 474 and COMM 498 cannot be applied to the degree. Students who receive

more than one grade below B in their graduate course work, or four incompletes that have not been made up within the regulatory one term, will be dropped from the program.
- *Required Courses*: COMM 500 and 501; and either COMM 502 or 503. COMM 500 must be taken before COMM 501 unless a petition for exception is granted.
- *Electives*: No more than 8 hours may be taken in courses outside the department, except for students in the concentration in Gender and Women's Studies. No more than 4 hours may be in COMM 596. Students taking a 400-level course as an elective should note that additional work may be required by the instructor and higher standards will be applied than for undergraduate students.
- **Comprehensive Examination** Required only for students who elect to pursue the nonthesis option. The students must also complete 8 additional credit hours of course work.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only.
- *Thesis*: Required only for students who elect the thesis. These students must earn at least 8 hours in COMM 598.
- *Course Work Only*: Students who elect this option must pass a comprehensive examination.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 semester hours from the baccalaureate degree; 64 hours from the master's degree.
- **Course Work** At least 32 semester hours numbered 500 or higher. Credit in COMM 474, 490, 491, or 498 may not count toward the degree. No more than 16 hours may come from outside the department, and no more than 8 hours may be in independent studies.
- *Required Courses*: COMM 500 and 501 or their equivalents with departmental approval, either 502 or 503 (the department advises students to take both), plus 504, 508, and 580. Students must complete required courses with a grade of B or better. At least 20 and no more than 24 hours are required in COMM 599. Students who have taken any required course as part of the MA program at UIC will substitute another course approved by the graduate advisor.
- *Specialization:* Students must develop expertise in one or more specialized subfields of communication. Specialties reflect the organization of the discipline in scholarly societies as well as the current interests and strengths of department faculty. Courses in one or more allied discipline are necessary for most specializations, and students normally take two courses in specific research techniques related to their chosen specialty.
- **Examinations** *Departmental Qualifying Examination:* None.
- *Preliminary Examination:* Required; three calendar years after admission or upon completion of 40 semester hours (whichever comes later).
- **Dissertation** Required.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Survey Research Methodology

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Survey Research Methodology. See Interdepartmental Graduate Concentration in Survey Research Methodology in the *Graduate College* section for more information.

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Criminology, Law, and Justice

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Admission Requirements

- Master of Arts
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Criminology, Law, and Justice (MC 141)
1007 West Harrison Street
Chicago, IL 60607-7140

Campus Location: 4022 BSB
Program Codes: 20FS5130MA (MA); 20FS5130PHD (PhD)
Telephone: (312) 996-2383
E-mail: casillas@uic.edu
Web Site: http://criminology.las.uic.edu/
Interim Head of the Department: Lisa Frohmann
Director of Graduate Studies: Paul Schewe

The Department of Criminology, Law, and Justice offers work leading to the Master of Arts and the Doctor of Philosophy in Criminology, Law, and Justice. The Master of Arts is organized into four curricular areas that include: the nature and development of rules, rule-breaking behavior, rule application, and research methodology. It is designed for careers in research, evaluation, and criminal justice administration. The Interdepartmental Concentration in Gender and Women's Studies is available to students in this program. Building on the above general curricular areas, the Doctor of Philosophy degree offers additional course work in theory, substantive specialties, and research methods. Concentrations are offered in Law and Society, Criminology, and Organizations and Administration.

The Department of Criminology, Law, and Justice also cosponsors, with the College of Pharmacy, a program leading to the Master of Science in Forensic Science; consult Forensic Science in the *College of Pharmacy* section of the catalog for more information.

The department cosponsors the Interdepartmental Graduate Concentration in Violence Studies with the Jane Addams College of Social Work. This concentration is available to students in the department's graduate programs. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section.

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must also meet the following program requirements:

Master of Arts

- **Baccalaureate Field** Applicants must have a baccalaureate degree in criminology, law, and justice or a related field from an accredited college or university.
- **Grade Point Average** At least 3.00/4.00[a] for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General (verbal, quantitative, and analytical). The combined verbal and quantitative scores on the GRE should be at or above the 50th percentile.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from professors familiar with student's recent work or in case of the applicants with professional experience, from supervisors.
- **Personal Statement** Required; one page. The statement should address the applicant's reasons for wanting to take graduate work in criminology, law, and justice and the relationship of this advanced training to the applicant's professional and other goals.
- **Other Requirements** Applicants must submit a sample of their academic writing.
- **Nondegree Applicants** The department will consider applicants for nondegree status who hold a baccalaureate degree from an accredited college or university and meet the admission requirements of the Graduate College.

[a] *In exceptional situations, students with GPAs less than 3.00 but higher than 2.75, or without strong backgrounds in the social sciences, may be admitted on limited status and will be required to remedy academic deficiencies before being admitted to regular status.*

Doctor of Philosophy

- **Baccalaureate Field** Students may enter either with an MA or a BA. If applicants received their Criminology, Law, and Justice MA from UIC, then they must have received a "high pass" (3.50) on their MA comprehensive exam.
- **Grade Point Average**: At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, with a GPA of at least 3.25 in all graduate courses taken.
- **Tests Required** GRE scores (verbal, quantitative, and analytical) with a minimum combined verbal and quantitative score should be at or above the 50th percentile.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three letters of recommendation addressing the applicant's academic accomplishments and potential.
- **Personal Statement** Required; a statement of academic and professional goals.
- **Other Requirements** A writing sample (an MA thesis or other major research paper).

Degree Requirements

In addition to the minimum requirements of the Graduate College, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 40.
- **Course Work** *Required Courses*: CLJ 500, 520, 540, 547, 560, 561, and 562.
- *Electives*: 12 semester hours, 4 hours must be from among the three CLJ Signature Seminars (CLJ 541, 546, 548). Of the remaining 8 hours, 4 hours must be at the 500-level.
- **Comprehensive Examination** Required.
- **Thesis, Project, or Course-Work-Only Options** Course work only with comprehensive examination required. No other options are available.

Doctor of Philosophy

Students who have received a master's degree or its equivalent prior to being admitted to the doctoral program may receive up to 32 semester hours of credit toward the 96-hour requirement. Credit for other graduate work in a related field, whether taken at UIC or another institution, may be given on an individual basis. Students may earn up to 20 hours of credit for

dissertation research in CLJ 599. Students admitted with a BA degree must complete both the MA and PhD requirements which include the MA comprehensive examination. Students with an MA from other institutions must satisfy UIC Criminology, Law, and Justice MA requirements. The graduate director will evaluate students' prior preparation and determine remedial work if necessary.

- **Minimum Semester Hours Required** 96 beyond the baccalaureate.
- **Course Work** *Required Courses*: CLJ 500, 520, 540, 547, 560, 561, 562, 564, and 570. **Note**: For CLJ 570, upon departmental approval, an equivalent methods course may be taken either outside the department or as an independent study course in the department, dependent on the student's dissertation research.
- *Electives, Areas of Concentration*: Upon successful completion of the core curriculum students are required to complete 40 additional hours, no more than 12 of which may be taken outside the department. This includes two CLJ Signature Seminars (selected from CLJ 541, 546, and 548), one of which coincides with the student's area of concentration. Signature Seminars are courses within the areas of concentration that offer further inquiry into central questions in the discipline. Three areas of concentration are offered, each of which typically requires students to complete five additional courses in an area:
  - Law and Society, which examines the nature of formal and informal social norms, their development, use and variation across cultures, societies, and over time.
  - Criminology, which examines the theories of deviance, crime causation, criminal behavior, and explanations of rule breaking from psychological, sociological, economic, and political perspectives.
  - Organizations and Administration, which explores organizations and agencies whose principal function is the application of law, and theories explaining practices of decision making and how organizations are created, maintain and develop resources, and relate to internal and external environments.
- **Examinations** *Departmental Qualifying Examination*: None.
- *Preliminary Examination:* Required; written and oral.
- **Dissertation** Required.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Earth and Environmental Sciences

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Earth and Environmental Sciences (MC 186)
845 West Taylor Street
Chicago, IL 60607-7059

Campus Location: 2440 SES
Program Codes: 20FS1174MS (MS); 20FS1174PHD (PhD)
Telephone: (312) 996-3154
E-mail: adombard@uic.edu
Web Site: http://www.uic.edu/depts/geos/
Head of the Department: Kathryn L. Nagy
Director of Graduate Studies: Andrew J. Dombard

The Department of Earth and Environmental Sciences offers work leading to the Master of Science and Doctor of Philosophy degrees in Earth and Environmental Sciences. Both programs are based in an earth and environmental science curriculum. Applicants with interdisciplinary natural science backgrounds are also encouraged to apply.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants should meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Earth science, environmental science, other natural or physical sciences, or engineering (also applies to those applicants having an MS degree). Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance for success in the program.
- **Prerequisites** Students entering with an MS degree in the sciences can receive up to 32 hours of credit toward the PhD. Highly qualified students lacking in one or more of the prerequisites may be considered for admission under “limited standing” with specific additional prescribed courses. Prerequisites for all applicants are listed below:
  - Baccalaureate degree in Earth and Environmental Sciences, related science or engineering field, or other (in special cases)
  - Chemistry (1 year)
  - Physics (1 year)
  - Calculus (1 year)
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.

- **Minimum English Competency Test Score**
  - **TOEFL** For PhD, 600 (paper-based); for master's, 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from professors familiar with the applicant's academic work. Letters should be sent to the director of graduate studies.
- **Personal Statement** Required. Personal statement should be sent to the director of graduate studies.
- **Deadlines** February 1 for fall semester admission and July 15 for spring semester admission. To be considered for fellowships, submit all materials at least two weeks before these deadlines.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** Twelve of the 32 hours must be in the student's major area, as set forth in the departmental graduate handbook. No more than 4 of these hours may be taken in EAES 596. Twelve additional hours must be taken in departmental courses from outside the major area. With departmental consent, 400- or 500-level courses outside the department may be taken to fulfill this requirement. Each course must be taken for a letter grade, not on a credit / no credit basis. At least 9 of the 32 hours must be in 500-level courses, excluding EAES 595, EAES 596 and EAES 598.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- *Thesis*: No more than 8 hours of EAES 598 can be applied to the degree.

Doctor of Philosophy

- **Minimum Semester Hours Required** 104 past the baccalaureate are required (44 thesis hours, 8 seminar hours, and 52 course hours).
- **Course Work** Out of the 52 course hours, at least 24 hours are to be selected from the list of core courses, and at least 20 hours are to be selected as elective courses in EAES or from the relevant offerings of other departments and colleges. Each course must be taken for a letter grade, not on a credit / no credit basis. At least 24 hours must be taken at the 500-level, excluding EAES 599 and EAES 595. Entering students are required to have completed courses in physics, chemistry, and calculus. A maximum of 32 hours of course work may be transferred in from a previous master's.
- **Examinations** *Departmental Qualifying Examination*: Required.
- *Preliminary Examination*: Required.
- **Dissertation** Required. Students must earn at least 44 semester hours in EAES 599 (dissertation research).

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Economics

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Admission Requirements

- Master of Arts and Doctor of Philosophy
- MBA/MA in Economics

Degree Requirements

- Master of Arts
- MBA/MA in Economics
- Doctor of Philosophy

Mailing Address:
Department of Economics (MC 144)
University of Illinois at Chicago
601 South Morgan Street
Chicago, IL 60607-7121

Campus Location: 2103 UH
Program Codes 20FS0074MA (MA); 20FS0074PHD (PHD)
Telephone: (312) 996-2683
E-mail: econ.uic@gmail.com
Web Site: http://www.uic.edu/depts/econ/
Head of the Department: Steven Rivkin
Director of Graduate Studies: Paul J. Pieper

The Department of Economics offers work leading to the Master of Arts in Economics and the Doctor of Philosophy in Economics. The department also participates with the MBA Program in offering the MBA/MA in Economics joint degree program.

Admission Requirements

Applicants are considered on an individual basis. Transcripts from all colleges and universities attended in the last eight years must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Doctor of Philosophy

- **Baccalaureate Field** An undergraduate degree in economics is not required. Prior academic work should include introductory calculus, statistics, intermediate microeconomic theory, and intermediate macroeconomic theory.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE or GMAT.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

- **Deadlines** Same as the Graduate College deadlines.

MBA/MA in Economics

All MBA application materials should be submitted to the MBA Program Office. See Professional Program—Business Administration in the College of Business Administration section for more information.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 40.
- **Course Work** At least 32 hours must be in economics, of which at least 28 hours must be at the 500-level, excluding ECON 592, 596, and 598. ECON 441, 442, and 472 may be used to satisfy the 40 semester-hour degree requirement but not the 32 hours of course work in economics requirement. No more than 12 hours total of ECON 596 and 598 may be applied to the degree. ECON 520, 541, 592, and 599 cannot be used to satisfy any MA requirement.
- *Required Courses*: ECON 501, 502, 511, 512, 534, and 535. All students must complete the 4 courses in economic theory (ECON 501, 502, 511, and 512) with a GPA in these four courses of at least 3.00/4.00. Credit will be given for at most one grade of C in any of these courses.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.
- *Thesis*: No more than 8 hours of ECON 598 can be applied to the degree.
- *Course Work Only*: Students who do not write a thesis must enroll in ECON 596 for 4 hours of credit and write an acceptable paper for the course.

MBA/MA in Economics

- **Minimum Semester Hours Required** 72.
- **Course Work** No more than 12 hours total of ECON 596 and 598 can be applied to the degree.
- *Required Courses*: ACTG 500; ECON 501, 502, 511, 512, 534, 535; FIN 500; IDS 532; MGMT 541; MKTG 500. All students must complete the four courses in economic theory (ECON 501, 502, 511, 512) with a grade point average in these four courses of at least 3.00. Credit will be given for at most one grade of C in any of these courses.
- *Electives*: 12 additional hours in economics at the 500-level (excluding ECON 520, 521, 541, 592, 593, and 599), and 16 additional hours of 500-level courses in at least two other disciplines within the College of Business Administration except Economics.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.
- *Thesis*: No more than 8 hours of ECON 598 can be applied to the degree.
- *Course Work Only*: Students who do not write a thesis must enroll in ECON 592 or 596 for 4 hours of credit, and write an acceptable research paper for the course.

Doctor of Philosophy

- **Minimum Semester Hours Required** 104 from the baccalaureate, 72 from the master's.
- **Course Work** *Required Courses*: ECON 501, 502, 511, 512, 534, 535, and 592. Students must also select two areas, each consisting of at least two 500-level economics courses. The required courses and ECON 520, 521, 541, 592, 593, 598, or 599 may not be used to satisfy the area requirement.
- *Electives*: One additional graduate-level course in economics and two other graduate-level courses related to the student's area of study in either economics or in another social science or business discipline.
- **Examinations** *Departmental Qualifying Examination*: Students must take written qualifying examinations in microeconomics and macroeconomics within two years after admission to the program. Students who receive a failing grade on either exam on two occasions will not be allowed to continue in the PhD program.
- *Preliminary Examination*: Written; the exam covers two areas in economics. The oral portion of the exam may be waived on agreement of the examination committee.

- **Dissertation** Required.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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English

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Admission Requirements

- Master of Arts and Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of English (MC 162)
601 South Morgan Street
Chicago, IL 60607-7120

Campus Location: 2000 UH
Program Codes: 20FS0311MA (MA); 20FS0311PHD (PhD)
Telephone: (312) 413-2239
E-mail: neilo@uic.edu
Web Site: http://www.uic.edu/depts/engl/index.html
Head of the Department: John Huntington
Director of Graduate Studies: Madhu Dubey
Graduate Coordinator: Neil O'Callaghan

The Department of English offers work leading to degrees in English at both the master's and doctoral levels. The department offers the MA with three concentrations: English Studies, Creative Writing, and English Education. The department offers the PhD in English Studies and Creative Writing.

Interdepartmental concentrations in Gender and Women's Studies, Latin American and Latino Studies, and Second Language Teaching are available to both master's and PhD students.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Doctor of Philosophy

- **Baccalaureate Field** Applicants who intend to concentrate in English Studies or English Education must have an undergraduate major in English or the equivalent that includes a balanced program in English and American literature beyond the level of sophomore surveys. Applicants who intend to concentrate in Creative Writing may have an undergraduate major or a graduate degree in any field, if they show substantial evidence of ability to complete the work in literature required for the degree in English.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study and for all graduate work.
- **Tests Required** GRE General.
- **Minimum English Competency Score**

    - **TOEFL** 600 (paper-based); 95, with minimum subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based TOEFL).
    - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three required, preferably from individuals acquainted with the applicant's recent academic, professional, or creative work.
- **Personal Statement** Required. Domestic applicants must submit a statement of about 500 words presenting their reasons for wanting to take graduate work in English at UIC and the relationship of this advanced training to professional and other goals.
- International applicants must submit a two- or three-page summary of their educational experience that emphasizes their work in English and American literature and language. They should conclude this summary with their reasons for wanting to do graduate work in the English department.
- **Other Requirements** All MA and PhD applicants must submit a sample of their written work of no more than 20 pages appropriate to their proposed area of study. In addition, all MA and PhD applicants must submit a coversheet (available as a writable PDF from http://www.uic.edu/depts/engl/admissions/admissions_review_coversheet.pdf) with their application materials. Applicants in Creative Writing should submit two copies of 20 pages of material (may be by genre of interest; at least 5 poems, one or more stories, a chapter from a novel, or comparable work). Applicants may, in addition, submit a critical writing sample of no more than 20 pages.
- **Deadlines** The application deadline for the PhD program is January 1 preceding fall admission; February 1 is the deadline for the MA programs; May 15 is the deadline for the nondegree program.

Degree Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 12 of the 32 hours must be at the 500-level, and at least 24 of the 32 hours must be in the Department of English. Credit toward the MA is not given for any course in which the student receives a grade of less than B.
- *Required Courses*: All master's students are required to take the following courses (4 hours each): ENGL 500 and 2 courses from the Bridge Series (ENGL 507, 517, 527, 537, 547, 557, and 567) for a total of 12 hours of required courses. Master's students who wish to take courses from the other 500-level series (Discourse, Text, and Context; or Theoretical Engagements) must have the permission of the instructor.
- In addition, students are required to meet the following distribution requirements: 2 courses in British and American studies from the beginnings to 1914; and 2 courses in British and American studies since 1914. These distribution requirements can be fulfilled through Bridge Series work and 400-level offerings in the department. Advanced undergraduate courses with a grade of B or better may be counted toward these distribution requirements with the permission of the director of graduate studies. No more than 4 hours of credit each taken in ENGL 596 and 597 (MA independent study) may be counted toward the degree.
- *Creative Writing*: At least 12 and no more than 16 hours of creative writing workshops in addition to the above requirements.
- *English Education*: As part of the 32 hours required for the MA degree, students must take the following courses (4 hours each): ENGL 557 as 1 of the 2 Bridge Series courses; 2 courses in Teaching Methods (ENGL 481, 482, 486, 489, or 555); 1 additional course in literature; 2 electives chosen with approval of the advisor.
    - Additional Requirements for Teacher Certification—Students who wish to seek teacher certification must take additional courses in the College of Education and complete student teaching to be eligible for state certification. Such students are also more restricted in their choices of courses within the concentration. Courses should be selected in consultation with an advisor. Contact the Department of English for the current requirements. At the time of this writing, in addition to the MA requirements and the requirements for the Concentration in English Education, students seeking certification must complete ENGL 481, 486, and 489. They must also complete the following education courses and student teaching program:
        - One course from ED 402 or 403
        - One course from ED 421 or 445
        - ED 432 (taken in conjunction with ENGL 481)
        - SPED 410
        - ENGL 498 and 499 (student teaching semester with seminar)

    - The teaching certificate is not automatically awarded upon successful completion of degree and certification requirements. For more information on application procedures for the teaching certificate, contact the Council on Teacher Education in the College of Education.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project consisting of a qualifying paper required for all concentrations. No other options are available. Students must register for 0 hours of ENGL 597; up to 4 hours of credit in this course may be applied toward the degree.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate, 64 from the MA.
- **Course Work** Credit toward the PhD is not given for any course in which the student receives a grade of less than B.
- *Required Courses*: All students in the PhD program must take the following courses (4 hours each): proseminar (ENGL 503); 1 Bridge
  Series course (ENGL 507, 517, 527, 537, 547, 557, and 567); two seminars from the Discourse, Text, and Context Series (ENGL 505, 510, 515, 520, 525, 530, 535, 540, 545, and 550) and/or the Theoretical Engagements Series (ENGL 579, 580, 581, 582, 583, 584, 585, 586, and 588) for a total of 16 hours of required courses.
- *Creative Writing*: Students in Creative Writing are also required to take 3 workshops (12 hours), not including translation and publishing workshops; students in fiction must take 8 hours in fiction workshops, students in poetry must take at least 8 hours in poetry workshops, and nonfiction writers must take 8 hours in nonfiction workshops.
- **Preliminary Examination** Required; written and oral.
- **Dissertation** Required. No more than 32 hours of ENGL 599 can be applied to the degree. Degree candidates in English Studies write dissertations involving innovative research in criticism, theory, rhetoric, and/or literary/cultural histories.
- Candidates pursuing Creative Writing are expected to produce as a dissertation one of the following: a novel, a volume of short stories or poems, a play or group of plays, or a unified collection of essays.
- **Other Requirements** *Language*: Students must present evidence of advanced knowledge of a language other than English. Contact the director of graduate studies for more information.
- *Teaching*: Students lacking teaching experience must take ENGL 555 during their first year. All students must serve as teaching assistants for at least four semesters. All teaching assistants teach sections of ENGL 160 and 161. Teaching assistants are often assigned to other lower-level courses in English appropriate to their concentration.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Second Language Teaching

Students earning a graduate degree in the department may complement their courses by enrolling in a concentration in Second Language Teaching. See Second Language Teaching in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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Environmental and Urban Geography

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Admission Requirements

- Master of Arts

Degree Requirements

- Master of Arts

Mailing Address:
Department of Anthropology (MC 027)
1007 West Harrison Street
Chicago, IL 60607-7138

Campus Location: 2102 BSB
Program Code: 20FS1238MA
Telephone: (312) 413-3570
E-mail: mforge1@uic.edu
Web Site: http://www.uic.edu/depts/anth/anthro.htm
Chair of the Department: John Monaghan
Director of Graduate Studies: John Monaghan

The Department of Anthropology offers work leading to the Master of Arts in Environmental and Urban Geography. The program has two major areas of study: (1) environmental analysis and monitoring, environmental behavior, and environmental management; and (2) urban geography, including the environmental impact of urbanization, industrial and commercial development, transportation, residential area analysis, and urban and regional structures. The department also offers work leading to master's and doctoral degrees in Anthropology; consult the appropriate section of the catalog for more information.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 9 hours must be in 500-level geography courses (excluding GEOG 592 and 595). For students with an undergraduate geography major, at least 6 hours must be in cognate courses recognized by the student's faculty advisor as supporting the student's program of study.
- *Required Courses*: GEOG 595. Nonthesis students must take 8 semester hours in geographic information systems or cartography and remote sensing.
- *Electives*: Nonthesis students must take 5 courses, including at least two 500-level seminars, to define a program major in either environmental or urban geography, and 1 geography course outside their major area. No more than 8 hours may be taken in other disciplines by nonthesis students; outside courses must support the student's major.
- **Comprehensive Examination** Required only for students who do not complete a thesis; written.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options available.
- *Thesis*: Thesis students must earn at least 9 hours in GEOG 596 and 598, of which at least 6 hours must be in GEOG 598; no more than 9 hours of GEOG 598 can be applied to the degree.

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French and Francophone Studies

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Admission Requirements

- Master of Arts

Degree Requirements

- Master of Arts

Mailing Address:
University of Illinois at Chicago
Department of French and Francophone Studies (MC 315)
Office 1722 University Hall
601 South Morgan Street
Chicago, IL 60607-7117

Campus Location: 1729 UH
Program Code: 20FS5293MA
Telephone: (312) 996-5218
E-mail: mexotic@uic.edu or mminer@uic.edu
Web Site: http://french.las.uic.edu
Head: Ellen McClure
Director of Graduate Studies: Margaret Miner
Graduate Program Administrator: Rocio Garcia

The Department of French and Francophone Studies offers work leading to the Master of Arts in French and Francophone Studies. Interdepartmental concentrations in Gender and Women's Studies and Second Language Teaching are available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** A substantial background in French literature is essential, as is fluency in written and spoken French.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from professors or others familiar with the applicant's recent academic work.
- **Personal Statement** Required; 250 words, in French; the statement should address the applicant's reasons for wanting to take graduate work.

- **Other Requirements** Applicants must submit a sample of their academic writing in French.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 12 of the 32 hours must be 500-level courses in the Department of French and Francophone Studies, excluding FR 596 and FR 598. At least 24 hours of course work must be taken in the Department of French and Francophone Studies. Please note that LCSL 502 (formerly FR 502) counts as a course taken outside the department.
- *Required Courses:* FR 433; 4 hours from among FR 415, 416, 417, 418, 419, 420, 422, or 440; 4 hours from among FR 461, 462, 463, or 464.
- **Comprehensive Examination** Required; written and oral.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Second Language Teaching

Students earning a graduate degree in the department may complement their courses by enrolling in a concentration in Second Language Teaching. See Second Language Teaching in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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Gender and Women's Studies (Interdepartmental Concentration)

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Concentration Requirements

Mailing Address:
Gender and Women's Studies Program (MC 360)
601 South Morgan Street
Chicago, IL 60607

Campus Location: 1802 UH
Telephone: (312) 996-2441
E-mail: gjames@uic.edu
Web Site: http://www.uic.edu/depts/wsweb/WSweb.html
Director of the Gender and Women's Studies Program: Barbara Ransby
Director of Graduate Studies: John D'Emilio

The Gender and Women's Studies Program offers work leading to a graduate Interdepartmental Concentration in Gender and Women's Studies. Students in the following graduate programs may be eligible to complete the Interdepartmental Concentration in Gender and Women's Studies:

Graduate Program	Level
Anthropology	MA, PhD
Art History	MA, PhD
Communication	MA, PhD
Criminology, Law, and Justice	MA, PhD
Curriculum and Instruction	PhD
Disability and Human Development	MS
Disability Studies	PhD
Economics	MA, PhD
Educational Psychology	PhD
English	MA, PhD
French	MA
Germanic Studies	MA, PhD
Health Professions Education	MHPE
Hispanic Studies	MA, PhD
History	MA, PhD
Instructional Leadership	MEd
Linguistics	MA
Nursing	PhD
Philosophy	MA, PhD

Policy Studies in Urban Education	PhD
Political Science	MA, PhD
Psychology	MA, PhD
Public Administration	MPA
Public Health-Community Health Sciences	MS, PhD
Slavic Studies	MA, PhD
Social Work	MSW, PhD
Sociology	MA, PhD
Special Education	MEd, PhD
Urban Education Leadership	EdD
Urban Planning and Policy	MUPP, PhD

Concentration Requirements

Students earning graduate degrees in the programs listed above may complement their courses by enrolling for a concentration in Gender and Women's Studies after consulting with their graduate advisor. Students pursuing this concentration must apply to the director of the Gender and Women's Studies Program and obtain approval from a Gender and Women's Studies graduate faculty member, preferably from within the department of the degree, who becomes the student's Gender and Women's Studies advisor.

Students should enroll in a total of 16 hours of graduate course work for the concentration, including GWS 501 and 502, plus eight additional hours of Gender and Women's Studies or cross-listed courses at the graduate level or the equivalent. Up to four of these hours can be directed study or thesis research on an appropriate topic approved by the student's Gender and Women's Studies advisor.

Interdepartmental Graduate Concentration in Women's Health

Students with an interest in Gender and Women's Studies who are pursuing a graduate degree in the College of Nursing or School of Public Health may complement their courses by enrolling for a concentration in Women's Health after consulting with their advisor. See Interdepartmental Graduate Concentration in Women's Health in the *College of Nursing* section for more information.

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Germanic Studies

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Admission Requirements

- Master of Arts and Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Germanic Studies (MC 189)
Office 1722 University Hall
601 South Morgan Street
Chicago, IL 60607-7117

Campus Location: 1729 UH
Program Codes: 20FS1292MA (MA); 20FS1292PHD (PhD)
Telephone: (312) 996-5218
E-mail: mexotic@uic.edu
Web Site: http://www.uic.edu/depts/germ/index.shtml
Head of the Department: Elizabeth Loentz
Director of Graduate Studies: Elizabeth Loentz
Graduate Program Administrator: Rocio Garcia

The Department of Germanic Studies offers the Master of Arts degree and the Doctor of Philosophy degree in Germanic Studies. Doctoral students may concentrate in the fields of Film Studies, Jewish Cultural Studies, Gender and Women's Studies, Second Language Acquisition, or Literature and Culture.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. A substantial background in German literature or culture is expected, as is proficiency in written and spoken German.
- **Grade Point Average** At least 3.00/4.00 in all German courses and in the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General scores are mandatory for university fellowship candidates.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the applicant's academic work.

- **Personal Statement** Required; 250 words. The statement should address the applicant's purpose and goals.
- **Other Requirements** Applicants must submit a sample of their academic writing.
- **Nondegree Applicants** Nondegree applicants must submit a transcript from their baccalaureate institution.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 12 hours must be at the 500-level. These courses will be chosen from LCSL 502; GER 513, 514, 515, 531, 540, 550, and 593. LCSL 502 is required for students with a teaching assistantship.
- **Comprehensive Examination** Required for students who do not complete a thesis; written and oral examinations administered by a committee of one exam coordinator and two other faculty members.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options available.
- *Thesis*: Optional; requires a committee of a supervisor and two other faculty members. No more than 8 hours of GER 598 can be applied to the degree.
- **Other Requirements** Language proficiency test as determined by the department for all nonnative speakers of German.

Doctor of Philosophy

- **Minimum Semester Hours Required** 72 beyond the master's degree.
- **Course Work** 40 hours exclusive of credit for thesis research, with a minimum of 32 credits in Germanic Studies.
- *Required Courses*: LCSL 502 and GER 599.
- **Examinations** *Preliminary Examination*: Required; written and oral.
- **Dissertation and oral dissertation defense.** Required.
- **Other Requirements** By the time of the dissertation defense, candidates must have taught the equivalent of three one-semester courses. Students must demonstrate a reading proficiency in two foreign languages other than German that are relevant to their plan of study. Language proficiency test as determined by the department for all nonnative speakers of German.

Concentration in Jewish Studies

Students earning a graduate degree in Germanic Studies may enroll in a Graduate Concentration in Jewish Studies. The requirements for this concentration are application to the director of the Jewish Studies Program; approval by a Jewish Studies faculty member, who becomes the student's Jewish Studies advisor; a total of 16 hours graduate course work, including JST 478 and JST 494; and eight additional hours of course work approved by the student's Jewish Studies advisor. Up to four of these hours can be in directed study or thesis research on an appropriate topic approved by the Jewish Studies advisor. Language competence in Hebrew or Yiddish is required.

Interdepartmental Concentration in Central and Eastern European Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Central and Eastern European Studies after consulting with their graduate advisor. See Central and Eastern European Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in Germanic Studies may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section of the catalog for more information.

Interdepartmental Concentration in Second Language Teaching

Students earning a graduate degree in the department may complement their courses by enrolling in a concentration in Second Language Teaching. See Second Language Teaching in the *College of Liberal Arts and Sciences* section of the catalog for more information.

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Hispanic Studies

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Admission Requirements

- Master of Arts
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Hispanic and Italian Studies (MC 315)
Office 1722 University Hall
601 South Morgan Street
Chicago, IL 60607-7117

Campus Location: 1729 UH
Program Codes: 20FS1312MA (MA); 20FS1900PHD (PhD)
Telephone: (312) 996-5218
E-mail: mexotic@uic.edu
Web Site: http://www.uic.edu/depts/sfip/
Head of the Department: Margarita Saona
Director of Graduate Studies: Steven Marsh
Graduate Program Administrator: Rocio Garcia

The Department of Hispanic and Italian Studies offers work leading to degrees in Hispanic Studies at both the master's and doctoral levels. Students with a baccalaureate degree may apply directly to the doctoral program. The MA and PhD programs offer two concentrations: Hispanic Literary and Cultural Studies and Hispanic Linguistics. Interdepartmental concentrations in Gender and Women's Studies, Latin American and Latino Studies, Second Language Teaching, and Violence Studies are available to students in both the master's and doctoral programs.

The department also offers a master's in the Teaching of Spanish; more information under the Spanish section of this catalog.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements (please consult the department Web site http://www.uic.edu/depts/sfip/ for details):

Master of Arts

- **Baccalaureate Field** Spanish or related field.
- **Grade Point Average** At least 3.50/4.00 for the final 60 semester hours (90 quarter hours) of study.
- **Tests Required** Applicants are urged to take the GRE.

- **Language Proficiency** Applicants must give evidence of proficiency in spoken and written formal standard Spanish.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Sample of Writing in Spanish** Applicants are required to submit one sample of their written work in Spanish in the form of an essay for an academic course.
- **Letters of Recommendation** Three required from professors; at least one should be from a professor in an upper-level or graduate Spanish course.
- **Personal Statement** A statement of 500 words is required in which applicants should address their reasons for applying to the Hispanic Studies MA-only program in the concentration desired, Hispanic Linguistics *or* Hispanic Literary and Cultural Studies.
- **Nondegree Applicants** Nondegree applicants must apply and pay online, as well as submit transcripts from all institutions where a degree or academic credit was earned during the last eight years.

Doctor of Philosophy

- **BA, MA or Equivalent** Spanish or related field.
- **Grade Point Average** At least 3.50/4.00 for all graduate courses.
- **Tests Required** Applicants are urged to take the GRE.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL). **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Samples of Writing in Spanish** Applicants are required to submit two samples of their written work in Spanish in the form of an essay for an academic course.
- **Letters of Recommendation** External applicants with an MA in Hispanic Studies or related field must provide at least three recommendation letters from faculty in the applicant's MA program.
- **Personal Statement** A statement of 500 words is required in which applicants should address their reasons for applying to the Hispanic Studies PhD program in the concentration desired, Hispanic Linguistics or Hispanic Literary and Cultural Studies.
- **Other Requirements:** Students who enter the PhD program with an MA awarded by a department in a related field may be required upon admission to take complementary course work as appropriate in consultation with the advisor.
- **Nondegree Applicants** None at the PhD level.

***Note**: All application documents for master's and doctoral students, including transcripts, must be forwarded directly to the program office: Rocío García, UIC Department of Hispanic and Italian Studies (MC 315), 601 South Morgan Street, Chicago, Illinois 60607-7117. In addition, please contact the department for information on current program changes and updates.*

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 37.
- **Course Work** *Required Courses for Both Concentrations*: SPAN 502 or equivalent; SPAN 503; and three additional courses at the 500-level.
- *Concentration Courses:*
  - **Hispanic Literary and Cultural Studies**—SPAN 407 or the equivalent; four courses chosen from the following: SPAN 411, 414, 421, 422, 430, 431, 434 or 435; plus three additional courses at the 500-level chosen in consultation with the graduate advisor. SPAN 502, SPAN 503, SPAN 504, SPAN 596, SPAN 590, SPAN 598, and SPAN 599 cannot satisfy any of the above listed requirements. Electives may be taken in other UIC programs and departments as long as they relate to the student's concentration.
  - **Hispanic Linguistics**—SPAN 402, 404, 406, 409, 507, and 556; one additional course at the 500-level; one additional elective at the 400- or 500-level chosen in consultation with the graduate advisor. SPAN 502, SPAN 503, SPAN 504, SPAN 596, SPAN 590, SPAN 598, and SPAN 599 cannot satisfy any of the above listed requirements. Electives may be taken in other UIC programs and departments as long as they relate to the student's concentration.

- **Comprehensive Examination** Required.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options available.
- *Thesis*: Permission of the department's graduate committee is required.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required for Both Concentrations*: In addition to the above stated 37 hours for the master's degree or their equivalent, candidates must complete SPAN 504, plus a minimum additional 32 hours of didactic course work at the 400- and 500-levels.
- *Concentration Courses:*
  - **Hispanic Literary and Cultural Studies**—A minimum of eight graduate courses (32 hours), which must include SPAN 535, two additional 500-level courses, and five electives at the 400- or 500-level chosen in consultation with the graduate advisor, excluding SPAN 502, 503, 504, 596, 590, 598, and 599. Graduate courses directly related to the field of study may be taken outside the department in consultation with the student's academic advisor.
  - **Hispanic Linguistics**—A minimum of eight graduate courses (32 hours), which must include SPAN 403, 405, three additional 500-level courses, and three electives at the 400- or 500-level chosen in consultation with the graduate advisor, excluding SPAN 502, 503, 504, 596, 590, 598, and 599. Electives may be taken in other UIC programs and departments as long as they relate to the student's concentration and are approved by the student's academic advisor.
- **Examinations** *Preliminary Examination*: Required; written and oral.
- **Dissertation** Required. No more than 31 hours of SPAN 599 can be applied to the degree. The dissertation should be based on original research in the candidate's concentration, Hispanic Literary and Cultural Studies or Hispanic Linguistics.
- **Other Requirements** Unless exempted by the director of graduate studies, all students must serve as teaching assistants for at least a year.
- All students will need to demonstrate reading knowledge at a scholarly level of two languages other than Spanish and English. At least one of these needs to be a Romance language. This requirement can only be waived if the candidate holds a BA or equivalent in the language(s) with which he/she wishes to satisfy this requirement

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Second Language Teaching

Students earning a graduate degree in the department may complement their courses by enrolling in a concentration in Second Language Teaching. See Second Language Teaching in the *College of Liberal Arts and Sciences* section of the catalog for more information.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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History

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Admission Requirements

- Master of Arts, Master of Arts in the Teaching of History, and Doctor of Philosophy

Degree Requirements

- Master of Arts
- Master of Arts in the Teaching of History
- Doctor of Philosophy

Mailing Address:
Department of History (MC 198)
Room 913, University Hall
601 South Morgan Street
Chicago, IL 60607-7109

Campus Location: 913 UH
Program Codes: 20FS0342MA (MA); 20FS1757MAT (MAT); 20FS0342PHD (PhD)
Telephone: (312) 996-3141
E-mail: lindavp@uic.edu, histdgs@uic.edu
Web Site: http://history.las.uic.edu
Chairperson of the Department: Laura Hostetler
Director of Graduate Studies: Ina Zweiniger-Bargielowska

The Department of History offers work leading to degrees in History at both the master's and doctoral levels. In addition to the regular master's degree program, the department offers a special program, designed to meet the needs of current and future middle and high school teachers, which leads to the Master of Arts in the Teaching of History (MAT). Students must select one of the following major fields for the MA: Africa, Ancient Mediterranean world, East Asia, medieval Europe, early modern Europe, modern Europe, Great Britain and Ireland, Russia, Latin America, and Colonial America and the United States. The PhD major fields are Africa, ancient Mediterranean world, medieval Europe, early modern Europe, modern Europe, Great Britain and Ireland, Russia, Latin America, Colonial America, and the United States. Each major field is further subdivided into minor fields, of which there are more than 60 for the MA and the PhD. Consult the department's graduate student handbook for more information.

Two departmental concentrations are available to MA (doctoral track) and PhD students: a Concentration in Work, Race, and Gender in the Urban World, and a Concentration in Encounters, Ethnographies, and Empires. The Department of History also participates in three interdepartmental concentrations: the Interdepartmental Concentration in Gender and Women's Studies (see *Gender and Women's Studies* in the *College of Liberal Arts and Sciences* section for more information) , the Interdepartmental Concentration in Latin American and Latino Studies (see *Latin American and Latino Studies* in the *College of Liberal Arts and Sciences* section for more information), and Central and Eastern European Studies (see *Central and Eastern European Studies* in the *College of Liberal Arts and Sciences* section of the catalog).

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts, Master of Arts in the Teaching of History, and Doctor of Philosophy

- **Baccalaureate Field** Applicants must have either an undergraduate major in history or a minimum of 16 semester hours in history.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. A GPA of 3.50/4.00 is recommended.
- **Tests Required** GRE General. A verbal score of 550 (tests taken before August 2011) or 156 (tests taken August 2011 or after) is the minimum recommended.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, from former professors for the MA, MAT, and PhD, preferably from former professors.
- **Personal Statement** Required.
- **Writing Sample** Required.
- **Other Requirements for Master of Arts in the Teaching of History Applicants** The Basic Skills Test must be passed prior to applying for admission to the program.
- **Other Requirements for Applicants to the MA (Doctoral Track) and the PhD in History** If they wish to enroll in a departmental concentration (WRGUW or Encounters), applicants must make a concurrent application to that concentration (WRGUW or Encounters) at the same time as they apply to enter the MA (doctoral track) or PhD program in History. For application instructions, please go to http://www.uic.edu/depts/hist/graduateII.html.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** Two tracks exist, one for students for whom this degree is intended to be final (the MA-only track), and one for whom this degree is intended to lead toward the Doctor of Philosophy in History (the doctoral track). At least 20 semester hours must be at the 500-level, and at least 16 semester hours must be in 500-level courses taught by the Department of History. Courses taken in a field other than history that are to count toward the degree need the approval of the advisor and the director of graduate studies. Credit toward the degree is not given for any course in which the student received a grade of less than B.
- *Required Courses*: 4 hours of the 500-level seminar in the student's major area. Students majoring in United States history must complete 8 hours of HIST 551 designated as the historiographical / bibliographical colloquium. All entering graduate students are required to take HIST 501.
- **Comprehensive Examination** Required for students on MA-only track. Students on the doctoral track do not take master's comprehensive exams.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.
- **Other Requirements** Students must complete a seminar paper. Students must pass a reading examination in one foreign language relevant to the plan of study. Any additional foreign language (or skills in quantitative methods) requirement will be determined by student's advisor. After the student has completed 24 hours of course work, a faculty committee representing the student's major and minor fields will review the record of each doctoral-track MA student in the final semester of her / his MA studies to decide whether it justifies the pursuit of doctoral studies. If the decision is negative, the student will be put on MA-only track, and will be required to take comprehensive examinations and fulfill all other requirements of the MA degree.

Master of Arts in the Teaching of History

- **Minimum Semester Hours Required** 54 (entering without certification); 32 (entering with certification). Students seeking teacher certification must complete a minimum of 54

semester hours, which includes hours taken in the Department of History and the College of Education. Students not seeking certification must complete a minimum of 32 semester hours.

- **Course Work** At least 16 hours must be in 500-level history courses. Credit toward the degree is not given for any course in which the student receives a grade of less than B.
- Students must complete 16 hours in graduate-level readings courses across the three fields of U.S., European, or world history, with at least four hours in each of these, and a focus of eight hours in one of these fields. These hours are to be drawn, where possible, from 500-level colloquia. Students must complete 8 hours in courses that focus on the teaching of history and the social sciences, HIST 420 and 500. HIST 420 has a prerequisite of 9 hours in social sciences.
- Students seeking teacher certification must take 30 hours in required courses toward certification: CI 504; ED 402 or 403; 421 or 445; 432; SPED 410; HIST 475 and 476.
- Students not seeking certification must take a minimum of 8 additional hours in a specific field of history of their choosing in consultation with their advisor.
- **Additional Requirements for Teacher Certification** In addition to specified course work, students seeking teacher certification must fulfill certain other requirements as well as maintain a minimum grade point average of 3.00/4.00 in history course work, and a 3.00/4.00 in required education courses. For detailed information, see the advising documents and other information available on the program's Web site, http://www.uic.edu/depts/hist/TeacherEd/index.html.
- The teaching certificate is not automatically awarded upon successful completion of certification and degree requirements. Before the certificate is issued, the candidate must file an application for the Illinois teaching certificate in the Council on Teacher Education. The candidate must also pass a series of examinations required by the Illinois State Board of Education. The Content Area Test must be passed before the candidate is allowed to be placed for student teaching. The Assessment of Professional Teaching must be passed prior to certification. For information on application procedures, contact the Council on Teacher Education located in 3015 EPASW or http://www.icts.nesinc.com.
- **Comprehensive Examination** Required.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** Candidates must complete at least 64 semester hours of graduate work beyond the master's degree exclusive of HIST 501. Of this amount, 16 are in didactic courses, and 48 are in thesis research. Eight hours of didactic course work are in HIST 591 to be taken after all other requirements for didactic course work have been met. Credit toward the degree is not given for any course in which the student receives a grade of less than B. All entering graduate students are required to take HIST 501. See the History Department Web site, Graduate Study in History at UIC (http://www.uic.edu/depts/hist/graduateIV.html#IVC) for further details. PhD students are not required to repeat any specific course offered by this department that they have successfully completed as MA students. Students entering the PhD program with a master's degree from a department in another discipline may be required to complete additional hours of didactic course work, as appropriate and specified upon admission.
- *PhD Concentration in the History of Work, Race, and Gender in the Urban World (WRGUW)*: The WRGUW Concentration offers students a foundation in labor, immigration, and business history; race and African-American history; and/or gender, women's and gay and lesbian history. Framed around a modern U.S. history core, the program nevertheless encourages a transnational perspective on its core themes. Moreover, of the three required minor fields for students concentrating in WRGUW, two will address non-U.S. or comparative topics. In addition to their department-based course requirements, students concentrating in WRGUW entering with a BA must satisfactorily complete four WRGUW-themed courses (HIST 593, 16 hours), while those entering with an MA must complete three such courses (12 hours). Participation in the WRGUW Concentration involves no increase in the total credit hours needed to graduate. Students work closely with their advisors in designing their program of study. Completion of all requirements for the PhD is necessary to graduate with a Concentration in WRGUW.
- *PhD Concentration in the History of Encounters, Ethnographies, and Empires (Encounters):* The Encounters Concentration draws upon the expertise of faculty with regional specializations in Africa, Asia, Latin America, Europe, and the United States. The concentration offers students specializing in any one of these areas the opportunity for comparative study and research on topics related to encounters between different peoples, cultures, and continents. Framed around a core in World and European history, with attention to both the early modern and modern eras, Encounters is designed to help students in the concentration become conversant with issues that cut cross across

regional specializations. In addition to their department-based course requirements, Encounters students entering with a BA must satisfactorily complete four Encounters courses (HIST 594, 16 hours), while those entering with an MA must complete three such courses (12 hours). For students concentrating in Encounters, of the minor fields required of PhD students, one will be World History, and students concentrating in Encounters must take a graduate course in World History. Participation in the Encounters Concentration involves no increase in the total credit hours needed to graduate. Students work closely with their advisors in designing their program of study. Completion of all requirements for the PhD is necessary to graduate with a Concentration in Encounters.

- **Examinations** *Comprehensive Examination*: None.
- *Preliminary Examination*: Required; written.
- **Dissertation Prospectus** Required; written and oral.
- **Dissertation** Required.
- **Other Requirements** Students must pass a reading examination in one foreign language relevant to the plan of study. Any additional foreign language (or skills in quantitative methods) requirement will be determined by student's advisor.

Interdepartmental Concentration in Central and Eastern European Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Central and Eastern European Studies after consulting with their graduate advisor. See Central and Eastern European Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.

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Latin American and Latino Studies

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Admission Requirements

- Master of Arts

Degree Requirements

- Master of Arts

Mailing Address:
Latin American and Latino Studies (MC 219)
601 South Morgan Street
Chicago, IL 60607-7115

Campus Location: 1525 University Hall
Program Code: 20FS1405MA
Telephone: (312) 996-2445
E-mail: almadrid@uic.edu
Web site: http://www.uic.edu/las/latamst/programs/masters.shtml
Head of the Program: Maria de los Angeles Torres
Director of Graduate Studies: Alejandro L. Madrid

The Department of Latin American and Latino Studies offers work leading to the Master of Arts in Latin American and Latino Studies. The mission of the Master of Arts in Latin American and Latino Studies is to offer an interdisciplinary perspective to the study of both contemporary Latin American societies and of historical minorities and immigrants of Latin American descent living in the United States. This program emphasizes the histories and experiences of Latin American people as they enter into a transnational dialogue that defines both American and Latin American identities, cultures, economies, and politics in the 21st century. The program encourages an interdisciplinary approach that ranges across the social sciences, humanities, cultural studies, and history.

Admission Requirements

Applicants are considered on an individual basis. The program will accept and review applications for the fall semester only. Transcripts for all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following requirements:

Master of Arts

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,

- **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Tests Required** GRE.
- **Letters of recommendation** Three letters required, preferably from faculty members in social sciences and humanities.
- **Personal statement** Required. The statement must address the applicant professional and academic goals and the candidate's reasons for applying to a Latin American and Latino graduate program. The statement should have a maximum extension of three double-spaced pages.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 34.
- **Course Work** *Required Courses:* LALS 403, 497, 498, 501, 502, 504 (2 hours), 597.
- *Electives:* 8 more hours at the 400- or 500-level selected upon consultation with an advisor.
- **Comprehensive Examination** None.
- **Other Requirements** Students must write an MA paper that is approved by the research director and two faculty readers in order to graduate. Students will have a choice of either writing a policy related research paper or a paper focused on a research question in Latino and Latin American Studies.

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Latin American and Latino Studies (Interdepartmental Concentration)

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Concentration Requirements

Mailing Address:
Latin American and Latino Studies Program (MC 219)
601 South Morgan Street
Chicago, IL 60607

Campus Location: 1527 UH
Telephone: (312) 996-2445
Web Site: http://www.uic.edu/las/latamst/
Director of the Latin American and Latino Studies Program: Maria de los Angeles Torres
Director of Graduate Studies: Alejandro Madrid

The Latin American and Latino Studies Program offers work leading to the graduate Interdepartmental Concentration in Latin American and Latino Studies. Students in the following graduate programs may be eligible to complete the Interdepartmental Concentration in Latin American and Latino Studies:

Graduate Program	Level
Anthropology	MA, PhD
Communication	MA, PhD
English	MA, PhD
Hispanic Studies	MA, PhD
History	MA, PhD
Political Science	MA, PhD
Sociology	MA, PhD

Concentration Requirements

Students must take at least 16 hours of course work approved by their advisors for the concentration, of which 4 hours must be LALS 501. The remaining 12 hours may come for courses offered by the Latin American and Latino Studies Program or cross-listed courses, departmental offerings with Latin American or Latino content, or independent study courses chosen in consultation with the advisor. Up to 8 hours may be taken in the home discipline, although students are encouraged to take advantage of the multidisciplinary nature of the concentration.

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Linguistics

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Admission Requirements

- Master of Arts

Degree Requirements

- Master of Arts

Mailing Address:
School of Literatures, Cultural Studies and Linguistics
University of Illinois at Chicago
Office 1722 University Hall (MC 315)
601 South Morgan Street
Chicago, IL 60607-7120

Campus Location: 1729 UH
Program Code: 20FS0301MA
Telephone: (312) 996-5218
Web Site: http://linguistics.las.uic.edu
Head of the Department: Richard Cameron
Director of Graduate Studies: Richard Cameron
Graduate Program Administrator: Rocio Garcia
E-mail: mexotic@uic.edu

The Department of Linguistics offers course work leading to the Master of Arts in Linguistics with a concentration in Teaching English to Speakers of Other Languages (TESOL)/Applied Linguistics. The Interdepartmental Concentration in Gender and Women's Studies is available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirement, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions. Prior academic work should include the equivalent of at least two years of a foreign language and a broad background in the humanities and social sciences. Training in mathematics or philosophy is also desirable. Applicants may offer backgrounds in education rather than in the liberal arts.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Minimum English Competency Score**
  - **TOEFL** 600 (paper-based); 95, with minimum subscores of Reading 24, Listening 24, Speaking 24, and Writing 22 (iBT Internet-based TOEFL).
  - **IELTS** 7.0, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three required. Letters must be sent directly to the department by professors who are familiar with the applicant's recent work. Those with teaching experience may submit letters from their supervisors.

- **Personal Statement** Required; 250 words; the statement should address the applicant's reasons for wishing to do graduate work in linguistics and the relationship of this work to the applicant's professional and other goals. Applicants who are not native speakers of English must submit a four- to five-page summary of their educational experience, emphasizing work in English and other literatures and languages and concluding with a statement of reasons for wanting to do graduate work in the United States; this replaces the 250-word statement required of other applicants.
- **Nondegree Applicants** Nondegree applicants must submit a transcript from their baccalaureate institution.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** Varies by option. TESOL/Applied Linguistics with thesis, 44 and TESOL/Applied Linguistics with internship, 49.
- **Course Work** At least 12 hours must be at the 500-level.
- *Required Courses*: LING 405, 483, 531, 583.
- *Selective Courses A:* Two courses from the following: LING 480, 540, 556, LCSL/ENGL 567.
- *Selective Courses B:* Two courses from the following: LING 487, 559, 586, ENGL 555.
- *Electives:* One additional course from selective list A or B, or related course, to be approved by an advisor.
- **Comprehensive Examination** Required; written. Students cannot take the examination more than twice.
- **Thesis, Project, or Course-Work-Only Options** Students must complete either a thesis or an internship. They must earn 8 hours of LING 598 for thesis research or 13 hours of LING 594 for an internship.
- **Other Requirements** All students must demonstrate proficiency in one foreign language either by examination or by completion (with a grade of B or higher) of appropriate course work beyond the second-year university level.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

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Mathematics

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Admission Requirements

- Master of Arts and Master of Science
- Master of Science in Mathematics and Information Sciences for Industry
- Master of Science in the Teaching of Mathematics
- Doctor of Arts and Doctor of Philosophy

Degree Requirements

- Master of Arts and Master of Science
- Master of Science in Mathematics and Information Sciences for Industry
- Master of Science in the Teaching of Mathematics
- Doctor of Arts
- Doctor of Philosophy

Mailing Address:
Department of Mathematics, Statistics, and Computer Science (MC 249)
851 South Morgan Street
Chicago, IL 60607-7045

Campus Location: 339 SEO
Program Codes: 20FS1901DA (DA); 20FS0439MA (MA); 20FS0439MS (MS); 20FS0290MST (MST); 20FS0439PHD (PhD)
Telephone: (312) 996-3041
E-mail: dgs@math.uic.edu
Web Site: http://www.math.uic.edu/
Head of the Department: Laurence Ein
Director of Graduate Studies: Ramin Takloo-Bighash

The Department of Mathematics, Statistics, and Computer Science offers work leading to degrees in Mathematics at both the master's and doctoral levels. Study and research is available in the general areas of pure mathematics, applied mathematics, probability and statistics, mathematical computer science, the teaching of mathematics, and an integrated interdisciplinary curriculum combining mathematics, computer science, project management, and communication skills. Additional information, guidelines, and requirements are published annually in the department's Graduate Handbook. All teaching assistants are required to take MATH 589—Teaching and Presentation of Mathematics before or concurrently with their initial teaching assignments.

Admission Requirements

Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Master of Science

- **Baccalaureate Field** Mathematics or a related field. Applicants must have 20 semester hours of undergraduate work in mathematics beyond calculus. Additional requirements vary by area; contact the department for more information on the specific admission requirements of each area.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, and an average of 3.00 in all mathematics courses beyond calculus.
- **Tests Required** GRE General and GRE Subject Test (in Mathematics or in Computer Science, depending on the area of interest).
- **Minimum English Competency Test Score**
  - **TOEFL** 600 (paper-based); 100, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL).
  - **IELTS** 7.0, with subscores of 7.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the applicant's academic work.
- **Personal Statement** Required.

Master of Science in Mathematics and Information Sciences for Industry

NOTE: As of Fall 2012, no new students are being admitted to the Master of Science in Mathematics and Information Sciences for Industry degree program.

- **Baccalaureate Field** Mathematics or related field. Applicants must have 20 semester hours of undergraduate work in mathematics beyond calculus. Contact the department for more information about specific admission requirements.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, and an average of 3.00 in all mathematics courses beyond calculus.
- **Tests Required** GRE General and GRE Subject Test in Mathematics or Computer Science.
- **Minimum English Competency Test Score**
  - **TOEFL** 600 (paper-based); 100, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL).
  - **IELTS** 7.0, with subscores of 7.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the applicant's academic work.
- **Personal Statement** Required.

Master of Science in the Teaching of Mathematics

- **Baccalaureate Field** Mathematics or a related field. Applicants for the Secondary Option must have 3 semesters of engineering calculus plus 2 courses from the following: Linear Algebra (MATH 320), Abstract Algebra (MATH 330 or MTHT 435), Advanced Calculus/Analysis (MATH 313 or MTHT 430), or a course on learning proofs (MATH 215).
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, and an average of 3.00 in all mathematics courses beyond calculus.
- **Minimum English Competency Test Score**
  - **TOEFL** 600 (paper-based); 100, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL).
  - **IELTS** 7.0, with subscores of 7.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the applicant's academic work.
- **Personal Statement** Required.
- **Other Requirements** Applicants for the Elementary School Option must hold a valid K–8 Illinois Teaching Certificate or the equivalent.

Doctor of Arts and Doctor of Philosophy

- **Prior Degrees** MS students in the department who intend to continue on to the doctorate must satisfy the department's master's degree requirements and be recommended by the department for further work. Applicants to the DA Program who have an MST degree should complete the equivalent of the department's MS program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study, and an average of 3.00 in all mathematics courses beyond calculus.
- **Tests Required** GRE General and GRE Subject Test in Mathematics.
- **Minimum English Competency Test Score**

    - **TOEFL** 600 (paper-based); 100, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based TOEFL).
    - **IELTS** 7.0, with subscores of 7.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the applicant's academic work.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts and Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 24 hours must be in mathematics courses, of which 12 hours must be at the 500-level. The student must complete a course of study in one of the following concentrations or, in exceptional cases approved by the Graduate Studies Committee, a general program of study without concentration can be followed.
- *Concentration in Pure Mathematics*: Students must take the following courses: MATH 417, 516, 533, and 4 hours from MATH 446, 517, 534, 535, 536. Other courses may be substituted with the permission of the director of graduate studies. The remaining courses are selected in consultation with an advisor. Students must pass a written comprehensive examination in pure mathematics or write a thesis and pass an oral defense.
- *Concentration in Applied Mathematics*: Students must take the following courses: MATH 417, 480, 481. The remaining courses are selected in consultation with an advisor. Students must pass a written comprehensive examination in applied mathematics or write a thesis and pass an oral defense.
- *Concentration in Mathematical Computer Science*: Students must take the following courses: MCS 401, 421, 471. Students must select at least three courses, two 500-level MCS courses plus one course selected from the MCS graduate-level course list or STAT 471. Other courses may be substituted with the permission of the director of graduate studies. The remaining courses are selected in consultation with an advisor. Students must pass a written comprehensive examination in mathematical computer science or write a thesis and pass an oral defense.
- *Concentration in Probability and Statistics*: Students must take the following courses: STAT 401, 411, and one course selected from STAT 431, 461, 471, 477, 481. Other courses may be substituted with the permission of the director of graduate studies. The remaining courses are selected in consultation with an advisor. Students must pass a written comprehensive examination in probability and statistics or write a thesis and pass an oral defense.
- **Comprehensive Examination** Optional. Students who do not pass a written comprehensive examination must complete a thesis.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only (with written comprehensive examination). No other options are available.

Master of Science in Mathematics and Information Sciences for Industry

NOTE: As of Fall 2012, no new students are being admitted to the Master of Science in Mathematics and Information Sciences for Industry degree program.

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Courses:* MCS 401, 471, 504, 507, MATH 589.
- *Electives*: 12 semester hours chosen from the department's 500-level courses, excluding MTHT courses.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options are available.

Master of Science in the Teaching of Mathematics

- **Minimum Semester Hours Required** Two options (Secondary and Elementary) are available to MST students. Secondary Option—32 hours; Elementary Option—36 hours.
- **Course Work** *Required Courses*: Varies by option. At least 12 hours of course work must be at the 500-level, excluding independent study.
    - Secondary Option—MTHT 411, 510, and 530; MTHT 435 or MATH 435; and 12 hours of electives in Mathematics Teaching (MTHT).

    - Elementary Option—MTHT 465, 550, 565, and 589; EPSY 446; and CI 484. Elementary option students must also take three additional mathematics courses. At least one course must be taken from one of the following areas: calculus, probability and statistics, computer science, or history of mathematics.
- *Electives*: Electives in each option must be approved by the department; contact the Office of Mathematics Education for specific courses. Up to 8 hours in ancillary courses from education or psychology may be applied to the MST with approval of the Office of Mathematics Education.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.
- **Note: The Secondary Option includes both certified secondary teachers and students who are seeking certification.**
- *Additional Requirements for Secondary Teacher Certification:* Students who wish to seek teacher certification must take additional courses in the College of Education and complete student teaching to be eligible for state certification. Such students are also more restricted in their choices of courses. Courses should be selected in consultation with an advisor. Contact the department for the current requirements. At the time of this writing, in addition to the MST requirements, students seeking certification must complete MTHT 400—Methods of Teaching Secondary Mathematics I (4), MTHT 401—Methods of Teaching Secondary Mathematics II (4), MTHT 438/439—Student Teaching (12). They must also complete the following education courses:
    - ED 402—Philosophy of Education (3) **OR** ED 403—Policy Issues in the History of American Education (3)
    - ED 445—Adolescence and the Schools (3) **OR** ED 421—Advanced Educational Psychology (3)
    - CI 504—Secondary Literacy (4)
    - SPED 410—Survey of Characteristics of Learners with Disabilities (3)
    - ED 432—Instruction and Evaluation in Secondary Education (5)

The teaching certificate is not automatically awarded upon successful completion of degree and certification requirements. For more information on application procedures for the teaching certificate contact the Council on Teacher Education in the College of Education.

Doctor of Arts

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** At least 40 hours must be in mathematics, including 24 semester hours of regular 500-level courses. Mathematics courses must be chosen so that the areas of computer science, differential equations, geometry, logic, and probability and statistics are all represented.
- *Required Courses*: MATH 417, 445, 446, 516, 517, 533, and 534; 12 hours in education and math education, including MATH 591 and 592; and 8 hours of graduate-level courses in an area of mathematics or a related science, such as physics, philosophy, history of science, or another science approved by the department.
- *Electives*: Restricted to math and/or science. Courses in economics and statistical methods in psychology and education may, under certain conditions, be selected as electives.
- **Examinations** Students should pass the department's master's examination within one year of completion of 24 semester hours. Students who already have a master's degree upon entering the program must pass the examination within one year of entrance.
- *Preliminary Examination*: Required.
- **Dissertation** Required. Students must earn at least 20 hours in MATH 599.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** At least 40 hours must be in 500-level mathematics courses, excluding thesis research (MATH 599, MCS 599, or STAT 599).
- **Preliminary Examination** Required.
- **Dissertation** Required. Students earn at least 32 hours in thesis research (MATH 599, MCS 599, or STAT 599).
- **Other Requirements** The language requirement for each student is decided by the Graduate Studies Committee. The determination is based on the student's area of interest. In no case will examination in more than one language be required. In those areas in which the primary sources are in English, a foreign language may not be required.

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Philosophy

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Admission Requirements

- Master of Arts and Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Philosophy (MC 267)
601 South Morgan Street
Chicago, IL 60607-7114

Campus Location: 1421 UH
Program Codes: 20FS0332MA (MA); 20FS0332PHD (PhD)
Telephone: (312) 996-3023
E-mail: val@uic.edu
Web Site: http://www.uic.edu/depts/phil/
Chairperson of the Department: Anthony Laden
Director of Graduate Studies: David Hilbert

The Department of Philosophy offers work leading to degrees in Philosophy at both the master's and doctoral levels and participates in the Interdepartmental Concentration in Gender and Women's Studies and the Interdepartmental Concentration in Neuroscience.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work should include courses in modern formal logic, ethics, history of philosophy, epistemology, metaphysics, and philosophy of science or philosophy of language.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from professors who are familiar with the student's recent work.
- **Personal Statement** Required; 250 words. The statement should address the applicant's past work in philosophy and plans for graduate study.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 36.
- **Course Work** At least 24 hours must be in courses at the 500-level. At least 24 hours must be in courses in the Department of Philosophy, of which at least 20 must at the 500-level (excluding PHIL 590–599). Students must receive a B or better in one course in the history of philosophy; one course in metaphysics, epistemology, logic, philosophy of science, or philosophy of language; and one course in ethics, political philosophy, or aesthetics.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 for students entering with a baccalaureate, and 64 for students entering with a master's.
- **Course Work** Students must achieve a grade of B or better in each of 14 regularly scheduled graduate courses by the middle of their third year. At least 10 of these must be at the 500-level or be 400-level logic courses; and at least 10 must be in the UIC Department of Philosophy. PHIL 593, 596, and 599 may not be counted toward the fourteen, and PHIL 590 may not be counted more than once toward the fourteen.
- *Required Courses*: A grade of B or better in each of the following courses: PHIL 500; three 500-level courses in the history of philosophy (at least 1 in ancient or medieval and 1 in modern); five 500-level courses (except for logic courses, one of which may be at the 400-level) in (a) metaphysics or epistemology, (b) logic, philosophy of science, or philosophy of language, or (c) ethics or value theory, with at least 1 of the 5 courses in each of the areas (a), (b), and (c); PHIL 500, 590, 593, and 596 may not be used to satisfy these requirements. Third-year students may register for PHIL 593—Independent Research to prepare for the departmental qualifying exam.
- *Logic Requirement*: A grade of B or better in PHIL 210 or a higher-level UIC logic course.
- **Examinations** *Departmental Qualifying Examination*: Required. The examination consists of a research paper and a written or oral exam within the student's general area.
- *Preliminary Examination*: Required. Performance in courses, departmental qualifying examination, and teaching will be considered in determining whether the student passes the preliminary examination.
- **Dissertation** Required.
- **Other Requirements** The language requirement for each student is decided by a department committee of graduate faculty. The determination is based on a consideration of the student's area of interest. In no case is proficiency in more than two languages required. In those areas in which the primary sources are in English, a foreign language may not be required.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Physics

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Physics (MC 273)
845 West Taylor Street
Chicago, IL 60607-7059

Campus Location: 2236 SES
Program Codes: 20FS0240MS (MS); 20FS0240PHD (PhD)
Telephone: (312) 996-3400
E-mail: physics@uic.edu
Web Site: http://physicsweb.phy.uic.edu
Head of the Department: Henrik Aratyn
Director of Graduate Studies: Christoph Grein

The Department of Physics offers work leading to degrees in Physics at both the master's and doctoral levels. Experimental and theoretical work leading to a graduate degree is available in the following general areas: atomic, molecular, and laser physics; biophysics; condensed matter and materials physics; high-energy particle physics; and high-energy nuclear physics.

Admission Requirements

Applicants are considered on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work must include at least 20 semester hours of physics, including PHYS 401, 421, and 441; or the equivalents.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General exam is required; GRE Physics subject exam is highly recommended, but not required.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.
- **Nondegree Applicants** Nondegree applicants must submit transcripts and a personal statement.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 20 hours must be at the 500-level, of which no more than 4 hours may be in PHYS 596. No more than 8 hours may be in PHYS 598 if in thesis option.
- *Required Courses*: PHYS 501, 502, 511, and 512.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available.
- *Thesis*: No more than 8 hours of PHYS 598 can be applied to the degree.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** At least 36 hours must be in 500-level courses, other than PHYS 596 and 599.
- *Required Courses*: PHYS 501, 502, 511, 512, and 561; five semesters of PHYS 595—Graduate Seminar; and at least one complete sequence chosen from among the following: PHYS 513 and 514 or PHYS 521 and 522 or PHYS 531 and 532 or PHYS 551 and 552.
- **Examinations** *Departmental Qualifying Examination*: Required.
- *Preliminary Examination*: Required.
- **Dissertation** Required.
- **Other Requirements** Each student must serve as a teaching assistant for at least two semesters.

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Political Science

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Admission Requirements

- Master of Arts and Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Political Science (MC 276)
1007 West Harrison Street
Chicago, IL 60607-7137

Campus Location: 1119 BSB
Program Codes: 20FS0343MA (MA); 20FS0343PHD (PhD)
Telephone: (312) 996-8660
E-mail: jnell@uic.edu
Web Site: http://www.uic.edu/depts/pols/
Head of the Department: Dick Simpson
Director of Graduate Studies: Sultan Tepe

The Department of Political Science offers work leading to the Master of Arts in Political Science and the Doctor of Philosophy in Political Science. Interdepartmental concentrations in Gender and Women's Studies, Latin American and Latino Studies, Survey Research Methodology, and Violence Studies are available to students in these programs.

Admission Requirements

Applicants are considered on a competitive basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Doctor of Philosophy

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from faculty members in political science or cognate disciplines who are familiar with the applicant's training and ability.
- **Personal Statement** Required. The statement should address the applicant's academic goals.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the program for more information on current deadlines.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Courses*: POLS 401, 500, 505, 506, 593a; and one of the following: POLS 504, 551, 560, 570, or 571. Required course work totals 20 semester hours. Required courses will not be waived. A grade of B or better is required in all required courses.
- *Electives*: At least 12 additional hours at the 500-level. No more than two courses (8 semester hours) may be taken outside the department.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

[a] *In POLS 593 students complete a major research paper under the supervision of two faculty members.*

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Courses*: POLS 401, 500, 501, 504, 505, 506. A grade of B or better is required in all required courses.
- **Examinations** *Preliminary Examination*: Required. After successful completion of the required course work, students, in conjunction with an advisor, will choose to be examined over two of five traditional subfields (Urban Politics, American Politics, Political Theory, Comparative Politics, and International Relations) and a field based on dissertation work. The preliminary exam will consist of a written examination in each of the chosen areas.
- **Dissertation** Required. It is expected that students will submit a full statement of dissertation plans to the dissertation committee no later than three months following passage of the preliminary exam. The dissertation prospectus will contain an analysis of the relevant literature, the theoretical issues to be addressed, the data to be used, the methods of analysis, and a statement of the anticipated significance of the research project. Students will not be authorized to proceed with dissertation research until their prospectus has been approved.
- **Other Requirements** In addition to the required courses, the student may also be requested to satisfy an advanced methodology requirement appropriate to the student's plan of study and approved by the director of graduate studies. Students whose plan of study will require reading or oral proficiency in a foreign language must pass an examination arranged by the department; course work required to prepare for this examination does not count toward the hours required for the degree.
- **Faculty Review** At the end of every spring semester the director of graduate studies conducts a review of the student's progress in the program to date, based on a variety of student performance indicators which may include progress and earned grades, seminar papers, and research interests. Before taking the preliminary examination, all students must complete an extensive research project. The paper will be evaluated by the project supervisor and one other member of the faculty who has been appointed by the director of graduate studies.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Survey Research Methodology

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Survey Research Methodology. See Interdepartmental Graduate Concentration in Survey Research Methodology in the *Graduate College* section for more information.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Psychology

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Admission Requirements

- Master of Arts and Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Psychology (MC 285)
1007 West Harrison Street
Chicago, IL 60607-7137

Campus Location: 1066 BSB
Program Codes: 20FS0338MA (MA); 20FS0338PHD (PhD)
Telephone: (312) 996-2434
E-mail: pschinfo@uic.edu
Web Site: http://www.psch.uic.edu/
Head of the Department: Joe Martinez
Director of Graduate Studies: Larry Grimm

The Department of Psychology offers work leading to the Doctor of Philosophy degree in Psychology, with the Master of Arts degree earned as part of this program. The department's goal is to produce scholars and researchers who will contribute to the growth of psychological knowledge whether they work in academic or applied settings. Students must major in one of five divisions (Behavioral Neuroscience, Clinical, Cognitive, Community and Prevention Research, and Social and Personality). All students must satisfy the requirements of their major division as well as an approved minor area. In addition to the major divisions, there are training opportunities in quantitative psychology, psychology and law, health psychology, preventive intervention and urban children's mental health, cognitive science, and childhood disorders. Interdepartmental concentrations in Neuroscience, Gender and Women's Studies, and Violence Studies are available to graduate students in the department. The framework of a student's program is determined by the major/minor combination that is selected. Within that framework, students in consultation with their advisors construct programs individually tailored to their research interests and career goals. The department also offers course work in instructional psychology and practicum opportunities to develop college-level teaching skills.

Admission Requirements

The department accepts only applicants who wish to be candidates for the PhD. Applicants are not admitted as candidates for the MA as a terminal degree. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work must include the equivalent of 18 semester hours in psychology, including statistics and a laboratory course in experimental psychology; one year of college mathematics; and one year of laboratory courses in physical and/or biological sciences.
- **Grade Point Average** At least 3.20/4.00 for the last 60 semester (90 quarter) hours of undergraduate work.
- **Tests Required** GRE General. GRE Subject Test in Psychology is recommended, but not required.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from faculty members, preferably psychologists, who are familiar with the applicant's training and ability. Information concerning an applicant's research experience and ability is especially pertinent.
- **Personal Statement** Required.
- **Other Requirements** Applicants must complete all forms contained in the department's online application.
- **Nondegree Applicants** Rarely accepted. Nondegree applicants must submit all credentials and meet the same admission requirements as degree applicants. The department only accepts nondegree applicants who have exceptional credentials and who desire to take a few specific courses for professional purposes. Nondegree students may not take practicum or individual study courses. Nondegree students will not be admitted to the degree program at a later time.
- **Deadlines** Students may start the program only in the fall semester. Complete applications must be received by December 15.

Degree Requirements

Master of Arts

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 9 semester hours must be in one of the five divisions. The exact program will be established by the division.
- *Required Courses*: PSCH 543, 545, and 5 hours of PSCH 591.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** The specific distribution of courses will depend on the student's area of interest; students must complete the major in one of the five divisions as well as a minor requirement.
- *Required Courses*: PSCH 505, 543, and 545.
- **Preliminary Examination** Required; the examination depends on the major and minor.
- **Dissertation** Required.

Interdepartmental Concentration in Gender and Women's Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Neuroscience
Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

Interdepartmental Graduate Concentration in Violence Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Second Language Teaching (Interdepartmental Concentration)

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Concentration Requirements

Mailing Address:
Department of Linguistics (MC 315)
601 South Morgan Street
Chicago, IL 60607-7120
Campus Location: 1722 UH
Telephone: (312) 996-5218
Richard Cameron, Department Head, rcameron@uic.edu
Web Site: http://linguistics.las.uic.edu/contact

The Interdepartmental Concentration in Second Language Teaching is intended for those graduate students whose primary research and teaching interests lie in literary, cultural, and linguistic studies in English, Spanish, French, German, and other languages. The concentration provides them with advanced education in the processes of language learning and approaches to language teaching, including the teaching of composition.

The concentration is an option in addition to the candidate's regular course of study and is not intended as a replacement for requirements in individual degree programs. It consists of four courses that are chosen from particular areas of study useful to the development of the candidate's knowledge and skill in language teaching. These areas are as follows: Introduction to Language Teaching, Foundations in Second Language Acquisition, and Specific or Special Topics in Language Teaching.

Students in the following graduate programs may be eligible to participate in the Interdepartmental Concentration in Second Language Teaching:

Graduate Program[a]	Level
English	MA, PhD
French	MA
Germanic Studies	MA, PhD
Hispanic Studies	MA, PhD

[a] *This concentration is not intended for those specializing in either second language acquisition or second language*

teaching at the master's level or doctoral level (e.g. MATESL students, students in Applied Linguistics; PhD students in Hispanic Linguistics with a concentration in Second Language Acquisition).

Concentration Requirements

Candidates interested in the Interdepartmental Concentration in Second Language Teaching must take a total of four courses to be distributed in the following way:

- One course from Category A: Introduction to Language Teaching
  - LCSL 502—Theoretical and Research Foundations of Communicative Language Teaching
  - LING/CI 483—Methodology of Second Language Teaching
- One course from Category B: Foundations in Second Language Acquisition
  - LING/SPAN 556—Second Language Learning
  - SPAN 557—Theories in Second Language Acquisition
- One course from Category C: Special or Specific Topics in Language Learning and Teaching
  - LING/LCSL 583—Materials and Curriculum Development in Second Language Teaching
  - LING 559—Seminar in Linguistics
  - LING 586—Classroom Testing for TESOL
  - GER 531—Seminar in Special Topics[a]
  - GER 572—The Role of Reading in Second Language Acquisition
  - SPAN 507—Seminar in Second Language Acquisition and Bilingualism[a]
- One additional course from either Category B or C
- At least three courses must be taken in residence at UIC. The concentration is awarded upon completion of an approved graduate program.

[a] *Students may select these courses when the course content is focused on one of the categories for the concentration.*

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Slavic Studies

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Admission Requirements

- Master of Arts
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Slavic and Baltic Languages and Literatures (MC 315)
Office 1722 University Hall
601 South Morgan Street
Chicago, IL 60607-7117

Campus Location: UH 1729
Program Code: 20FS1684MA; TBA PhD
Telephone: (312) 996-5218
E-mail: mexotic@uic.edu
Web Site: http://www.uic.edu/depts/slav/
Head of the Department: Michal Markowski
Director of Graduate Studies: Michal Markowski
Graduate Program Administrator: Rocio Garcia

The Department of Slavic and Baltic Languages and Literatures offers work leading to the MA and PhD in Slavic Studies with concentrations in Polish Literature and Culture and Russian Literature and Culture. The Interdepartmental Concentration in Gender and Women's Studies, the Interdepartmental Graduate Concentration in Central and Eastern European Studies, and the Interdepartmental Graduate Concentration in Violence Studies are available to students in both programs.

Admission Requirements

Note: The department is currently accepting applications for the Fall 2012 term.

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions. Applicants without a substantial background in Slavic or Baltic languages and literatures will be considered for admission on limited status only and will be required to acquire an adequate level of language proficiency as outlined below before being granted full standing in the graduate program. Ordinarily an adequate background should include at least 9 semester (12 quarter) hours of upper-division undergraduate work broadly pertinent to the applicant's intended graduate concentration and the level of fluency in the relevant Slavic or Baltic language equivalent

to that attained in advanced conversation and composition courses offered by the department.
- **Grade Point Average** At least 3.50/4.00 in courses related to the area of concentration.
- **Tests Required** Applicants are urged to take the GRE. GRE General. **Note:** GRE General scores are mandatory for university fellowship applicants.
- **Minimum English Competency Test Score**
  - TOEFL 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
  - IELTS 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required; 300 words, in English. The statement should summarize the applicant's scholastic experience and career objectives.
- **Samples of Writing** Applicants are required to submit two samples of their written work, one in the language of their chosen concentration and one in English. Both samples should be in the form of an essay for an academic course.

Doctor of Philosophy

- **Prior Degrees** BA, MA, or equivalent degree in Polish, Russian, or a related field.
- **Grade Point Average** At least 3.50/4.00 in courses in the area for which the candidate is applying, Polish or Russian.
- **Tests Required** GRE General. Applicants are urged to take the GRE. **Note:** GRE General scores are mandatory for university fellowship candidates.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required; 500 words minimum, in English. The statement should summarize the applicant's long-term research and professional goals.
- **Samples of Writing** Applicants are required to submit two samples of their written work, one in the language of their chosen concentration, Polish or Russian, and one in English and both in the form of an essay for an academic course, ten page minimum each.

Degree Requirements

Master of Arts

- **Minimum Semester Hours Required** 37.
- **Course Work** *Required Courses for the Concentrations in Polish Literature and Culture* and *Russian Literature and Culture*: All students are required to take LCSL 502 and LCSL 503 in their first semester of study. In addition, students must complete a minimum of 32 credit hours of didactic course work at the 400- and 500-levels in Polish and/or Russian, depending on the student's concentration. Of the 32 credit hours, a minimum of three 500-level courses must be in the student's chosen field of study and exclude LCSL 502 and LCSL 503. The director of graduate studies must approve courses taken outside the department that are to be used to meet these 32 credit hours, with the exception of History courses cross-listed with Polish or Russian. LCSL 504, although not required, is highly recommended. Comprehensive Examination Required; written and oral.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.
- **Other Requirements** Course work required for certification in high school teaching is in addition to the above departmental MA requirements.

Doctor of Philosophy

- **Minimum Semester Hours Required**: 96 from the baccalaureate; 64 from the master's degree.
- **Course Work** A minimum of 32 hours of didactic course work (i.e., excluding independent studies, language acquisition courses, LCSL 502, LSCL 503, and LCSL 504, and any other extracurricular course not approved by the DGS) at the 400- and 500-levels. Of the 32 hours, a minimum of 12 must be at the 500-level. Eight of the 32 hours may be taken in other UIC programs and departments, provided the courses are related to the student's concentration and are approved by the student's academic advisor and the director of graduate studies.
- *Required Courses:* Students who have completed their MA at UIC: LCSL 504 and SLAV 599. Students who have completed their MA at another institution: LCSL 502, LCSL 503, LCSL 504, and SLAV 599. No more than 26 hours of SLAV 599 may be applied toward the degree.

- *Concentration Courses:*
- Polish Literature and Culture—POL 570 and one 400- or 500-level course in Polish History are required.
- Russian Literature and Culture—RUSS 540 and one 400- or 500-level course in Russian history.
- **Examinations** *Preliminary Examination*: Required; written and oral.
- **Dissertation** Required. The completed dissertation will be defended in an oral examination. No more than 26 hours of SLAV 599 can be applied to the degree. The dissertation should be based on original research in the candidate's concentration, Polish Literature and Culture or Russian Literature and Culture.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate adviser. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Central and Eastern European Studies

Students earning a graduate degree in this department may complement their courses by enrolling in the Interdepartmental Graduate Concentration in Central and Eastern European Studies after consulting with their graduate advisor. See Concentration in Central and Eastern European Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Violence Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See *Violence Studies* in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

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Sociology

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Admission Requirements

- Master of Arts
- Doctor of Philosophy

Degree Requirements

- Master of Arts
- Doctor of Philosophy

Mailing Address:
Department of Sociology (MC 312)
1007 West Harrison Street
Chicago, IL 60607-7140

Campus Location: 4112 BSB
Program Codes: 20FS0344MA (MA); 20FS0344PHD (PhD)
Telephone: (312) 996-3005
E-mail: gradsoc@uic.edu
Web Site: http://sociology.las.uic.edu/
Head of the Department: Barbara J. Risman
Director of Graduate Studies: Sharon M. Collins

Students in the Department of Sociology at UIC are prepared to successfully enter academia or research positions in the public sector. The department accepts only applicants to the program who intend to earn the PhD. Students who do not already have an MA in Sociology will earn one as they complete requirements for the doctorate. Applicants who have an MA degree from another institution will receive degree credit of up to 32 semester hours toward the doctoral degree if approved by the director of graduate studies and the Graduate College at the time of admission. All students must satisfy the course requirements of the MA program. Course work and research leading to a doctoral degree are concentrated in the area of inequality focusing on the sociology of race, ethnicity, and gender or the sociology of work, organizations, and the economy. Other specialty areas are currently in development. Interdepartmental concentrations in Gender and Women's Studies, Latin American and Latino Studies, Survey Research Methodology, and Women's Health may be available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Arts

- **Baccalaureate Field** No restrictions. Prior work in social science and sociology is recommended.

- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study, and at least 3.50 for any previous graduate work.
- **Transcripts** Required from all institutions where the applicant earned the last 60 semester (90 quarter) hours of credit toward the baccalaureate degree and from all institutions where postbaccalaureate work has been done.
- **Tests Required** The GRE is required.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from former professors or others best able to judge the applicant's aptitude and potential for sociological research.
- **Personal Statement** Required.
- **Writing Sample** Required.

Doctor of Philosophy

- **Prior Degrees** A master's degree in sociology or equivalent is required. Prior work in social science and sociology is recommended.
- **Grade Point Average** At least 3.00/4.00 (B average) for the final 60 semester (90 quarter) hours of undergraduate study, including all of the work taken in the quarter or semester in which the student began the final 60 semester hours of undergraduate study. A 3.50/4.00 cumulative grade point average for work completed beyond the baccalaureate is required.
- **Transcripts** Required from all institutions where the applicant earned the last 60 semester (90 quarter) hours of study toward the baccalaureate degree and from all institutions where postbaccalaureate work has been done.
- **Tests Required** The GRE is required.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three letters of recommendation are required. Letters from former and/or current teachers able to comment specifically on the applicant's academic achievement and ability are strongly preferred. At least two should be from professors at the university where the master's degree was obtained.
- **Personal Statement** Required.
- **Writing Sample** Required.

Degree Requirements

Master of Arts

- **Minimum Semester Hours Required** 38–46, depending on the student's level of preparation.
- **Course Work** *Required Courses*: SOC 401, 402, 500, 501, 509, 585, 587, and 595. Two of the following courses: SOC 524, 525, 541, or 547. At least one 500-level seminar selected from SOC 520, 540, or a 500-level course approved by the director of graduate studies.
- Students may petition the director of graduate studies to apply up to 8 hours of comparable course work taken prior to admission toward the departmental requirements.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Project only. No other options are available.
- *Project*: Students must earn at least 5 hours over two consecutive semesters in SOC 597.

Doctor of Philosophy

- **Minimum Semester Hours Required** 37–45 hours of course work beyond the MA; 19–27 dissertation research hours. The minimum number of hours beyond the baccalaureate is 96.
- **Course Work** *Required Courses*: MA in Sociology course requirements (38–46 hours depending on the student's level of preparation). Students with an MA from another institution must satisfy UIC Sociology MA requirements. The graduate director will evaluate student's prior preparation and performance in satisfying these requirements.

- SOC 509—Seminar: Sociological Research Methods. A minimum of 4 credit hours, in addition to the 4 credits of SOC 509 taken as part of the MA, are required. Students are strongly encouraged to take more than this minimum requirement and may repeat SOC 509 for a maximum of 12 credit hours.
- The following courses are required: SOC 524, 525, 541, 547, and 593. Students may not repeat any courses from this group (SOC 524, 525, 541, or 547) which they took as part of the UIC MA program.
- Students must complete a minimum of 4 credit hours in a specialty seminar in their area of specialization (currently SOC 520, 540, or a course approved by the director of graduate studies). The course content of 520 and 540 varies from term to term. Students *will not* receive credit for this requirement for courses taken as part of the UIC MA program. Students should consult the department Web site http://sociology.las.uic.edu/ for current requirements in each specialty. Remaining hours shall be chosen in consultation with the student's advisor.
- **Preliminary Examination** Required. The examination is comprised of two parts: written examination in a major specialty area and the oral defense of the dissertation proposal.
- **Dissertation** Required.

Interdepartmental Concentration in Gender and Women's Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Latin American and Latino Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Latin American and Latino Studies. See Latin American and Latino Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Survey Research Methodology
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Survey Research Methodology. See Interdepartmental Graduate Concentration in Survey Research Methodology in the *Graduate College* section for more information.

Interdepartmental Graduate Concentration in Women's Health
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Women's Health in the *College of Nursing* section for more information.

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Spanish (MAT)

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Admission Requirements

- Master of Arts in the Teaching of Spanish

Degree Requirements

- Master of Arts in the Teaching of Spanish

Mailing Address:
Department of Hispanic and Italian Studies (MC 315)
Office 1722 University Hall
601 South Morgan Street
Chicago, IL 60607-7117

Campus Location: 1729 UH
Program Codes: 20FS0297MAT (MAT); 20FS0297NDEG (Non-Degree)
Telephone: (312) 996-5218
E-mail: mexotic@uic.edu
Web Site: http://www.uic.edu/depts/sfip/index.shtml
Head of the Department: Margarita Saona
Director of Graduate Studies: Steven Marsh
Graduate Program Administrator: Rocio Garcia

The Department of Hispanic and Italian Studies offers work leading to a Master of Arts in the Teaching of Spanish. This program is designed to meet the needs of certified elementary, middle, and high school teachers, and leads to the Master of Arts in the Teaching of Spanish. A concentration in Heritage Language is available to students pursuing the MAT Spanish degree. The department also offers degrees in Hispanic Studies at both the master's and doctoral levels. The Hispanic Studies master's and doctoral programs offer two concentrations: Hispanic Literary and Cultural Studies and Hispanic Linguistics. See Hispanic Studies for more information.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements (please consult the department Web site http://www.uic.edu/depts/sfip/index.shtml for details):

Master of Arts in the Teaching of Spanish

- **Baccalaureate Field** Spanish or related field.
- **Grade Point Average** At least 3.50/4.00 for the final 60 semester hours (90 quarter hours) of study.
- **Tests Required** Applicants are urged to take the GRE.
- **Language Proficiency** Applicants must give evidence of proficiency in spoken and written formal standard Spanish.
- **Minimum English Language Competency Test Score**

    - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL), **OR**,
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Sample of Writing in Spanish** Applicants are required to submit one sample of their written work in Spanish in the form of an essay for an academic course.
- **Letters of Recommendation** Three required from professors or supervisors in a teaching position; at least one should be from a professor in an upper-level or graduate Spanish course.
- **Personal Statement** A statement of 300 words is required in which applicants should address their reasons for applying to the Master of Arts in the Teaching of Spanish.
- **Nondegree Applicants** Nondegree applicants must apply and pay online, as well as submit transcripts from all institutions where a degree or academic credit was earned during the last eight years.
- **Other Requirements** For the Master of Arts in the Teaching of Spanish only candidates who hold a current Type 03, Type 09, Type 10, or Type 29 Illinois certification are eligible to apply.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Arts in the Teaching of Spanish

- **Minimum Semester Hours Required** 36.
- **Course Work** All 36 must be taken in the Department of Hispanic and Italian Studies, the Latin American and Latino Studies Program, the Department of English, and the College of Education. No more than eight (8) semester hours of credit (two courses) will be accepted for transfer as part of the 36 required hours, and these credits must comply with University regulations and be approved by the program. Credit toward the degree is not given for any course in which the student receives a grade of less than B.
- *Required Courses:* SPAN 401*,* SPAN 407*,* SPAN 556/LING 556*;* and CI 413 or CI 504. Candidates must complete 5 additional courses chosen from the following categories:
    - *Literature and Latin American/Latino Cultures:* SPAN 411, 414, 421, 422, 430, 431, 434, 435, 494.
    - *Linguistics, Language Policy, and Teaching:* SPAN 400, 406, 408, 409, 427, 440, 487.
    - *Latin American and Latino Studies:* LALS 501, LALS 502.
    - *Education:* CI 464, 482, 540; EPSY 446, ED 430.*
- Of the five additional courses, at least 3 must be Spanish courses, at least 1 must be an Education course, and 1 course must be selected from the following: SPAN 400, 406, 408, 409, 427, 440, 487; CI 540.
- **Comprehensive Examination** Required.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

** ED 430 is 3 hours; students will need to take one additional credit hour in order to meet the total hours required for the degree.*

Concentration in Teaching of Spanish to Heritage Speakers
Candidates who wish to pursue the MAT in Spanish with a concentration in Teaching of Spanish to Heritage Speakers must complete the following: SPAN 401*,* 407, 556; and CI 413 or 504; either LALS 501 or 502; either SPAN 406 or 440; and 3 additional courses chosen from the above categories, one of which must be from the Education category.

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Violence Studies (Interdepartmental Graduate Concentration)

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Concentration Requirements

Mailing Address:
1007 West Harrison Street (MC 141)
Chicago, IL 60607

Campus Location: 3040 Behavioral Sciences Building
Telephone: (312) 996-2203
E-mail: pob@uic.edu
Web site: http://www.uic.edu/orgs/violencecenter/index.html

The Department of Criminology, Law, and Justice; Department of Psychology; Department of Political Science, Gender and Women's Studies Program, Jane Addams College of Social Work; and the School of Public Health offer course work leading to an Interdepartmental Graduate Concentration in Violence Studies. Students in the following graduate programs may be eligible to complete the Interdisciplinary Graduate Concentration in Violence Studies:

Graduate Program	Level
Art History	MA, PhD
Criminology, Law, and Justice	MA, PhD
Educational Psychology	PhD
Hispanic Studies	MA, PhD
Policy Studies in Urban Education	PhD
Political Science	MA, PhD
Psychology	MA, PhD
Public Health (students in any division)	MPH, MS, DrPH, PhD
Social Work	MSW, PhD
Special Education	MEd, PhD
Youth Development	MEd

Concentration Requirements

Students earning graduate degrees in the programs listed above may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. All students intending to complete the Interdepartmental Graduate Concentration in Violence Studies are required to officially declare this intention at least two semesters prior to the semester in which the student is to graduate. Students are to declare their intent to enroll in this concentration in writing to the administrative unit (the Department of Criminology, Law,

and Justice or the College of Social Work). Each student selecting the concentration must have an advisor who is affiliated with the Interdepartmental Graduate Concentration in Violence Studies administration or from one of the sponsoring units. This advisor will work with the student to establish a concentration plan of study and will oversee the completion of concentration requirements. All described courses are offered on a regular basis but may not be offered every semester.

The Interdepartmental Graduate Concentration in Violence Studies will consist of at least 11 credit hours of course work (4 courses), including at least 5 hours from two foundation courses (selected from EPID 428, CLJ 423/ANTH 424, CLJ 546, SOCW 544, GWS/PSCH 521) and at least 6 more hours from the identified supplemental courses (selected from CLJ 422, CLJ/GWS 424, CLJ 500, POLS 571, PSCH 417, SOCW 517, SOCW/GWS 525).

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- Anatomy and Cell Biology (MS, PhD)
- Biochemistry and Molecular Genetics (MS, PhD)
- Cardiovascular Science (Interdepartmental Graduate Concentration)
- Graduate Education in Medical Sciences (PhD)
- Health Professions Education (MHPE)
- Medical Biotechnology (MS)
- Medical Scientist Training Program (MD/PhD)
- Microbiology and Immunology (MS, PhD)
- Pathology (MS, PhD)
- Patient Safety Leadership (MS)
- Pharmacology (MS, PhD)
- Physiology and Biophysics (MS, PhD)
- Surgery (MS)
- Professional Program—Medicine

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Anatomy and Cell Biology

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Anatomy and Cell Biology (MC 512)
Room 578 CME
808 South Wood Street
Chicago, IL 60612-7308

Campus Location: 578 CME
Program Codes: 20FS1024MS (MS); 20FS1024PHD (PhD)
Telephone: (312) 996-6791
E-mail: ebongarz@uic.edu
Web Site: http://www.uic.edu/depts/mcan/
Head of the Department: Scott T. Brady
Director of Graduate Studies: Ernesto Bongarzone

The Department of Anatomy and Cell Biology offers work leading to degrees in Anatomy and Cell Biology at both the master's and doctoral levels, but gives priority to doctoral applicants. The department also participates in the Medical Scientist Training Program (MD/PhD joint degree program); see the Medical Scientist Training Program section for more information. Areas of study include neurobiology, cell biology, and developmental biology. There is a strong emphasis on interdisciplinary studies that examine the relationship between structure and function. Research leading to a graduate degree is available in the following areas: neurobiology of the synapse, axonal transport, cytoskeleton, and response to stress; sensory systems; neuroplasticity; Alzheimer's disease, Multiple Sclerosis and myelination, Amyotrophic Lateral Sclerosis and motor neuron disease, Huntington's and Parkinson's disease, neuroblastoma, ion channel regulation, cell motility, connective tissue, neurotoxins and stem cell biology. The Interdepartmental Concentration in Neuroscience is available to doctoral students.

Admission Requirements

Applicants are considered on an individual basis. Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Biology or a closely related field. Students who have majored in other fields may be admitted if they show substantial evidence of ability to complete the

program.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement Required** The statement must address the applicant's research interests and career goals.
- **Other Requirements**Preference for admission is given to students who intend to complete a doctoral program.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

The MS degree is not typically offered as a terminal degree, except by special arrangement. Contact the Director of Graduate Studies prior to applying for this degree.

- **Minimum Semester Hours Required** 32.
- **Course Work** All students must take or show proficiency in three of four courses from GCLS 500, 501, 502, 503. They must also take or show proficiency in GCLS 504, 505, and 510. At least 3 additional semester hours must be in 500-level courses specifically related to the thesis research proposed.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- **Other Requirements** All graduate students must serve once as laboratory teaching assistants for one of the following: Tissue Biology, Neuroanatomy, or one section of Gross Human Anatomy.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** All students must take or show proficiency in three of four courses from GCLS 500, 501, 502, 503. They must also take or show proficiency in GCLS 504, 505, 506, and 510. At least 6 additional semester hours must be in 500-level courses specifically related to the dissertation research proposed.
- **Preliminary Examination** Required; oral examination based on a proposal in the National Research Service Award format.
- **Dissertation** Required.
- **Other Requirements** All graduate students must serve once as laboratory teaching assistants for one of the following: Tissue Biology, Neuroanatomy, or one section of Gross Human Anatomy.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Biochemistry and Molecular Genetics

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Biochemistry and Molecular Genetics (MC 669)
900 South Ashland Avenue
Chicago, IL 60607-7170

Campus Location: 2150 MBRB
Program Codes: 20FS1069MS (MS); 20FS4050PHD (PhD)
Telephone: (312) 996-7670
E-mail: biochem@uic.edu
Web Site: http://www.uic.edu/com/bcmg/
Head of the Department: Jack Kaplan
Co-Directors of Graduate Studies: Alisa Katzen, Michael Caffrey

The Department participates in an integrated interdepartmental program, Graduate Education in Medical Sciences (GEMS), which offers students flexibility in coursework and laboratory rotations. Students entering the Ph.D. program in the Department of Biochemistry and Molecular Genetics will take courses in the GEMS curriculum during the first year. This curriculum will provide students with a broad background in biochemistry, molecular genetics and other biomedical sciences. In the second year and beyond, students will then pursue their own specific scientific interests by taking a variety of advanced courses and by undertaking a research program under the mentorship of a departmental faculty member whom they have selected during their first-year research rotations.

The Department of Biochemistry and Molecular Genetics also participates in the Medical Scientist Training Program (see the Medical Scientist Training Programsection for more information). The department has active, well-funded research programs in the molecular biology of growth and development, oncogenesis, metabolic regulation, macromolecular structure and function, signal transduction, and the biochemical basis of diseases. The Interdepartmental Concentration in Neuroscience is available to doctoral students.

Admission Requirements

Applicants to the PhD program in Biochemistry and Molecular Genetics should apply **online** through the GEMS application process. Please remember to select Biochemistry & Molecular Genetics as your first preference to be considered for admission into our program. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work should include 16 semester hours of chemistry (including organic chemistry, physical chemistry, and quantitative analysis), and at least one advanced course in biology. An undergraduate course in biochemistry is highly recommended.
- **Grade Point Average** At least 2.90/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Required.
- **Personal Statement** Required.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; contact the program for information on current deadlines.
- **Other** The department only admits applicants who wish to be candidates for the PhD degree. Applicants are not admitted as candidates for a terminal master's degree.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** Two tracks (thesis and nonthesis) are available to students in this program.
- *Required Courses*: GCLS 501; 502 or 503; 504; 505; 2 semesters of BCMG 515; BCMG 598. Students enrolled in the nonthesis track must also take 3 semesters of BCMG 503 (or equivalent); both GCLS 502 and 503; and are not required to take BCMG 598.
- *Electives:* Students must take 9 hours of electives in the second semester of the first year choosing from BCMG 513, GCLS 500, GCLS 510, GCLS 511, or other 500-level courses. All elective courses are subject to the approval of the departmental graduate committee.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options are available
- *Thesis:* Thesis students must earn at least 12 semester hours in BCMG 598.
- **Other Requirements** Supervised part-time teaching experiences during one term of each year are regularly assigned to students in the program.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Core:* Of the four core GEMS courses (GCLS 500, 501, 502, and 503), all students must take or show proficiency in GCLS 501, 502, and 503. Students must also take or show proficiency in GCLS 504 and 505; GCLS 506 or BCMG 503; 6 semesters of BCMG 515; BCMG 575; BCMG 595 every semester; BCMG 501.
- *Electives:* Three 500-level electives chosen from the following: GCLS 500, GCLS 510, GCLS 511, GCLS 515, BCMG 513, PHYB 586. Subject to approval by the director of graduate studies, an alternative 500-level course can be used to satisfy one of these electives.
- **Preliminary Examination** Required. Students take a preliminary qualifying examination for advancement to PhD candidacy at the end of their second year of study. This examination will test a student's ability to design and orally defend a scientific research plan as well as his/her general knowledge of biochemistry and molecular genetics.
- **Dissertation** Required. A defined research experience and completion of an approved thesis is required. The thesis will be presented in a public forum and defended in front of a faculty jury. The research presented in the thesis is expected to be of publishable quality.
- **Other Requirements** Supervised part-time teaching experiences during one term of each year are regularly assigned to students in the program. The department requires every degree candidate to fulfill teaching assignments, regardless of the source of financial support for the student.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Cardiovascular Science (Interdepartmental Graduate Concentration)

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Concentration Requirements

Mailing Address:
Interdepartmental Graduate Concentration in Cardiovascular Science
Center for Cardiovascular Research (MC 901)
835 South Wolcott Avenue
Chicago, IL 60612

Campus Location: College of Medicine Research Building, Room 1154
Telephone: (312) 413-1235
E-mail: ccvr@uic.edu
Web Site: www.ccvr.uic.edu

The Center for Cardiovascular Research (CCVR) and the Department of Physiology and Biophysics offer the Interdepartmental Concentration in Cardiovascular Science. Students in the following graduate programs are eligible to complete the Interdepartmental Concentration in Cardiovascular Science:

Graduate Program	Level
Physiology and Biophysics	PhD
Biochemistry and Molecular Genetics	PhD

Concentration Requirements

Students earning PhD graduate degrees in the programs listed above may complement their courses by enrolling in the Concentration in Cardiovascular Science after consulting with their graduate advisor. All students intending to complete the Interdepartmental Graduate Concentration in Cardiovascular Science are required to officially declare this intention before completion of their first year. Students are to declare their intent to enroll in this concentration in writing to the CCVR administrative unit and the student's home department. Each student selecting the concentration must (a) complete three 10-week laboratory rotations, per departmental requirements, in CCVR sponsored laboratories unless petitioned and waived by the CCVR and home department, and (b) select an advisor and laboratory who is affiliated with the Center for Cardiovascular Research. This advisor will oversee the completion of the concentration requirements.

The interdepartmental graduate concentration requires a minimum of 9 credit hours of approved electives which are not core curriculum requirements for their respective

departments. These electives can be selected from the following courses:

- PHYB 516—Physiology and Biochemistry of Muscle Contraction (2 hours)
- PHYB 518—Cardiovascular Pathophysiology (3 hours)
- PHYB 592—Experimental and Diagnostics Methods in Cardiovascular Science (3 hours)
- PHYB 590—Seminar in Cardiovascular Science (1 hour)

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Graduate Education in Medical Sciences

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Admission Requirements
Degree Requirements

Mailing Address:
Graduate Education in Medical Sciences
College of Medicine (MC 784)
1853 West Polk Street
Chicago, IL 60612

Campus Location: CSN Suite 300, Rm 324
Program Code: 20FS8060PHD
Phone: (312) 355-0389
Fax: (312) 413-8221
E-mail: gemsinfo@uic.edu
Web Site: http://gems.comd.uic.edu/
Co-Directors: William Hendrickson, Thomas Guenthner, and John O'Bryan
Program Administrator: Mia Johnson

The GEMS Program offers students integrated training in the biomedical sciences. PhD programs include the areas of Anatomy, Biochemistry, Biophysics, Cell and Molecular Biology, Genetics, Immunology, Microbiology, Neurosciences, Pathology, Pharmacology, and Physiology. Students have the flexibility to choose a mentor from among more than 150 funded research faculty in all departments and PhD programs of the College of Medicine. Areas of research excellence within the broader disciplines include stem cell biology; cancer; development; gene regulation; host-pathogen biology; lung biology; molecular and integrated cardiac and vascular biology; proteomics, genomics, and bioinformatics; reproductive biology; signal transduction and virology.

Admission Requirements

Students apply using the GEMS PhD program code (20FS8060PHD) and list in order of preference up to three of the participating departments as areas of interest. Participating departments are the following: Anatomy and Cell Biology (20FS1024PHD), Biochemistry and Molecular Genetics (20FS4050PHD), Microbiology and Immunology (20FS1468PHD), Pathology (20FS1548PHD), Pharmacology (20FS1564PHD), Physiology and Biophysics (20FS1584PHD). Specific requirements are listed under each of these graduate programs.

In general, students should have the following:

- **Baccalaureate Field** No restrictions. However, applicants must have a satisfactory record of courses in biology, inorganic and organic chemistry, and at least one year of physics and of mathematics.
- **Grade Point Average** At least 2.75/4.00 for the final 60 semester hours of undergraduate study. Preference is given to applicants with a GPA greater than 3.00 on a 4.00 system.

- **Tests Required** GRE General. This test should be taken prior to submission of the formal application. Preference is given to applicants with a combined verbal and quantitative score above 1200 and an analytical writing score above 4.0. **GRE Revised.** Preference is given to applicants with a combined verbal and quantitative score above 308.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Required.
- **Personal Statement** Required.
- **Other Requirements** Preference is given to applicants with a documented record of research accomplishments.

Degree Requirements

GEMS students, during their first semester of study, engage in a core curriculum that focuses on the fundamentals of biochemistry, cell biology, molecular biology, and physiology. Beginning with the second semester, students choose from a variety of courses with the goal of concentrating more on their chosen area of interest.

During the first year, students additionally engage in 3 or 4 laboratory rotations of 10 weeks each. The students select from among the GEMS faculty potential mentors for their thesis research. At the end of the first year, students select their mentor and department from within the College of Medicine. The PhD is granted by the degree-granting program that the student selects.

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Courses:* All students must take or show proficiency in three out of the following four core courses: GCLS 500, 501, 502, 503. Students must take or show proficiency in Research Methods courses GCLS 504 and 505. Students must also take select 500-level courses as specified by their chosen PhD program.
- **Preliminary Examination** During the second year of graduate study, students must pass a preliminary examination in a format specified by their chosen department.
- **Dissertation** Required. Students must earn at least 52 hours in Research in their department (599).
- **Other Requirements:** Journal clubs and research seminars as specified by the student's chosen department.

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Health Professions Education

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Admission Requirements

- Master of Health Professions Education

Degree Requirements

- Master of Health Professions Education

Mailing Address:
Department of Medical Education (MC 591)
808 South Wood Street
Chicago, IL 60612-7309

Campus Location: 986 CME
Program Code: 20FS1306MHPE; 20FS1306MHPU (Online program)
Telephone: (312) 996-3590
E-mail: ibharris@uic.edu
Web Site: http://chicago.medicine.uic.edu/departments___programs/departments/meded/educational_programs/mhpe/
Head of the Department: Ilene Harris
Director of Graduate Studies: Ilene Harris

The Department of Medical Education offers a program of studies leading to the Master of Health Professions Education (MHPE) degree. The purpose of the MHPE program is to provide the training necessary to produce effective leaders and scholars in health professions education. Disciplinary and interdisciplinary offerings are available on topics related to management and leadership in health professions education, scholarship methods, curriculum, instruction, competence assessment, program evaluation, quality assessment, primary care education, clinical decision making, and medical humanities and ethics. The Interdepartmental Concentration in Gender and Women's Studies is available to students in this program.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Health Professions Education

- **Baccalaureate Field** Applicants must hold a baccalaureate degree or an advanced professional degree in a health professions discipline.
- **Other Requirements** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. The statement should address the applicant's background, experience and professional goals.

Degree Requirements

In addition to the Graduate College minimum requirements, students must complete the following program requirements:

Master of Health Professions Education

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Courses:* MHPE 501, 502, 503, 504, and 505. Students must also take 4 semester hours in a content area related to their thesis.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options**: Thesis. No other options available.
- *Thesis:* Students must earn at least 6 semester hours in MHPE 598; no more than 10 semester hours of MHPE 598 can be applied to the degree.

Interdepartmental Concentration in Gender and Women's Studies

Students earning an MHPE degree in the Department of Medical Education may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with the director of graduate studies. See Gender and Women's Studies in the College of *Liberal Arts and Sciences* section for more information.

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Medical Biotechnology

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
1601 Parkview Avenue
Rockford, IL 61107

Campus Location: U of I College of Medicine at Rockford
Program Code: 20FS5020MS7
Telephone: (815) 395-5794
E-mail: mbt@uic.edu
Web Site: http://rockford.medicine.uic.edu
Department Head: Ramaswamy Kalyanasundaram
Director of Graduate Studies: Khalifah Sidik

The University of Illinois College of Medicine at Rockford offers graduate training leading to the Master of Science in Medical Biotechnology degree. The program is administered by the Department of Biomedical Sciences.

The Master of Science in Medical Biotechnology will train students in the major techniques and disciplines commonly used in biotechnology. Course subjects may include recombinant DNA and genomics, protein production and proteomics, biological systems, drug design and development processes. In addition, students will receive direct experience with many of the analytical and testing techniques used in the biotechnology and healthcare industries. Work place related training will include an introduction to pertinent regulatory issues and practices, basic training proposal preparation and public presentation of technical topic and training in program management systems and product development processes.

A unique aspect of this program is the focus on biotechnology in medicine. Students are trained in the sciences and business practices important to biotechnology using medical applications. Scientists with industrial biotechnology experience, legal and regulatory professionals that serve the industry and practicing physicians will participate as instructors in the experience-directed course work and research activities.

Classes will also be offered in the evenings or weekends, thereby allowing students to earn their MS degree while still working full- or part-time.

Admissions Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following admissions requirements:

Master of Science

- **Baccalaureate Degree** A baccalaureate degree or its equivalent in a science- or engineering-related field from an accredited college or university will be required, except in special cases. Prior academic work should include college mathematics, general biology and biochemistry, general and organic chemistry, or the equivalent engineering courses.
- Generally qualified candidates may be required by the department to remove specific course work deficiencies by completing selected undergraduate courses prior to matriculation or graduation.
- **Grade Point Average** Undergraduate: At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. Exceptions to this requirement may be considered on a case by case basis.
- Postbaccalaureate: The student's grade point average for any postbaccalaureate course work must be 3.00/4.00 or greater.
- **Transcripts Required** Transcripts are required from all institutions where the applicant earned the last 60 semester hours (90 quarter hours) of credit toward the baccalaureate degree and from all institutions where postbaccalaureate work has been done.
- **Tests Required** GRE General Test is required. Results should be less than 2 years old. The GRE requirement may be waived for applicants with sufficient work experience (nominally 5 years or more) in biotechnology or other science-related fields on a case-by-case basis. MCAT scores may be accepted as alternative accomplishment testing information.
- **Minimum English Competency Test Scores** All persons who do not have English as their native language must submit the results of one of the two language skills tests
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); Internet Based test (iBT)–total score of 80 or greater, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21. ***Note:*** *Exemptions to the TOEFL requirement are as stated in the UIC Graduate College Application Instructions, page 4.*
  - **IELTS** 6.5 average Band score, with subscores of at least 6.0 **(Band 6: Competent user)** in all subcategories (Listening, Reading, Writing and Speaking).
- **Letters of Recommendation** Three required. If applicant is employed one of the letters of reference must come from the employer confirming employer commitment to student participation. The other letters should be from former professors, teachers or persons who can refer the candidate based on personal experience with the candidate's professional competence.
- **Personal Statement** Required statement of career goals.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 34 hours
- **Course Work** *Required Courses:* MBT 501, 504, 505, 506, 510, 511, 513, 520 and 595 (20 credit hour total).
- *Electives:* At least 6 hours.
- **Comprehensive Examination** Not required
- **Thesis, Project, or Course-Work-Only Options**: *Research Project* (lab research or library paper) with written and oral final reports.
- In addition to required courses and electives, students must earn 8 hours in MBT 597 (Research Project).
- Research project requirement requires design, justification, and execution of a research project and preparation of written and oral final reports. This requirement may be met by research conducted at University of Illinois at Rockford or other University of Illinois sites or in the laboratories of one of our industrial partners or a combination of both.
- Formal defense of the research project is required.

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Medical Scientist Training Program

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Admission Requirements
Degree Requirements

Mailing Address:
Medical Scientist Training Program
College of Medicine c/o Office of the Dean (MC 784)
1853 West Polk Street
Chicago, IL 60612

Campus Location: Suite 300 CSN
Telephone: (312) 996-7473
E-mail: Roberta@uic.edu
Web Site: http://www.uic.edu/com/mdphd/
Program Director: Larry S. Tobacman, MD
Program Associate Director: Nancy Freitag, PhD
Program Assistant Director: Roberta L. Bernstein, MA

The UIC College of Medicine offers a select number of students the opportunity to work toward both the MD and PhD degrees in an integrated fashion. The objective of the program is to train students for careers in academic medicine and research. Students admitted to this highly competitive program participate in the medical school curriculum and pursue original doctoral research projects in the laboratories of the university's graduate faculty.

The first two years of the program are used to complete the M-1 and M-2 years of the medical curriculum. Students enter "at large," that is, without affiliation to a particular graduate department. During this time, they may explore research opportunities in any academic department of the College of Medicine and selected graduate departments throughout the university. After admission, the students complete three rotations through the laboratories of various potential advisers before a choice is made. A series of lunchtime seminars designed for M1-M2 MD/PhD students provides an overview of opportunities for research. An ongoing series of dinner seminars is presented to MD/PhD students in all stages of the program by the faculty and invited physician-scientists from other academic health science centers. These seminars enhance the students' general knowledge and help to develop new approaches toward the investigation of problems in biomedical research. A series of student Grand Rounds seminars presents topics in new frontiers in understanding and/or treatment of important clinical problems, with particular emphasis on the interface between basic science and medicine. Each presentation is given by a pair of students who divide the discussion between clinical aspects and latest research findings of a medical condition of their choosing. These seminar series, along with the annual research day and other gatherings with faculty, serve to bring together trainees and preceptors and expose the students to the area of research being explored at UIC and the faculty doing the research.

Choice of a permanent thesis advisor and graduate department take place by the end of the second year. Students in the graduate phase of the program work side-by-side with PhD

students in the basic sciences and meet all departmental requirements for the PhD degree. Original publications and presentations at national biomedical science meetings are often accomplished.

For the PhD phase of the program, students may associate with one of the five basic science departments of the College of Medicine (see descriptions in this section), with the Neuroscience program, or with one of many program-approved departments across the university. During the three to four years of PhD studies, MSTP students keep their clinical skills sharp by participating in a Clinical Connections component. In the final two years of the program, MD/PhD candidates rejoin other medical students to complete the medical school clerkship requirements. Third- and fourth-year clerkships include medicine, surgery, pediatrics, obstetrics and gynecology, neurology, and psychiatry, among other disciplines.

Graduates of the program have routinely gained admission to the most competitive residency programs at many of the premier academic institutions in the country, including the ever-growing number of physician-scientist residency programs.

Admission Requirements

Application to the program requires the submission of three documents to the MSTP office: (1) the Medical Scientist Training Program application form, which is available on the program's Web site http://www.uic.edu/com/mdphd; (2) a copy of the AMCAS form which has already been submitted to the COM Admissions Office; and (3) a copy of the COM's supplemental form. The MSTP office will then obtain copies of the applicant's letters from the COM Admissions Office. Applicants may also request 1 or 2 additional letters of recommendation, which focus on the applicant's research experience, to be sent directly to the program office. The MCAT examination, which is required for COM application, is accepted by the MD/PhD program in lieu of the GRE examination. Students should apply in the autumn of the year preceding admission to provide the fullest opportunity for consideration, since a rolling admissions procedure is used. A personal interview with the MSTP's own Admissions Committee will be scheduled for each applicant under final consideration for admission.

Application to the program is normally made at the time of application to the College of Medicine. However, candidates will also be considered during their first two years of medical training in the UIC College of Medicine.. Admission to the program requires acceptance by the Admissions Committees of both of the MSTP and the College of Medicine. Criteria for admission to the program include academic excellence in premedical and other subjects, prior research experience, potential for independent and creative research, and commitment to a career in academic medicine. Laboratory work concentrating in biology, chemistry, physics, biophysics, or behavioral sciences is helpful in preparing for study in the MSTP. The admissions policy is flexible enough to accommodate those students who have already identified the field in which they wish to carry out research as well as those who are still undecided about their areas of research specialization. Admission to the Medical Scientist Training Program is open to U.S. citizens or permanent residents.

Degree Requirements

Students in the program complete requirements of the College of Medicine for the MD degree and requirements of their chosen research department for the PhD degree. They must complete and submit their PhD dissertation and complete its defense before returning to the medical school for the M-3 and M-4 years.

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Microbiology and Immunology

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Microbiology and Immunology (MC 790)
835 South Wolcott Avenue
Chicago, IL 60612-7344

Campus Location: E-704 MSB
Program Codes: 20FS1468MS (MS); 20FS1468PHD (PhD)
Telephone: (312) 996-7470
E-mail: ssiddi27@uic.edu
Web Site: http://www.uic.edu/depts/mcmi/index2.html
Head of the Department: Bellur Prabhakar
Director of Graduate Studies: Alan McLachlan

The Department of Microbiology and Immunology offers formal admission to the Doctor of Philosophy degree program and participates in the Medical Scientist Training Program (see the Medical Scientist Training Program section of the catalog for more information). The department carries out basic research in the areas of immunology, virology, and microbial molecular biology. Research leading to a graduate degree is available in the general areas of molecular, cellular, and tumor immunology; molecular biology and genetics of prokaryotes; and molecular biology of viruses.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Applicants must have a solid background in biological and inorganic and organic chemistry, and at least one year of physics and mathematics.
- **Other Requirements** At least 2.75/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. Preference is given to those applicants who have a GPA greater than 3.00.
- **Tests Required** GRE General. This test should be taken prior to submission of the formal application. Preference is given to applicants with a combined verbal and quantitative score above 1200 (tests taken prior to August 2011) or 310 (tests taken August 2011 or after), and analytical writing above 4.0.
- **Minimum English Competency Test Score**

- **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
- **IELTS** 6.5, with subscores of 6.0 for all four subscores.

- **Letters of Recommendation** Required.
- **Personal Statement** Required.
- **Other Requirements** Preference is given to applicants with a documented record of research accomplishment who intend to complete the doctoral program.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 34.
- **Course Work** *Required Courses:* All students must take or show proficiency in three of four courses from GCLS 500, 501, 502, 503. They must also take or show proficiency in GCLS 504, 505, 510, and 511.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** *Thesis:* Required. No other options are available. Students must register in MIM 598 for 9 semester hours.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Courses:* Nine hours of MIM 455. All students must take or show proficiency in three of four courses from GCLS 500, 501, 502, 503. They must also take or show proficiency in GCLS 504, 505, 506, 510, and 511. In addition, students must take MIM 594 for 1 hour, and 2 additional 500-level courses, MIM 551, MIM 553, and MIM 560 are recommended. Four additional hours of MIM 595 and 52 semester hours of MIM 599 are required.
- **Preliminary Examination** Required.
- **Dissertation** Required. Students must earn at least 52 hours in MIM 599.
- **Other Requirements** During the second year of graduate study, students must conduct a satisfactory oral defense of a written research proposal on their thesis subject. All graduate students, regardless of their means of financial support, must participate in the teaching programs of the department for one semester of each academic year. This requirement includes experiences in laboratory instruction, lecturing, and audiovisual presentations.

Medical Scientist Training Program

Students with an MD degree earned in the United States or who are working toward one at UIC may use medical science courses to fulfill the 500-level course requirements. Such students must take 3 semester hours of MIM 455; one credit of MIM 594; 6 semester hours of MIM 595; and 59 semester hours of MIM 599. Other courses required will be determined by the graduate committee based on the student's area of interest.

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Pathology

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
College of Medicine (MC 847)
840 South Wood Street, Room 130 CSN
Chicago, IL 60612

Campus Location: Room 130 CSN
Program Code: 20FS1548MS (MS); 20FS1548PHD (PhD)
Phone: (312) 996-6604
Fax: (312) 996-7589
E-mail: barbie@uic.edu
Web Site: http://pathology.uic.edu/
Head of Department: Frederick G. Behm
Director of Graduate Studies: Maarten C. Bosland
Program Administrator: Barbara Poltzer

The Department of Pathology offers studies leading to degrees at both the master's and doctoral levels, and participates in the Medical Scientist Training Program (see the Medical Scientist Training Program section for more information). The department is oriented toward the study of disease at the molecular, cellular, organ, whole organism, and population levels, using a wide range of approaches including epidemiology. Students are initially immersed in an integrated curriculum and later they complete specialized training in an area of pathology of their choice, including, but not limited to, cancer prevention, biomarkers of cancer, molecular and genetic epidemiology, tumor biology, and mechanisms of cancer development and progression. All areas focus on translational and transdisciplinary aspects of pathology, cancer research, and epidemiology.

Admission Requirements

Students apply either via the GEMS PhD program (see GEMS program for details) or via the Department of Pathology (http://pathology.uic.edu/education/GraduateProgramsinPathology.asp) on a competitive basis. Before applying to the Master of Science Program, students are required to consult the director of graduate studies (boslandm@uic.edu). Students must meet the following program requirements in addition to the Graduate College minimum requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Applicants must have a satisfactory record of courses in biology, inorganic and organic chemistry, and at least one year of physics and mathematics. In addition, courses in histology, anatomy, zoology and/or physiology are preferred (but not required).
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours of undergraduate study. Preference is given to those applicants who have a GPA substantially greater than 3.00.
- **Tests Required** GRE General. This test should be taken prior to submission of the formal application. Preference is given to applicants with a combined verbal and quantitative above 1200 (tests taken prior to August 2011) or above 316 (tests taken August 2011 or after) and an analytical writing score above 4.0.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
  - I**ELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three letters required.
- **Personal Statement** Required.
- **Other Requirements** Preference is given to applicants with a documented record of research accomplishment.

Degree Requirements

Students (via GEMS and Pathology) engage, during their first year of study, in a core curriculum that focuses on the fundamentals of biochemistry and cell and molecular biology, and integrates these with topics in molecular medicine and cancer biology. Beginning in the second semester, students elect to take courses with the goal of concentrating more selectively within the area of pathology research.

Students initially pick three or four potential mentors in whose laboratories they spend 10-week rotations during the first year. At the end of their first year, students select a mentor with whom they will undertake their thesis research and the Department of Pathology which will grant the degree.

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Courses*: All students must take or show proficiency in GEMS core courses GCLS 501, 502, 503, 504, 505, 506, and GC 401. Students must also take the following: PATH 510 and 511. Students must register in PATH 595 for one semester beyond the first year.
- *Selective-Elective Courses*: At most one additional 500-level course may be taken, subject to approval of the director of graduate studies.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- **Other Requirements** GC 470 is required for students engaged in research with animals.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Courses*: All students must take or show proficiency in GEMS core courses GCLS 501, 502, 503, 504, 505, 506, and GC 401. Students must take the following: PATH 510, 511, and 512 and one of GCLS 510, 511, or 515 as a selective course requirement. Students must register in PATH 595 each semester beyond the first year.
- *Selective-Elective Courses*: At least two additional 500-level selective/elective courses are required, subject to approval of the director of graduate studies.
- **Preliminary Examination** Required.
- **Dissertation** Required.
- **Other Requirements** GC 470 is required for students engaged in research with animals.

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Patient Safety Leadership

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Mailing Address:
University of Illinois at Chicago
School of Continuing Studies (MC 165)
1333 S. Halsted Street, Suite 225
Chicago, Illinois 60607-5019

Program code: 2EFS5142MSU
E-mail: info@online.uic.edu
Phone: (866) 772-2268, option 1
Web site: http://online.uic.edu
Director of Graduate Studies: William Chamberlin, MD
Program Director: Stacy D. Saxon, Ph.D.

Patient safety is an issue at the forefront of healthcare today. One in three patients admitted into a hospital suffer a medical error or adverse event – nearly 10 times greater than believed previously according to a 2011 study published in Health Affairs. The elimination of error and risk in our healthcare system can translate directly into improved care and cost reduction. The emerging field of Patient Safety is revolutionizing healthcare for the 21st century.

The University of Illinois at Chicago offers the Master of Science in Patient Safety Leadership and two Graduate Certificate Programs: Patient Safety, Error Science, and Full Disclosure and Patient Safety Organizations. The Patient Safety Leadership (PSL) program is designed to facilitate dynamic educational opportunities in a learner-centered environment for both clinical and non-clinical healthcare professionals who desire to become leaders in patient safety and the delivery of quality healthcare. PSL students explore innovative ways to design quality patient care practices and develop a patient safety organizational culture. Learners will benefit from the focus on inter-professional teamwork, simulation training, communication and collaboration, medical error science, organizational change, and healthcare leadership. Graduates of the program will have the skills to design, implement, and lead a broad range of patient safety activities, including global transformation towards a culture of safety embedded in a just culture approach.

The program courses are delivered 100% online asynchronously using the Blackboard Learning Management System. In the online environment, PSL learners engage in self-directed and team-based learning. A three-day onsite residency requirement at the UIC campus provides learners the opportunity to practice and apply the tools and principles introduced in the preceding online courses, and to participate in active learning with cohort members in a face-to-face format.

Master of Science

The UIC College of Medicine confers the Master of Science in Patient Safety Leadership. The program is offered by the UIC Institute for Patient Safety Excellence (IPSE) and administered by the School of Continuing Studies (SCS).The program offers a unique interdisciplinary

approach, as reflected in the IPSE mission statement to improve the safety and outcomes of patient care by:

- Continually improving the safety and outcomes of patient care through an inter-professional program of excellence in research and education on the causes and prevention of medical errors.
- Translating the knowledge gained from inter-professional research and education into improved patient safety and patient care outcomes.
- Sharing inter-professional patient safety research and improvements in patient safety and patient care outcomes through educational programs, bringing benefit to the people of Illinois and beyond.

Detailed information about the program can be found at the UIC Online Web site at http://online.uic.edu.

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Pharmacology

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Pharmacology (MC 868)
835 South Wolcott Avenue
Chicago, IL 60612-7343

Campus Location: E-403 MSB
Program Codes: 20FS1564MS (MS); 20FS1564PHD (PhD)
Telephone: (312) 355-3281
E-mail: pharmacology-gs@uic.edu
Web Site: http://www.uic.edu/depts/mcph/
Head of the Department: Asrar B. Malik
Directors of Graduate Studies: Randal A. Skidgel and Richard D. Minshall

The Department of Pharmacology offers work leading to a degree in Pharmacology at the doctoral level and participates in the Medical Scientist Training Program (see the Medical Scientist Training Program section for more information). The department is particularly strong in research on signal transduction, lung and vascular biology, stem cell therapy, inflammation, and cardiovascular pharmacology. Research in these areas is pursued at the molecular, cellular, organ-system, and whole-animal levels of investigation.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work should include chemistry, biology, physics, and math. Biochemistry, cell biology, molecular biology, and physiology are also helpful.
- **Other Requirements** At least 2.75/4.00 (3.00 or better preferred) for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General. Preference is given to applicants with percentile rankings above 65% on the verbal, quantitative, and analytical writing sections of the GRE.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Required.

- **Personal Statement** Required. One page summarizing past academic and research experience (if any) and motivation for pursuing a PhD in Pharmacology.
- **Nondegree Applicants** Nondegree applicants must show adequate preparation to enroll in desired courses and must obtain the permission of the director of graduate studies.
- **Master of Science Applicants** The department does not admit students to a master's program. A student in the PhD program may be awarded a terminal master's degree if he or she decides not to complete the PhD, provided enough research has been accomplished to write and defend a thesis.

Degree Requirements

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Core:* Students must take or show proficiency in three out of the four core GEMS courses: GCLS 500, 501, 502, and 503. Course selections will be made in consultation with the director of graduate studies based on the student's background and interests. Students must also take or show proficiency in GCLS 504, 505, and 506. In addition, students must take GCLS 515 and PCOL 501 and 502. Students in their second year and beyond must also register for PCOL 595 and 598 each semester.
- *Electives:* At least 2 semester hours must be in 500-level didactic courses in the department.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- **Other Requirements** Students may be called upon to assist in aspects of teaching and research activities of the department. Students are expected to attend special seminars sponsored by the department.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Core:* Students must take or show proficiency in three out of the four core GEMS courses: GCLS 500, 501, 502, and 503. Course selections will be made in consultation with the director of graduate studies based on the student's background and interests. Students must also take or show proficiency in GCLS 504, 505, and 506. In addition, students must take GCLS 515 and PCOL 501 and 502. Students in their second year and beyond must also register for PCOL 595 and 599 each semester.
- *Electives:* At least 2 semester hours must be in 500-level didactic courses in the department.
- **Preliminary Examination** Required.
- **Dissertation** Required.
- **Other Requirements** Students may be called upon to assist in aspects of the teaching and research activities of the department. Students are expected to attend special seminars sponsored by the department.

Medical Scientist Training Program

Students with an MD degree earned in the United States or who are working toward one at UIC may use medical science courses to fulfill most of the 500-level course requirements. Such students must take 3 credits of GCLS 504, GCLS 515 and 2 semester hours of an elective 500-level didactic course in the department. Students must also register for PCOL 595 and 599 each semester. Other courses may be required as determined by the advisor and the graduate committee based on the student's area of interest.



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Physiology and Biophysics

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Physiology and Biophysics (MC 901)
835 South Wolcott Avenue
Chicago, IL 60612-7342

Campus Location: E202 MSB
Program Codes: 20FS1584MS (MS); 20FS1584PHD (PhD)
Telephone: (312) 996-7620
E-mail: phyb@uic.edu
Web Site: http://www.physiology.uic.edu
Head of the Department: R. John Solaro
Director of Graduate Studies: Jesús García-Martínez

The Department of Physiology and Biophysics offers work leading to the Master of Science or Doctor of Philosophy degrees, and participates in the Medical Scientist Training Program (see the Medical Scientist Training Program section for more information). Interdepartmental concentrations in Cardiovascular Science and in Neuroscience are available to doctoral students. The department is oriented toward the study of mammalian physiology. Students are initially immersed in an integrated curriculum and later they complete specialized training in an area of physiology of their choice: Cardiovascular Physiology and Metabolism, Cytoskeleton and Vascular Biology, Gastrointestinal Physiology, Neurosciences, Reproductive and Endocrine Sciences, Signal Transduction and Gene Regulation, Smooth and Skeletal Muscle Physiology. All areas focus on the integrative aspects of physiology, studying gene expression to the whole organism.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** No restrictions. Prior academic work should include college mathematics through calculus, physics, biology, organic chemistry, and physical chemistry.
- **Other Requirements** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General. Preference is given to applicants with a combined verbal and quantitative score above 1200 (tests taken prior to August 2011) or 299 in the new

scoring system (test taken August 2011 or after), and an analytical writing score above 4.5.

- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. One page summarizing past academic and research experience (if any) and motivation for pursuing an MS or a PhD in Physiology.
- **Other Requirements** Preference is given to applicants with a documented record of research accomplishment who intend to complete the doctoral program.
- **Nondegree Applicants** Nondegree applicants must show adequate preparation to enroll in desired courses and must obtain the permission of the director of graduate studies.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Courses:* GC 470, GCLS 500, PHYB 552, 586, 595, and 598. Students must register for PHYB 591 each fall and spring semester after the first year they are enrolled in the graduate program. Students must take one of the following GCLS courses: 501, 502, or 503.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- **Other Requirements** All graduate students must participate in the teaching programs of the department.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Courses:* GC 470, GCLS 500, PHYB 552, 586, 595, 599, and 2 additional 400- or 500-level courses in consultation with the advisor. All students must take or show proficiency in GCLS 501, 502, 503, 504, 505, 506, and 510. Students must also register for PHYB 591 each fall and spring semester after the first year they are enrolled in the graduate program.
- **Preliminary Examination** Required.
- **Dissertation** Required.
- **Other Requirements** All graduate students must participate in the teaching programs of the department. Candidates must present a midthesis seminar as a scheduled departmental seminar.

Interdepartmental Graduate Concentration in Cardiovascular Science
Doctoral students may pursue the Interdepartmental Graduate Concentration in Cardiovascular Science. Refer to Interdepartmental Graduate Concentration in Cardiovascular Science in the *College of Medicine* section for more information.

Interdepartmental Concentration in Neuroscience
Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

Medical Scientist Training Program
Students with an MD degree earned in the United States or who are working toward one at UIC may use medical science courses to fulfill the 500-level course requirements. Such students must take GCLS 510, PHYB 586, and 5 semester hours of elective 500-level didactic courses. The elective courses are chosen in consultation with the advisor. Students must also register for PHYB 591 and PHYB 599 each semester. Other courses may be required as determined by the advisor and the graduate committee based on the student's area of interest.

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Surgery

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Jose Oberholzer, MD
Department of Surgery (MC 958)
840 South Wood Street
Chicago, IL 60612-7322

Campus Location: 502 CSB
Program Code: 20FS1721MS
Telephone: (312) 996-6771
E-mail: jober@uic.edu
Web Site: http://www.uic.edu/com/surgery/
Head of the Department: Enrico Benedetti, MD, FACS
Director of Graduate Studies: Jose Oberholzer, MD

The Department of Surgery offers work leading to the Master of Science in Surgery. The aim of the program is to introduce the surgeon-in-training to the methods of scientific research in preparation for a career as a research physician. While pursuing a specific research project in depth, the student is expected to maintain contact with clinical science as a participant in the activities of the Department of Surgery.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Prior Degrees** Applicants must have an MD.
- **Other Requirements** At least 3.50/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General. Recent graduates may substitute with the MCAT.
- **Minimum English Competency Test Score**
  - **TOEFL** The TOEFL score cannot be more than two years old. UIC's Institutional Code is 1851. 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Contact the director of graduate studies for information.
- **Personal Statement** Contact the director of graduate studies for information.
- **Other Requirements** Applicants must be enrolled in or have completed an approved general surgery residency program. Contact the director of graduate studies before submitting an application.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 9 hours must be at the 500-level. Students must take at least three graduate-level courses other than SURG 597 or 598, including a course in statistical methods.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options are available.

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Professional Program—Medicine

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Mailing Address:
College of Medicine
Admissions (MC 783)
808 South Wood Street
Chicago, IL Zip 60612

Campus Location: 165 CME
Telephone: (312) 996-5635
Fax: (312) 996-6693
E-mail: medadmit@uic.edu
Web Site: http://www.medicine.uic.edu/
Associate Dean and Director of Admissions: Dr. Jorge A Girotti
Associate Director of Admissions: Linda A. Singleton

The University of Illinois MD program is conducted at four geographic sites across Illinois: Chicago, Peoria, Rockford, and Urbana. The college offers a generalist curriculum whose goal is to graduate physicians who are well grounded in basic and clinical sciences, oriented and competent as beginning general physicians, capable of entering graduate training in either generalist specialties or subspecialties, and able to function in an ever changing health care environment. The college offers several special programs that allow students to combine medicine with doctoral degrees, business and public health, and independent study options to carry out in-depth studies of topics of their choosing.

The Chicago and Urbana campuses offer programs for M1–M4 students. The first-year basic science program at Urbana also serves students who will complete their last three years at Peoria or Rockford. All four campuses offer residency programs.

Students at all sites enjoy a superb scientific education and extensive clinical training. The college's distinguished faculty and its groundbreaking research have earned it a reputation as one of the best schools for both undergraduate and graduate medical education.

The college selects applicants with the best combination of academic and extracurricular achievement, maturity, integrity, and motivation. Selection of students is based on an individualized evaluation of all available data and a personal interview. We consider the quality of work in all subject areas, breath of education, and experiences that demonstrate initiative and creativity.

For more information about the University of Illinois MD program, please consult the following Web sites:

Admissions: http://www.medicine.uic.edu/admissions

Financial Aid: http://www.medicine.uic.edu/finaid

Chicago MD Program: http://chicago.medicine.uic.edu/departments___programs/programs/

Peoria MD Program:
http://uicpeoria.sharpschool.com/departments___programs/academic_affairs/students/

Rockford MD Program:
http://rockford.medicine.uic.edu/Departments___Programs/programs/md_program/

Urbana MD Program: http://www.med.uiuc.edu/students/index.php

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College of Nursing

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- Administrative Nursing Leadership (IBHE Certificate)
- Nursing (MS, MS/MBA, MS/MPH, MS/MS in Health Informatics, PhD, DNP)
- Women's Health (Interdepartmental Graduate Concentration)

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Administrative Nursing Leadership (IBHE Certificate)

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Admission Requirements

- IBHE Certificate

Degree Requirements

- IBHE Certificate

Mailing Address:
College of Nursing (MC 802)
845 South Damen Avenue, Room 133
Chicago, IL 60612-3727

Campus Location: 133 NURS
Program Codes: 20FS5081CERU
Telephone: (312) 996-7800
E-mail: con@uic.edu
Web Site: http://www.uic.edu/nursing/anl/index.shtml
Associate Dean for Nursing Clinical Practice Studies: Patricia Lewis

The ANL Certificate Program consists of 18 graduate credit hours and can be completed in three to four semesters of part-time study. Students are enrolled in two to six credit hours of course work each semester, beginning with either the fall or spring semester of the academic year. All courses will be conducted in the online format. The ANL certificate will prepare students to meet the continuing education requirements for the Nurse Executive certification exam offered by the American Nurses Credentialing Center (ANCC). Students who wish to sit for the exam will also need to demonstrate work experience in nursing administration.

Admission Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

IBHE Certificate

- **Prior Degrees** Applicants must have a baccalaureate degree in nursing from an NLNAC or CCNE accredited program or a baccalaureate degree in another field and have graduated from a nursing program preparing the student for registered professional nursing. Students who are registered nurses but have a baccalaureate degree in a field other than nursing will be required to complete two transitional courses (NURS 242 and NURS 385) at the beginning of their program of study.
- **Grade Point Average** A minimum overall GPA of 2.75/4.00 for the last 60 semester (90 quarter) hours of the first baccalaureate degree.
- **License** Applicants must be licensed to practice as a professional nurse in at least one political jurisdiction.
- **Other Requirements** Prior experience as a registered nurse. Previous management experience is preferred but not required.

- **Deadlines** The application deadlines are as follows: fall semester is July 15; spring semester is November 15.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

IBHE Certificate

- **Minimum Semester Hours Required** 18. Students who successfully complete the certificate program may petition to transfer 18 hours of academic credit to the master's program in Administrative Studies in Nursing. Students have up to five years to transfer the course work into a degree program at UIC. Students must receive a minimum grade of B in each course to be transferred to the degree program.
- **Course Work** The following courses are required for the ANL certificate. They may be taken in any order.
  - NUSP 501, 502, 503, 504, 505; BHIS 510. No transfer courses will be accepted for the ANL certificate.

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Nursing

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Admission Requirements

- Master of Science
- Master of Science Graduate Entry Program
- MS in Nursing/MBA
- MS in Nursing/MPH
- MS in Nursing/MS in Health Informatics
- Doctor of Philosophy
- Doctor of Nursing Practice

Degree Requirements

- Master of Science
- MS in Nursing/MBA
- MS in Nursing/MPH
- MS in Nursing/MS in Health Informatics
- Doctor of Philosophy
- Doctor of Nursing Practice

Other Requirements

Mailing Address:
College of Nursing (MC 802)
845 South Damen Avenue, Room 133
Chicago, IL 60612-3727

Program Codes:
20FS1497PHD (PhD)
20FS5048DNP (DNP, Chicago)
20FS5048DNP1 (DNP, Urbana)
20FS5048DNP5 (DNP, Peoria)
20FS5048DNP6 (DNP, Quad Cities)
20FS5048DNP7 (DNP, Rockford)
20FS5048DNPU (DNP, Online)
20FS1497MS (MS, Chicago)
20FS1497MS1 (MS, Urbana)
20FS1497MS5 (MS, Peoria)
20FS1497MS6 (MS, Quad Cities)
20FS1497MS7 (MS, Rockford)

The MS and DNP program codes include the following major-based concentration codes:
1500: Administrative Studies in Nursing (MS only)
TBA: Adult-Gerontology Acute Care Nurse Practitioner
TBA: Adult-Gerontology Primary Care Nurse Practitioner
TBA: Neonatal Nurse Practitioner
5055: Women's Health Nurse Practitioner
5056: Nurse Midwifery
TBA: Nurse-Midwifery/Women's Health Nurse Practioner

5057: Perinatal Clinical Nurse Specialist
5058: Pediatric Nurse Practitioner
5059: Pediatric Clinical Nurse Specialist
5060: Psychiatric-Mental Health Clinical Nurse Specialist
5061: Psychiatric-Mental Health Nurse Practitioner
5062: Family Nurse Practitioner
5177: Executive Nursing Leadership (DNP only)
5178: Advanced Community Health Nurse
5179: Occupational Health/Advanced Community Health Nurse
5180: Occupational Health/Family Nurse Practitioner
5182: School/Family Nurse Practitioner
5242: School/Advanced Community Health Nurse (MS only)

Campus Location: 133 NURS
Telephone: (312) 996-7800
E-mail: con@uic.edu
Web Site: http://www.uic.edu/nursing/
Dean of the College: Terri Weaver
Directors of Graduate Studies: Patricia Lewis (MS and DNP programs) and Barbara Dancy (PhD program)

The College of Nursing offers work leading to the Master of Science in Nursing, the Doctor of Nursing Practice, and the Doctor of Philosophy in Nursing. Advanced practice concentrations are available in over 20 specialty areas. The College also offers the Graduate Entry Program, a graduate level program which includes entry-into-practice course work as a bridge into the advanced practice specialty course work. Interdepartmental concentrations in Gender and Women's Studies and in Neuroscience are available to PhD students; and the Interdepartmental Graduate Concentration in Women's Health is available to master's and PhD students. In addition, the college participates with the Liautaud Graduate School of Business in the MS in Nursing/MBA joint degree program, with the School of Public Health in the MS in Nursing/MPH joint degree program, and with the Department of Biomedical and Health Information Sciences in the MS in Nursing/MS in Health Informatics joint degree program. The Master of Science and Doctor of Nursing Practice programs can be completed at the Chicago campus or any one of the College's four regional sites. An on-line option is available to some students in the post-master's Doctor of Nursing Practice program; please contact the College of Nursing for more information. The College of Nursing's baccalaureate, master's, and DNP programs are fully accredited by the Commission on Collegiate Nursing Education. The Nurse-Midwifery program is accredited by the Accreditation Commission for Midwifery Education, and the Pediatric Nurse Practitioner program is accredited by the Pediatric Nursing Certification Board.

Admission Requirements

Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Applicants must have a baccalaureate degree in nursing from an NLNAC or CCNE accredited program or a baccalaureate degree in another field and have graduated from a nursing program preparing the student for registered professional nursing. Students who are registered nurses but have a baccalaureate degree in a field other than nursing will have additional course requirements consisting of any or all of the following NURS 210, NURS 242, and NURS 385 at the beginning of their program of study.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of the first baccalaureate degree.
- **Tests Required** GRE General. Applicants to the MS/MBA joint degree program may substitute the GMAT. The GRE is waived for applicants with a 3.25/4.00 GPA for the final

60 semester hours of the baccalaureate degree.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), OR,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required to be submitted electronically; the letters should describe the applicant's suitability for further study in professional nursing.
- **Personal Statement** Required. The statement should address the applicant's professional goals and previous work and academic experience.
- **Prior Academic Course Work** Applicants must have completed introductory courses in statistics and in research or their equivalent prior to starting the MS program.
- **Other Requirements** Applicants must be licensed to practice as a professional nurse in at least one political jurisdiction prior to enrollment. Applicants must be interviewed by a graduate faculty member in the program area selected.

Master of Science Graduate Entry Program

- **Graduate Entry Program** The Graduate Entry Program is for individuals without previous nursing preparation who hold a baccalaureate degree in a field other than nursing. The program begins with four semesters (15 months) of full-time, intensive course work in the foundations of nursing, which prepares students for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) and entry into nursing practice. Students then continue in one of the advanced practice specialty options to complete a master's degree in nursing.
- **Baccalaureate Field** Baccalaureate degree in any field
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of the first baccalaureate degree.
- **Tests Required** GRE General. Applicants to the MS/MBA joint degree program may substitute the GMAT.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required; the letters should describe the applicant's suitability for study in professional nursing.
- **Personal Statement** Required. The statement should address the applicant's professional goals and previous work and academic experience.
- **Prior Academic Course Work** The following prerequisite course work must be completed prior to enrollment: English Composition (6 semester hours), General Biology or Chemistry (4 sh), Human Anatomy and Physiology (8 sh), Humanities (6 sh in two different fields), Introduction to Research Methods (3 sh), and Social Sciences (6 sh in two different fields). A grade of C or better must be earned in all prerequisite courses. The Anatomy and Physiology requirement must be completed within 5 years of enrollment; other course work may be older. Although it is not required that the courses be completed by the time of application, it does enhance the application. Prerequisite course work can be completed at any college or university (including city/community colleges).
- **Other Requirements** Applicants must be interviewed by a faculty member in the selected specialty area.

MS in Nursing/MBA

Prospective students for the joint degree program must apply and be admitted to both programs. The requirements for admission to the MS in Nursing are listed above. Consult the College of Business Administration for information on the admission requirements of the MBA program.

MS in Nursing/MPH

Prospective students for the joint degree program must apply and be admitted to both programs. The requirements for admission to the MS in Nursing are listed above. Consult the School of Public Health for information on the admission requirements of the MPH program.

MS in Nursing/MS in Health Informatics

Prospective students for the joint degree program must apply and be admitted to both programs. The requirements for admission to the the MS in Nursing are listed above. Consult

the *College of Applied Health Sciences* section of the catalog for information on the admission requirements of the MS in Health Informatics program.

Doctor of Philosophy

- **Prior Degrees** Applicants for the post-baccalaureate option must have a baccalaureate degree in nursing from an NLNAC or CCNE accredited program. Applicants for the post-master's option must have a master's degree in nursing from an accredited program. Applicants who have a master's degree in a field other than nursing may also be considered for admission to the post-master's option but may have to complete additional course work based on prior educational background.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of the first baccalaureate degree.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required to be submitted electronically. The letters should describe the applicant's suitability for further study in professional nursing.
- **Personal Statement** Required. The statement should address the applicant's professional goals and previous work and academic experience.
- **Other Requirements** Applicants must be licensed to practice as a professional nurse in at least one political jurisdiction prior to enrollment. Applicants must be interviewed by a graduate faculty member in the program area selected. Admission is conditional on the availability of a faculty expert in the student's research area.

Doctor of Nursing Practice

- **Prior Degrees** Applicants for the post-baccalaureate option must have a baccalaureate degree in nursing from an NLNAC or CCNE accredited program. Applicants for the post-master's option must have a master's degree in nursing from an accredited program. Applicants who have a master's degree in a field other than nursing may also be considered for admission to the post-master's option but may have to complete additional course work based on prior educational background. It is recommended that applicants for the Executive Nursing Leadership concentration have a master's degree in administrative nursing or equivalent course work or experience. The Admissions Committee reserves the right to determine the appropriateness of any graduate work completed by an applicant and may limit transfer credit.
- **Grade Point Average** At least 3.00/4.00 for all work beyond the baccalaureate level and at least 3.00/4.00 for the final 60 semester (90 quarter) hours of the first baccalaureate degree.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required; the letters should describe the applicant's academic skills and accomplishments.
- **Personal Statement** Required. The statement should address the applicant's professional goals and previous work and academic experience.
- **Other Requirements** Applicants must be licensed to practice as a professional nurse in at least one political jurisdiction. Suitable applicants will be contacted by a faculty member for an interview.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** Varies by concentration.
- Administrative Studies in Nursing, 36–39.
- Adult-Gerontology Acute Care Nurse Practitioner, 48–50.
- Adult-Gerontology Primary Care Nurse Practitioner, 48–50.
- Advanced Community Health Nurse, 39–44.
- Family Nurse Practitioner, 51–54.

- Nurse Midwifery, 59–61.
- Nurse Midwifery/Women's Health Nurse Practitioner, 67–69.
- Occupational Health/Advanced Community Health Nurse, 42–47.
- Occupational Health/Family Nurse Practitioner, 67–70.
- Pediatric Clinical Nurse Specialist, 48–51.
- Pediatric Nurse Practitioner, 47–49.
- Perinatal Clinical Nurse Specialist, 45–47.
- Psychiatric-Mental Health Clinical Nurse Specialist, 48–50.
- Psychiatric-Mental Health Nurse Practitioner 52–54.
- School/Advanced Community Health Nurse, 42–47.
- School/Family Nurse Practitioner, 58–63.
- Women's Health Nurse Practitioner, 57–59.
- **Course Work** *Core Courses:* NURS 525, 526, 527, 528, and 529 are required for all concentrations.
- *Core Support and Concentration Courses:*
- Administrative Studies in Nursing—NUSP 501, 502, 503, 504, and 505; NUPR 513; HPA 511 or MGMT 541; 3-4 hours of electives.
- Adult-Gerontology Acute Care Nurse Practitioner—NURS 531, 532, 533, 536, and 537; NUSP 534 and 535; NUPR 539, 540, and 541.
- Adult-Gerontology Primary Care Nurse Practitioner—NURS 531, 532, 533, 536, and 537; NUSP 534 and 535; NUPR 539, 540, and 541.
- Advanced Community Health Nurse—NURS 525 or BSTT 400; NUSP 503, 504, 505, 507, 509, and 511; NUPR 513; EOHS 400; EPID 400.
- Family Nurse Practitioner—NURS 525 or BSTT 400; NURS 531, 532 and 535; NUSP 515, 516, 517, and 518; NUPR 521, 522, 523, 524 and 528; EPID 400.
- Nurse Midwifery—NURS 531, 532, and 535. NUSP 548, 549, 550, 555, 556, 557, 558 and 559; NUPR 572 and 573.
- Nurse Midwifery/Women's Health Nurse Practitioner—NURS 531, 532, and 535. NUSP 548, 549, 550, 555, 556, 557, 558 and 559; NUPR 572 and 573.
- Occupational Health/Advanced Community Health Nurse—NURS 525 or BSTT 400; NUSP 503, 505, 509, 511, and 514; NUPR 513; EOHS 421, 455, 482, and 551; EPID 400.
- Occupational Health/Family Nurse Practitioner—NURS 525 or BSTT 400; NURS 531, 532, and 535; NUSP 509, 511, 514, 515, 516, 517; NUPR 521, 522, 523, 524, 529; EOHS 421, 455, 482, and 551; EPID 400.
- Pediatric Clinical Nurse Specialist—NURS 530, 531, 532, and 535; NUSP 551, 552, 553, and 558; NUPR 569, 570, and 571.
- Pediatric Nurse Practitioner—NURS 531, 532, 533, and 535; NUSP 553, 554, and 558; NUPR 566, 567, and 568.
- Perinatal Clinical Nurse Specialist—NURS 530, 531, and 532; NUSP 548, 549, 551, 552, and 558; NUPR 569, 570, and 571.
- Psychiatric-Mental Health Clinical Nurse Specialist—NURS 531, 532, and 533; NUSP 525, 526, 527, 528, and 529; NUPR 531 and 532.
- Psychiatric-Mental Health Nurse Practitioner—NURS 531, 532, 533, and 535; NUSP 525, 526, 527, 528, and 529; NUPR 531, 532, and 533.
- School/Advanced Community Health Nurse—NURS 525 or BSTT 400; NUSP 503, 504, 505, 507, 509, 511, and 513; NUPR 514; EOHS 400; EPID 400.
- School/Family Nurse Practitioner—NURS 525 or BSTT 400; NURS 531, 532, and 535; NUSP 505, 513, 515, 516, 517, 518; NUPR 514, 521, 522, 523, 524, and 528; EPID 400.
- Women's Health Nurse Practitioner—NURS 531, 532, and 535; NUSP 548, 549, 550, 555, 556, 557, 559; NUPR 572.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Students select one of these options in consultation with their advisor.
- *Thesis:* In addition to the required core and concentration courses, students must earn 5 hours in NURS 598.
- *Project:* In addition to the required core and concentration courses, students must earn 3 hours in NURS 597.
- *Course Work Only:* In addition to the required core and concentration courses, students must earn 3 hours in NURS 550.

MS in Nursing/MBA

- **Minimum Semester Hours Required** 63–65.
- **Course Work** *Core Courses:* NURS 526, 527, 528, 529, and 597 or 598.
- *Concentration Courses:* NUSP 501, 502, 503, and 505; NUPR 513; ACTG 500; ECON 520; FIN 500; IDS 532; MGMT 541; MKTG 500; and 16 hours of MBA electives (IDS 570 recommended).
- **Comprehensive Examination** None.

- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options are available.
- *Thesis:* Students must earn 5 hours in NURS 598.
- *Project:* Students must earn 3 hours in NURS 597.

MS in Nursing/MPH

- **Minimum Semester Hours Required** 54–59.
- **Course Work** *Core Courses:* BSTT 400 or NURS 525; NURS 526, 527, 528, 529, and 597 or 598.
- *Concentration Courses:* NUSP 503, 504, 505, and 507; CHSC 400, 401, 431, 433, and 480; EPID 400; EOHS 400; IPHS 650 and 698; choose one of the following: CHSC 527, CHSC 543, or HPA 430.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options are available.
- *Thesis:* Students must earn 5 hours in NURS 598.
- *Project:* Students must earn 3 hours in NURS 597.

MS in Nursing/MS in Health Informatics

- **Minimum Semester Hours Required** 65.
- **Course Work** *Core Courses:* NURS 525, 526, 527, 528, 529, and 597 or 598.
- *Concentration Courses* NUSP 501, 502, 503, 504, and 505; NUPR 513; BHIS 437, 503, 505, 510, 511, 525, 537, and 13–15 hours of BHIS electives. BHIS 515, 517, and 520 are recommended electives for the Informatics Nurse Certification Exam.

Doctor of Philosophy

- **Minimum Semester Hours Required** At least 96 semester hours from the baccalaureate, at least 64 semester hours from the master's. Students who have previously earned a master's degree or its equivalent from UIC or another accredited institution may be granted 32 semester hours of credit toward the doctoral degree if approved by the Director of Graduate Studies.
- **Course Work** *Required Courses:* NURS 570, 571, 572, 573, 585 and 590; NUPR 593; 6 hours of advanced statistics. 9 hours of statistics are required if without a master's in nursing.
- *Electives:* At least 14 hours of 400- and 500-level didactic courses with a focus on advanced nursing science. 18 hours of elective course work are required if without a master's in nursing.
- **Preliminary Examination** Required.
- **Dissertation Required.** Students must earn at least 24 hours in NURS 599.

Doctor of Nursing Practice

- **Minimum Semester Hours Required** At least 90 semester hours from the baccalaureate (actual hours will vary by concentration), at least 45 semester hours from the master's. Students who have previously earned a master's degree or its equivalent from UIC or another accredited institution may be granted 45 semester hours of credit toward the doctoral degree if approved by the Director of Graduate Studies.
- **Course Work** *BSN to DNP Curriculum:* Core Practice Competency Courses (32 hours)—NURS 525, 526, 527, 528, 529, 550, 551, 552, 553, and 554; EPID 400 or 403; BHIS 510. (Students in the Advanced Community Health Nurse and Occupational Health/Advanced Community Health Nurse concentrations will take NUSP 503 in lieu of NURS 553.)
- *BSN to DNP Curriculum:* Specialty-Specific and Role Competency Courses (38–54 hours).
- Adult-Gerontology Acute Care Nurse Practitioner—NURS 531, 532, 533, 536, and 537; NUSP 534 and 535; NUPR 539, 540, and 541; 3 hours of electives.
- Adult-Gerontology Primary Care Nurse Practitioner—NURS 531, 532, 533, 536, and 537; NUSP 534 and 535; NUPR 539, 540, 541, and 542.
- Advanced Community Health Nurse—NUSP 504, 505, 509, 511, 588, 589, and 591; NUPR 592; EOHS 400; 6 hours of selectives in area of specialization; 4 hours of electives.
- Family Nurse Practitioner—NURS 531, 532 and 535; NUSP 515, 516, 517, 518, and 590; NUPR 521, 522, 523, 524, and 528.
- Neonatal Nurse Practitioner—NURS 531, 532, 533, and 535; NUSP 549, 558, 560, 561, 562, and 563; NUPR 574.

- Nurse Midwifery—NURS 531, 532, and 535. NUSP 548, 549, 550, 555, 556, 557, 558 and 559; NUPR 572 and 573.
- Nurse Midwifery/Women's Health Nurse Practitioner—NURS 531, 532, and 535. NUSP 548, 549, 550, 555, 556, 557, 558, and 559; NUPR 572 and 573.
- Occupational Health/Advanced Community Health Nurse—NUSP 505, 509, 511, 514, 588, 589, and 591; NUPR 592; EOHS 421, 455, 482, and 551; 6 hours of electives.
- Occupational Health/Family Nurse Practitioner—NURS 531, 532, and 535; NUSP 509, 511, 514, 515, 516, 517; NUPR 521, 522, 523, 524, and 529; EOHS 421, 455, 482, and 551.
- Pediatric Clinical Nurse Specialist—NURS 530, 531, 532, and 535; NUSP 551, 552, 553, and 558; NUPR 569, 570, and 571; 3 hours of electives.
- Pediatric Nurse Practitioner—NURS 531, 532, 533, and 535; NUSP 553, 554, and 558; NUPR 566, 567, and 568; 4 hours of electives.
- Perinatal Clinical Nurse Specialist—NURS 530, 531, and 532; NUSP 548, 549, 551, 552, and 558; NUPR 569, 570, and 571; 6 hours of electives.
- Psychiatric-Mental Health Clinical Nurse Specialist—NURS 531, 532, and 533; NUSP 525, 526, 527, 528, and 529; NUPR 531 and 532; 3 hours of electives.
- Psychiatric-Mental Health Nurse Practitioner—NURS 531, 532, 533, and 535; NUSP 525, 526, 527, 528, and 529; NUPR 531, 532, and 533.
- School/Family Nurse Practitioner—NURS 531, 532, and 535; NUSP 505, 513, 515, 516, 517, 518; NUPR 514, 521, 522, 523, 524, and 528.
- Women's Health Nurse Practitioner—NURS 531, 532, and 535; NUSP 548, 549, 550, 555, 556, 557, 559; NUPR 572.
- *BSN to DNP Curriculum:* DNP Synthesis Project and DNP Practicum (20 hours)—NURS 560, 561, and 562; NUPR 584 and 585.
- *MS to DNP Curriculum:* Core Practice Competency Courses (25 hours)—EPID 400 or 403; BHIS 510; NURS 550, 551, 552, 553, and 554; 3 hours of graduate-level electives.
- *MS to DNP Curriculum, Concentration in Executive Nursing Leadership:* Core Practice Competency Courses (31 hours)—EPID 400 or 403; NURS 550, 552, and 554; NUSP 580, 581, 582, 583, 584, 585 (at least 1 hour); 5 hours of graduate-level electives (may include additional hours of NUSP 585).
- *MSN to DNP Curriculum:* DNP Synthesis Project and DNP Practicum (20 hours)—NURS 560, 561, and 562; NUPR 584 and 585.
- **Preliminary Examination** Required.

Interdepartmental Concentration in Gender and Women's Studies

PhD students in this department may complement their courses by enrolling for a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Concentration in Neuroscience

PhD students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

Other Requirements

Students are required to provide documentation of immunizations, background check results, drug screens, HIPAA training, CPR certification, and current nursing license. Please see http://www.uic.edu/nursing/students/compliance.shtml for specific requirements for each program. All information must be submitted before students are allowed to register for courses.



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Women's Health (Interdepartmental Graduate Concentration)

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Admission Requirements
Degree Requirements

Mailing Address:
College of Nursing (MC 802)
845 South Damen Avenue, Room 133
Chicago, IL 60612-3727

Campus Location: 133 NURS
Telephone: (312) 996-7800
E-mail: con@uic.edu
Web Site:
http://www.uic.edu/nursing/prospectivestudents/womens_health_concentration.shtml
Concentration Director: Carrie Klima

Students earning a graduate degree in the College of Nursing, the School of Public Health, or the Department of Sociology may complement their courses by enrolling for a concentration in Women's Health after consulting with their graduate advisor.

Graduate Program	Level
Nursing	MS, PhD
Public Health Sciences	MS, PhD
Sociology	MA, PhD

Students from the above programs pursuing this concentration must elect the concentration by submitting a letter to the director of the Interdepartmental Graduate Concentration in Women's Health, and obtain approval of a course of study from a concentration advisor. Students should enroll in a minimum of 12 hours of course work; all students must enroll in NUSP 550. Of the 12 hours, at least 6 hours must be taken outside of the students' primary school or college in approved Women's Health related courses. At least 1 course must be through the Gender and Women's Studies Program, and at least 1 course must be in the health-related sciences, such as through the School of Public Health or the College of Nursing. Up to 3 semester hours may be taken in independent study or thesis research as approved by the student's concentration advisor after development of and submission of a plan of work to the director of the concentration.

Admission Requirements

A student intending to participate in the Interdepartmental Graduate Concentration in Women's Health must be admitted or enrolled at the University of Illinois in one of the designated degree programs in order to elect this concentration. Designated degree programs include the MS and PhD in Nursing, and the MS, MPH, PhD, and DrPH in Public Health, and MA and PhD in Sociology. Students must formally elect the concentration by submitting a plan of work, which

is developed with the assistance of a concentration advisor, to the director of the concentration and by informing their home department. The plan of work is a 500-word proposal to the concentration director indicating their interest in the concentration, what they hope to learn from this concentration, the relation of the concentration to their future career goals, and their anticipated course of study in the concentration.

Degree Requirements

1. Relation to primary program requirements: Students must meet all of the requirements of their primary department or school and of the graduate program. This concentration does not alter those requirements in any manner.
2. Advisor selection: Students must select a concentration advisor from a list of designated or affiliated faculty.
3. Total concentration hours, core and elective hours, listing of core course numbers: This is a minimum 4-course concentration totaling a minimum of 12 credit hours. It is composed of 3 core courses, with one course being an introduction to the field of Women's Health, one Women's Health issues course, and one theory/methods course. Students also take 1 elective course for a minimum of 3 semester hours. A maximum of 3 semester hours may be in independent study. Students may obtain a list of approved courses in each area from their concentration advisor.
4. Interdepartmental requirement: At least one course must be through the Gender and Women's Studies Program, and at least 1 course must be in the health-related sciences, such as through the School of Public Health or the College of Nursing. A minimum of 6 semester hours must be outside of a student's home area. Home area refers to the sponsoring academic unit. For cross-listed courses, the primary academic unit controlling the course is considered the home area.
5. Selection options for electives: Electives comprise at least 3 semester hours in this concentration and may be in independent study.
6. Independent study or thesis research: Students may choose independent study or thesis research as an elective in this concentration for a maximum of 3 credit hours. The student, in consultation with the concentration advisor, develops a plan of work for the independent study or thesis research. This plan of study specifies the goals for the semester, a reading list, and any expected product. A copy of this plan is submitted to the director of the concentration. For thesis research to count toward the concentration, it must also be approved by the student's primary academic unit.
7. Students must obtain an A, B, or Satisfactory grade for all courses in this concentration.

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- Biopharmaceutical Sciences (MS, PhD)
- Forensic Science (MS)
- Forensic Toxicology (MS)
- Medicinal Chemistry (MS, PhD)
- Pharmacognosy (MS, PhD)
- Pharmacy (MS, PhD)
- Joint PharmD/PhD Program (PharmD/PhD)
- Professional Program—Pharmacy (PharmD)

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Biopharmaceutical Sciences

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
335 College of Pharmacy Building (MC 865)
833 South Wood Street
Chicago, Illinois 60612-7231

Campus Location: 335 PHARM
Program Codes: 20FS1903MS (MS); 20FS1903PHD (PhD)
Telephone: (312) 996-2253
E-mail: bpsdgs@uic.edu
Web Site: http://www.bps.uic.edu/
Department Head: William T. Beck
Director of Graduate Studies: Richard A. Gemeinhart, PhD

The Department of Biopharmaceutical Sciences offers work leading to degrees in Biopharmaceutical Sciences at both the master's and doctoral levels. Course work and research are available in the areas of pharmaceutics, pharmacodynamics, toxicology, cellular and molecular biology, nanopharmacy, and pharmacogenomics. Biopharmaceutical Sciences also participates in a joint PharmD/PhD program (see PharmD/PhD in this section of the catalog), the Medical Scientist Training Program (see Medical Scientist Training Program information in the *College of Medicine* section of the catalog), and the Interdepartmental Concentration in Neuroscience.

Admission Requirements

Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Prior Degrees** Baccalaureate degree in pharmacy, pharmaceutical sciences, chemistry, biochemistry, bioengineering, biological sciences, a related biomedical science area, or a doctor of pharmacy degree.
- **Grade Point Average** At least 3.00/4.00.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.

- **Letters of Recommendation** Three required from individuals who are familiar with the applicant's training, ability, character, and potential for successful completion of the program.
- **Personal Statement** Required; one page. The statement should address the applicant's educational and professional objectives.
- **Other** This program does not typically admit applicants for an MS degree.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work Required** *Core Courses:* BPS 501, 502; and BSTT 400 or NURS 525; GC 401, 470, and 471. Students must register for BPS 595 every semester for a minimum of 4 hours.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. Students must earn at least 6 hours in BPS 598.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate, 64 from the master's.
- **Course Work Required** *Core Courses:* BPS 501, 502; and BSTT 400 or NURS 525; GC 401, 470, and 471. Students must register for BPS 595 every semester for a minimum of 8 hours. At least 20 hours must be in 500-level didactic courses.
- *Electives:* At least 14 hours must be in 400–500-level didactic courses and all courses should be selected in consultation with the student's research advisor.
- **Preliminary Examination** Required.
- **Dissertation** Required. Students must earn at least 50 hours in BPS 599.
- **Other Requirements** Please consult the departmental handbook for full information on all requirements.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to Interdepartmental Concentration in Neuroscience in the *Graduate College* section for more information.

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Forensic Science

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Forensic Science Program (MC 866)
833 South Wood Street
Chicago, IL 60612-7231

Campus Location: 452 PHARM
Program Code: 20FS1274MS
Telephone: (312) 996-2250
E-mail: larsena@uic.edu
Web Site: http://www.uic.edu/pharmacy/depts/Forensic_Science/
Department Head: William T. Beck
Director of Graduate Studies: A. Karl Larsen, Jr.

The master's program in Forensic Science is administered by the Department of Biopharmaceutical Sciences. The program encompasses a broad knowledge of the basic areas of forensic science laboratory disciplines (biology/biochemistry; chemistry and trace evidence analysis; drug identification and toxicology; and pattern evidence) with emphasis on the integration of analytical and interpretative skills. The role of forensic laboratory sciences in justice system processes is an integrating theme. There is an opportunity for some specialization through the selection of electives.

Admissions Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** BS in physical, biological, or pharmaceutical sciences (chemistry or biochemistry recommended). Minimum of one semester analytical chemistry and one semester physical chemistry. Instrumental analysis, biochemistry, and additional physical chemistry desirable.
- **Grade Point Average** At least 3.00/4.00 overall. Applications are strengthened by 3.25/4.00 overall GPA and 3.00/4.00 GPA in core science and mathematics courses.
- **Tests Required** GRE General Test; applications are strengthened by scores corresponding to 65th percentile or higher in verbal, quantitative, and analytical writing.
- **Minimum English Competency Test Score**
  - **TOEFL** 600 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL). Recommended score of 87, with subscores of Reading 21, Listening 21, Speaking 23, and Writing 22. **OR**

    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 38.
- **Course Work** *Required Courses*: BPS 580, 581, 582, 583, 584, 588, and a minimum of two semester hours of 587.
- *Electives:* 9–12 semester hours that may be selected in the student's area of interest; may include 2–4 hours of internship (BPS 592), or up to 12 hours of residency (BPS 590) for those interested and who are accepted by the host agencies.
- **Comprehensive Examination** Required for students choosing to fulfill the research requirement with BPS 597.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project. No other options are available.
- *Thesis:* Thesis students must earn at least 6 hours in BPS 598.
- *Project:* Project students must earn 3 hours in BPS 597. Those electing the project option must also take a comprehensive exam.

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Forensic Toxicology

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Admission Requirements

- Master of Science

Degree Requirements

- Master of Science

Mailing Address:
Department of Biopharmaceutical Sciences (MC 865)
Forensic Toxicology Program
833 South Wood Street
Chicago, IL 60612

Campus Location: 456A PHARM
Program Code: 20FS5286MS
Telephone: (312) 996-2560
E-mail: anegrusz@uic.edu
Web Site: http://www.uic.edu/pharmacy/depts/Forensic_Toxicology/index.php
Department Head: William T. Beck
Director of Graduate Studies: Adam Negrusz

The MS in Forensic Toxicology is a comprehensive, research-based, professional master's degree with emphasis on basic knowledge of analytical chemistry, physiology, and pharmacology, and problem formulation and solving skills as developed through thesis research. It can provide a pathway to gainful employment in positions requiring or desiring MS-level training. It also provides preparation for PhD programs in toxicology, pharmacology, medicinal chemistry, etc.

Admissions Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** BS in chemistry, biochemistry, or pharmaceutical sciences, and/or PharmD. Analytical chemistry, one semester physical chemistry, and instrumental analysis are required.
- **Grade Point Average** At least 3.25/4.00 overall. Applications are strengthened by a GPA higher than 3.25/4.00 overall, and a minimum of 3.00/4.00 in science and mathematics courses.
- **Tests Required** GRE General Test; applications are strengthened by scores corresponding to the 60th percentile (verbal) and 70th percentile (quantitative) or higher, and 5 or higher in analytical writing.
- **Minimum TOEFL Score** 600 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL). Recommended score of

87, with subscores of Reading 21, Listening 21, Speaking 23, and Writing 22; or IELTS of 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 42.
- **Course Work** *Required Courses:* BPS 570, 573, 574, two credit hours of 587, GCLS 500, 501, 503, PHYB 552, PCOL 501, 502.
- *Electives:* 6 semester hours that may be selected from among PCOL 430, BPS 501, 502, 542, 588, 592.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis only. No other options are available.
- Students must earn at least 6 hours in BPS 598.

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Medicinal Chemistry

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Department of Medicinal Chemistry and Pharmacognosy (MC 781)
833 South Wood Street
Chicago, IL 60612-7231

Campus Location: 539 PHARM
Program Codes: 20FS1454MS (MS); 20FS1454PHD (PhD)
Telephone: (312) 996-7245
Fax: (312) 996-7107
E-mail: medchem@uic.edu, pap4@uic.edu
Web Site:
http://www.uic.edu/pharmacy/depts/Medicinal_Chemistry_and_Pharmacognosy/index.php
Head of the Department: Judy Bolton
Director of Graduate Studies: Pavel A. Petukhov

The Department of Medicinal Chemistry and Pharmacognosy offers work leading to degrees in Medicinal Chemistry at both the master's and doctoral levels. Medicinal chemistry is focused on the discovery and development of biologically active agents with potential therapeutic application. The program is focused on the following areas - Analytical and Chemical Toxicology, Biomedicinal Chemistry, Computational Medicinal Chemistry, Structural Biology, and Synthetic Medicinal Chemistry. Medicinal chemistry also participates in a joint PharmD/PhD program; see the Joint PharmD/PhD information in this section of the catalog. The department also offers a graduate program in Pharmacognosy; consult Pharmacognosy in this section of the catalog for more information on that program.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Pharmacy, chemistry, or the biological sciences. Prior academic work should include a year each of biology or biochemistry and organic chemistry. (**Note:** No financial support is offered to applicants to the MS program.)
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of baccalaureate study.
- **Tests Required** GRE General. The GRE Advanced Chemistry or Biology test is recommended.
- **Minimum English Competency Test Score**

- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32. At least 16 semester hours must be completed in didactic courses.
- **Course Work** *Required Core Courses:* GCLS 501; MDCH 561; 4 hours of MDCH 592; 2 hours of MDCH 595 (one hour literature seminar and one hour thesis seminar); plus a minimum of 6 additional hours of required concentration and elective courses. Students must select one of five concentrations: Analytical and Chemical Toxicology, Biomedicinal Chemistry, Computational Medicinal Chemistry, Structural Biology, or Synthetic Medicinal Chemistry.
- *Required Concentration Courses:*
  - Analytical and Chemical Toxicology—MDCH 412, 562, 571.
  - Biomedicinal Chemistry—GCLS 502; MDCH 412.
  - Computational Medicinal Chemistry—MDCH 572.
  - Structural Biology—BCMG 513, MDCH 564.
  - Synthetic Medicinal Chemistry—MDCH 560, 562, 564, 571, 573.
- *Recommended Electives:* These courses are to be selected in consultation with thesis supervisor and Director of Graduate Studies:
  - Analytical and Chemical Toxicology—GCLS 501, 502; MDCH 562, 572, 585, 594; PCOL 430.
  - Biomedicinal Chemistry—BCMG 513, 561, 563; GCLS 501, 502, 503, 504, 505; MDCH 562, 572, 594; MIM 554.
  - Computational Medicinal Chemistry—MDCH 572, BCMG 513; BSTT 400; CHEM 542, 558; CS 559, 560; GCLS 501, 502.
  - Structural Biology—BCMG 513, CHEM 552, 553, 554, 558; GCLS 502; MDCH 562, 572, 594.
  - Synthetic Medicinal Chemistry—MDCH 562, 572; CHEM 532, 533, 535, 552.
- **Thesis, Project, or Course-Work-Only Options** Thesis and oral defense required. No other options are available. Students must complete at least 5 semester hours in MDCH 598.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** *Required Core Courses:* GCLS 501; MDCH 561; 4 hours of MDCH 592; 2 hours of MDCH 595 (1-hour literature seminar and 1-hour thesis seminar); and a minimum of 11 additional hours of required concentration and elective courses. Students must select one of five concentrations: Analytical and Chemical Toxicology, Biomedicinal Chemistry, Computational Medicinal Chemistry, Structural Biology, or Synthetic Medicinal Chemistry.
- *Required Concentration Courses:*
  - Analytical and Chemical Toxicology—MDCH 412, 562, 571.
  - Biomedicinal Chemistry—GCLS 502; MDCH 412.
  - Computational Medicinal Chemistry—MDCH 572.
  - Structural Biology—BCMG 513; MDCH 564.
  - Synthetic Medicinal Chemistry—MDCH 560, 562, 564, 571, 573.
- *Recommended Electives:* These courses are to be selected in consultation with thesis supervisor and Director of Graduate Studies:
  - Analytical and Chemical Toxicology—GCLS 501, MDCH 412, 562, 572, 585, 594; PCOL 430.
  - Biomedicinal Chemistry—GCLS 501, 502; BCMG 513, 561, 563; GCLS 503, 504, 505; MDCH 412, 562, 572; 594; MIM 554.
  - Computational Medicinal Chemistry—MDCH 572; GCLS 501; BCMG 513; BSTT 400; CHEM 542, 558; CS 559, 560; GCLS 502.
  - Structural Biology—BCMG 513; GCLS 501, CHEM 552, 553, 554, 558; GCLS 502; MDCH 562, 571, 572, 594.
  - Synthetic Medicinal Chemistry—MDCH 562, 564, 572, 573, 594; GCLS 501, CHEM 532, 533, 535, 552, 553.

- **Examinations** *Departmental Qualifying and Preliminary Examination:* Required. Passing this examination permits doctoral students to bypass the formal requirement of writing a master's thesis. Good academic standing required for eligibility to take the examination. The exam is given following completion of the second semester of required course work. The exam should be taken no later than the spring semester of the second year. Students who did not pass the exam will be given an option to graduate with Master of Science degree in Medicinal Chemistry.
- **Dissertation** Required; including oral defense.
- **Other Requirements** All candidates must assist in teaching one or more of the courses offered by the College of Pharmacy or the department. Minimum of 70 semester hours of MDCH 599.

Students applying to the department are encouraged to check the Web site for program updates http://www.uic.edu/pharmacy/depts/Medicinal_Chemistry_and_Pharmacognosy/index.php.

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Pharmacognosy

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
Pharmacognosy Program (MC 781)
College of Pharmacy
833 South Wood Street
Chicago, IL 60612-7231

Campus Location: 539 PHARM
Program Codes: 20FS1563MS (MS); 20FS1563PHD (PhD)
Telephone: (312) 996-7253
E-mail: Pharmacognosy@uic.edu
Web Site: http://pcog.pharm.uic.edu; http://go.uic.edu/pharmacognosy
Head of the Graduate Program: Chun-Tao Che
Director of Graduate Studies: Jimmy Orjala

The Department of Medicinal Chemistry and Pharmacognosy (MCP) in the College of Pharmacy offers a program of study leading to degrees in Pharmacognosy at the doctoral (primarily) and master's levels. Major research areas concern the isolation, structure elucidation, and biological assessment of natural products; plant and microbial constituents from terrestrial and marine sources, having biological activity; the use and conservation of plants employed in traditional medicine; the fundamental mechanisms of biological activity of potential drugs and their targets both in vitro and in vivo; structure and function of cellular enzymes, microbial genomics; and drug discovery. Pharmacognosy participates in a joint PharmD/PhD program; see the Joint PharmD/PhD section of the catalog for more information. In parallel to but separately from the pharmacognosy graduate program, MCP also offers work leading to graduate degrees in Medicinal Chemistry; consult the Medicinal Chemistry section of the catalog for more information. Applicants should apply to their specific program of choice within MCP and are encouraged to contact the program for clarification.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** Chemistry or the biological sciences. Prior academic work should include a year each of biology and/or biochemistry, and organic chemistry.

- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. Applicants are encouraged to state their specific interest in the program.
- **Other Requirements** PhD applicants are strongly preferred.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** At least 16 hours must be in didactic courses.
- *Required Courses:* PMPG 480, 510, and one hour of 595.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis required. No other options are available.
- **Other Requirements** Candidates must assist in one or more of the courses offered by the college or the department.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate.
- **Course Work** At least 26 semester hours must be in didactic courses.
- *Required Courses:* PMPG 507 and two hours of PMPG 595. Students must select one of four concentrations: Natural Product Drug Discovery, Medical Ethnobotany, Biomedical and Molecular Toxicology, or Pharmaceutical Biotechnology.
- *Concentration-Specific Required Courses:*
  - Natural Product Drug Discovery—PMPG 510, 511, 515, 516, 521, 590, and 592.
  - Medical Ethnobotany—EPID 410; PMPG 511, 517, 518, 520, 590, and 592.
  - Biomedical and Molecular Toxicology—GCLS 501; PCOL 430, 508; PMPG 590, 592.
  - Pharmaceutical Biotechnology—GCLS 501, 502, 504/505; PMPG 522, 523.
- *Electives:*
  - Natural Product Drug Discovery—Minimum of 10 hours, selected in consultation with the student's advisor. Suggested electives are: EPID 410; GCLS 501; MDCH 562, 573; NURS 525; PMPG 517, 518, 520, 521, 540, 565, 569.
  - Medical Ethnobotany—Minimum of 10 hours, selected in consultation with the student's advisor. Suggested electives are ANTH 415, 594; BIOS 539, 594; CHSC 450, 554; PMPG 511, 518, 521, 534, 565, 569.
  - Biomedical and Molecular Toxicology—Minimum of 11 hours, selected in consultation with the student's advisor. Suggested electives are GCLS 504, 505, 515, 521; MDCH 412, 561, 562, 571, and 594; NURS 525; PMPD 565.
  - Pharmaceutical Biotechnology—Minimum of 10 hours, selected in consultation with the student's advisor. Suggested electives are BIOS 524, 525; GCLS 503, 515, 521; BCMG 513, 514; MDCH 412, 562, 564.
- **Examinations** *Departmental Qualifying Examination:* Not required.
- *Preliminary Examination:* Required; written and oral. Passing this examination permits doctoral students to bypass the formal requirement of writing a master's thesis.
- **Dissertation** Required; including oral defense.
- **Other Requirements** Candidates must assist in one or more of the courses offered by the college or the department.

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Pharmacy

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Admission Requirements

- Master of Science and Doctor of Philosophy

Degree Requirements

- Master of Science
- Doctor of Philosophy

Mailing Address:
College of Pharmacy (MC 871)
833 South Wood Street
Chicago, Illinois 60612-7231

Campus Location: 241 PHARM
Program Codes: 20FS1568MS (MS); 20FS1568PHD (PhD)
Telephone: (312) 413-2775
E-mail: walton@uic.edu
Web Site:
http://www.uic.edu/pharmacy/depts/Pharmacy_Administration/graduate_programs/index.php
Department Head: Nicholas Popovich
Director of Graduate Studies: Surrey Walton

The College of Pharmacy offers work leading to a graduate degree in Pharmacy at both the master's (MS) and doctoral (PhD) levels. The general area of focus is pharmacy administration, i.e., the social, behavioral, and economic pharmaceutical sciences. Note: These pharmacy graduate degrees are research degrees, not practice degrees. Students who wish apply to the professional degree program in Pharmacy, see requirements for the UIC Doctor of Pharmacy (PharmD) program on the Web http://www.uic.edu/pharmacy/. Pharmacy (Administration) also participates in a joint PharmD/PhD program (see the Joint PharmD/PhD section of the catalog) and the Interdepartmental Graduate Concentration in Survey Research Methodology (see Graduate College section of the catalog for more information).

Admission Requirements

Transcripts of all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Prior Degrees**
  - **MS**: Baccalaureate, PharmD or other clinical doctorate.
  - **PhD**: Baccalaureate, master's, or doctorate in pharmacy or a related field.
- **Grade Point Average** At least 3.00/4.00 in work for the first academic degree.
- **Tests Required** GRE General.
- **Minimum English Competency Test Score**

    - **TOEFL** 600 (paper-based); 90, with subscores of Reading 21, Listening 21, Speaking 23, and Writing 22 (iBT Internet-based). Minimum TOEFL scores are subject to change. **OR**
    - **IELTS** 6.5, with subscores of 6.5 for all four subscores.
- **Letters of Recommendation** Three (master's) or four (doctoral) required from individuals who are familiar with the applicant's training, ability, character, and potential for successful completion of the program.
- **Personal Statement** Required; 1–2 pages. The statement should address the applicant's educational and professional objectives.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 32.
- **Course Work** *Required Core Courses:* BSTT 400, BSTT 401, EPID 400 (or 403), PMAD 502, PMAD 525, PMAD 573. Students must register for PMAD 595 every fall/spring semester.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** PMAD Project and oral defense required, PMAD 597 (6 hours). No other options are available.
    - *Thesis:* None.

Doctor of Philosophy

- **Minimum Semester Hours Required** At least 96 credit hours from the baccalaureate degree or clinical doctorate, or at least 64 credit hours from the master's. At least 48 credit hours beyond the master's level or its equivalent must be earned at UIC.
- **Course Work** At least 20 hours must be in 500-level didactic courses.
- *Required Core Courses:* BSTT 400, BSTT 401, EPID 400 (or 403), PHAR 441*, PMAD 502, PMAD 525, PMAD 573, and four PMAD electives. Students must register for PMAD 595 every fall/spring semester.
- **Credit for Prior Master's Degree:** Doctoral students who have previously earned a master's degree or its equivalent from UIC or another accredited university may be granted up to 32 semester hours of credit toward the doctoral degree if approved by the program and the Graduate College. The 32 hours are not included in the maximum allowed transfer credit limit. A petition is not required as the director of graduate studies informs the Graduate College.
- **Examinations** *Departmental Qualifying Examination:* Required after completion of core course work.
- *Preliminary Examination*: An oral and written examination is required in the area of specialization.
- **Dissertation** Required. A minimum of 12 credit hours must be taken in PMAD 599 and counted toward degree requirements. An oral and written proposal is required before the thesis committee. A formal dissertation and open thesis defense are required.
- **Other Requirements** Students must demonstrate satisfactory proficiency in written and verbal communications. *PHAR 441 required unless graduate students earned doctor of pharmacy (PharmD) or MS in pharmacy administration (or equivalent).
- **Registration** Doctoral candidates must be registered for credit in the term when they take their preliminary examination. They must also register each semester (excluding summer) after passing the preliminary examination and until successfully defending the dissertation. Students who are taking the preliminary examination or defending their dissertation must be registered during the summer session. If an examination occurs between terms, registration is required in the term just ended.

Interdepartmental Graduate Concentration in Survey Research Methodology

Students earning a graduate degree in this department may complement their courses by enrolling for a concentration in Survey Research Methodology. See *Interdepartmental Graduate Concentration in Survey Research Methodology* in the *Graduate College* section for more information.

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Joint PharmD/PhD Program

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- Application Procedure
- Degree Requirements

Mailing Address:
Pharmaceutical Scientist Training Program (PharmD/PhD)
College of Pharmacy c/o Director of Graduate Education (MC 874)
833 South Wood Street
Chicago, IL 60612

E-mail: PSTPApp@uic.edu
Web site: http://go.uic.edu/PharmD_PhD

The UIC College of Pharmacy offers a select number of highly qualified students the opportunity to work toward both the PharmD and PhD degrees in an integrated fashion. The objective of the joint program is to train students for careers in academic pharmacy and research. Students admitted to this highly competitive program participate in the PharmD curriculum and pursue original doctoral research projects in the laboratories of the university's graduate faculty.

The first two to three years of the program are used to complete the P-1 through P-3 didactic PharmD curriculum. Choice of a permanent thesis advisor can take place at any point before moving to the graduate focused years (G-1 through G-3 or more). Students in the graduate phase of the program work side-by-side with PhD students in the graduate program of choice and meet all departmental requirements of the PhD degree. Original publications and presentations at national meetings are expected. Following completion of the PhD phase of the program, students rejoin other PharmD students to complete PharmD clerkship requirements.

Application Procedure

Application to the program is normally made at the time of application to the College of Pharmacy. However, candidates will also be considered during their first three years of PharmD training in the UIC College of Pharmacy. Admission to the program requires acceptance by the Admissions Committees of the College of Pharmacy and the Graduate Program of interest. Criteria for admission to the program include academic excellence in pre-pharmacy and other subjects, prior research experience, potential for independent creative research, and commitment to a career in pharmaceutical research. Laboratory work, beyond traditional laboratory courses, concentrating in biology, chemistry, physics, biophysics, or socioeconomics is helpful in preparing for the training program. The admissions policy is flexible enough to accommodate those students who have already identified the field in which they wish to carry out research as well as those who are still undecided about their area of research specialization.

In addition to the application to the College of Pharmacy through PharmCAS, application to the program requires the submission of several documents to the joint program: (1) supplemental application form, which is available on the program's website (http://go.uic.edu/PSTPApp), (2) GRE test scores; (3) a statement of purpose for the joint program, (4-optional) curriculum vitae, and (5-if necessary) updated transcripts since PharmCAS application. Applicants are encouraged to submit 1 or 2 additional letters of recommendation, focusing on the applicant's research experience, directly to the program office. Applications for simultaneous admission to the joint program are encouraged in the autumn of the year preceding admission to provide the fullest opportunity for consideration, since rolling admissions procedure is used.

Degree Requirements

Students in the joint program complete requirements of the College of Pharmacy for the PharmD degree and requirements of their chosen research program for the PhD degree. Please see the descriptions of the specific programs (PharmD and PhD) for details on the requirements of each program. The joint program makes it possible for students to earn both degrees more quickly than would be possible if each were done sequentially by allowing requirements completed concurrently and to be counted toward the completion of both degrees.

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Professional Program—Pharmacy

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Mailing Address: College of Pharmacy
Office of Student Affairs (MC 874)
833 South Wood Street
Chicago, IL 60612

Campus Location: 154 PHARM
Telephone: (312) 996-7242
E-mail: pharmosa@uic.edu
Web Site: http://www.uic.edu/pharmacy/

Dean: Jerry L. Bauman
Vice Dean: David W. Bartels
Executive Associate Dean: Janet P. Engle
Associate Dean for Academic Affairs: Marieke Dekker Schoen
Assistant Dean for Academic Affairs: Suzanne M. Soliman
Associate Dean for Business Development and Administrative Affairs: James D. Bono
Associate Dean for Research and Graduate Education: Steven M. Swanson
Associate Dean for Student Affairs: Thomas TenHoeve III
Assistant Deans for Student Affairs: Debra Agard
Associate Dean for Urban Affairs: Clara Awe
Head, Department of Biopharmaceutical Sciences: William T. Beck
Head, Department of Medicinal Chemistry and Pharmacognosy: Judy L. Bolton
Head, Department of Pharmacy Administration: Nicholas G. Popovich
Head, Department of Pharmacy Practice: Janet P. Engle

The College of Pharmacy offers the Doctor of Pharmacy degree. The PharmD is the highest level of professional education in pharmacy and has been approved by the Accreditation Council for Pharmacy Education (ACPE) as the sole entry-level degree for the profession.

The PharmD curriculum at UIC emphasizes a patient-centered course of study and provides a structure that will enable our students to develop into reflective practitioners with skills and attitudes to anticipate change, criticize, evaluate, and modify practice in a changing healthcare arena. The curriculum also provides a fundamental core of knowledge, skills, and attitudes, which in composite, promote the fulfillment of the adopted professional competencies for a generalist practitioner who delivers pharmaceutical care.
The program prepares students to:

- enter into the practice of pharmacy to serve society as ethical and caring professionals;
- apply knowledge of drugs and drug therapy to solve problems and make decisions on behalf of their patients;
- educate, communicate, and collaborate with patients, colleagues, and other health professionals;
- learn—professional practice is a lifelong learning experience;
- practice pharmacy in traditional and nontraditional settings;

- assume a leadership role in the future direction of the profession.

To earn the Doctor of Pharmacy degree, students complete a minimum of six years of study: the first two years of pre-pharmacy course work can be accomplished at any accredited college or university; the final four years of professional education are completed at the UIC College of Pharmacy (Chicago or Rockford Campus). The prospective applicant is advised to contact the Office of Student Affairs (OSA) at the College of Pharmacy for further information at (312) 996-7242 or to obtain information at the OSA Web site: http://www.uic.edu/pharmacy/student_affairs.

The Doctor of Pharmacy is a professional degree program. For more information on the PharmD program and the application process, please consult the following Web sites:

- Information for prospective students, including pre-pharmacy course work and admission requirements: http://www.uic.edu/pharmacy/student_affairs/prospective_students/index.php
- PharmD curriculum outline: http://www.uic.edu/pharmacy/academic_affairs/Curriculum/Curriculum_Outline.php
- Information for current students, including advising and the *Student Handbook:* http://www.uic.edu/pharmacy/student_affairs/current_students/index.php
- Information on Pharmacy careers and jobs: http://www.uic.edu/pharmacy/student_affairs/careers_jobs.php

The following are the joint degrees programs currently offered in the College of Pharmacy. For additional information about any joint program, please contact the College of Pharmacy Office of Student Affairs, Room 154 or visit the following website: http://www.uic.edu/pharmacy/depts/Joint_Programs/index.php

PharmD-PhD Program
In response to industry and academic demands for pharmacists with PhD training, the College offers a joint Doctor of Pharmacy (PharmD) – PhD degree program. Students enrolled in this program can pursue the PharmD - the standard degree for pharmacists- simultaneously with any of our PhD degree offerings. The joint program is highly competitive and designed for select students who have interests in both the clinical aspects of pharmacy and research in the pharmaceutical sciences. With judicious selection and timing of courses, joint program participants can earn both degrees in less overall time than would be required to complete the degrees separately.

PharmD-MSHI Program
This joint degree program integrates Pharmacy Science and clinical practice with health informatics, the goal being identification, collection, processing and management of information to support pharmacy practice, administration, education and research. It promotes the expansion of pharmacy knowledge and leadership and is an important new dimension of pharmacy practice. Students in this joint program learn to identify the social issues that inhibit the effective use of information technology in health care and to apply creative solutions that address these issues.

PharmD-MS-CTS Program
There is widespread consensus that the US is facing a shortage of qualified researchers in clinical research who can apply accelerating advances in basic science and biotechnology to clinical practice as well as to translate clinical science into practice so that these advances improve population health. Graduates of the MS in Clinical and Translational Science (MS-CTS) will have the skills to direct a broad range of clinical studies, including the translation of scientific knowledge into clinical practice, and will be able to interact effectively with all of the complementary disciplines with which clinical investigators need to collaborate.

PharmD-MBA Program
The five-year joint PharmD/MBA program provides students with the business skills necessary to manage health care facilities as well as their own practices. Students spend the first two academic years in the College of Pharmacy. During the summers of the first two years, they

can complete up to 16 semester hours of MBA core courses. The third year of the program will be dedicated to fulfilling the remaining requirements towards the MBA through the CBA. If students carefully follow the recommended course sequence, they should be able to complete the program in five years. Pharmacy students must complete all requirements in the College of Pharmacy prior to receiving a MBA.

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School of Public Health

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- Clinical and Translational Science (MS, DMD/MS, MD/MS, PharmD/MS)
- Healthcare Administration (MHA)
- Public Health Sciences (MS, MPH/MA in Anthropology, MPH/MS in Nursing, PhD)
- Professional Programs—Public Health (DrPH and MPH)

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Clinical and Translational Science

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Admission Requirements

- Master of Science
- DMD/Master of Science
- MD/Master of Science
- PharmD/Master of Science

Degree Requirements

- Master of Science
- DMD/Master of Science
- MD/Master of Science
- PharmD/Master of Science

Mailing Address:
School of Public Health (MC 923)
1603 West Taylor Street
Chicago, IL 60612-4394

Campus Location: 1159 SPHPI
Program Code: 20FS5140MS (MS)
Telephone: (312) 413-5429
E-mail: birutep@uic.edu
Web Site: http://publichealth.uic.edu
Dean of the School: Paul Brandt-Rauf
Director of Graduate Studies: Babette Neuberger

The School of Public Health offers work leading to the Master of Science in Clinical and Translational Science. The degree is intended to train clinicians, primarily post-doctoral or post-residency fellows and junior faculty, to become leaders in clinical research. In addition the School participates with the College of Dentistry in offering the DMD/MS CTS joint degree program; with the College of Medicine in offering the MD/MS CTS joint degree program; with the College of Pharmacy in offering the PharmD/MS CTS joint degree program; and with the National University of Health Sciences in offering a coordinated DC/MS CTS degree program.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

- **Baccalaureate Field** Baccalaureate degree required.
- **Prior Degrees** An applicant must also have (1) a postbaccalaureate graduate or professional degree at the doctoral level OR (2) a baccalaureate degree from an accredited U.S. or Canadian school with concurrent enrollment in a clinical degree program.
- **Grade Point Average** 3.00/4.00 for the final 60 hours of undergraduate study and for all cumulative graduate work previously taken.

- **Tests Required** MS applicants with a graduate or professional degree at the doctoral level (e.g., PhD, ScD, MD, DMD, DNP, DO, DPT, DVM, PharmD) from an accredited U.S. or Canadian school or who are licensed to practice in the United States are exempt from the GRE requirement, but must instead submit scores for the appropriate exams in their profession such as the USMLE for physicians, National Board Dental Examinations Part I for dentists, and NPTE for physical therapists. (For example, current medical residents would submit scores for Part I and Part II of the USMLE. Medical fellows must submit scores for Part I, Part II, and Part III of the USMLE.)
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required. One of the letters of recommendation must be from the applicant's immediate supervisor or clinical program academic advisor specifically committing the applicant's home department to supporting the applicant during their tenure in the MS program.
- **Personal Statement** A career-goal statement outlining (1) reasons for pursuing the MS in Clinical and Translational Science at UIC, including the intended research focus, and (2) career goals.
- **Other Requirements:** Applicants must submit a statement of interest and CV/resume to Birute Petrauskas via e-mail, birutep@uic.edu. Selected applicants will be scheduled for personal interviews.

DMD/Master of Science

- A student must meet the admissions criteria of both programs and is admitted separately to each through separate applications. Students will also be required to submit a joint degree application to the College of Dentistry. Acceptance into the DMD/MS Joint Degree Program requires approval by the DMD/MS Joint Degree Committee. For students applying to both programs simultaneously, MS admission will be contingent upon both admission to the DMD program and the support of the College of Dentistry director of graduate studies.
- The UIC College of Dentistry participates in the American Dental Schools Application Service (AADSAS). Applications for admission to the DMD program must be directed through AADSAS and can be submitted between June 1st and December 1st of the year prior to matriculation. Applicants will also be required to submit directly to the College of Dentistry transcripts from all post-high school institutions attended.
- The UIC School of Public Health participates in the Schools of Public Health Application Service (SOPHAS). Prior to admitting students into the MS in CTS degree, HPA will check with COD to determine whether the student has been accepted into the DMD program.
- Admission to the MS in CTS program will be determined based on the support of the College of Dentistry director of graduate studies, previous academic achievement, research potential, commitment to CTS as evidenced by prior participation in clinical research, and two letters of recommendation. Students already enrolled at the College of Dentistry are to contact the director of graduate studies for further information. A DMD student must apply to the MS by May 1 of the D1 year, so that the student may enroll in MS course work during the fall of what would be the D2 year.
- **Letters of recommendation** Two required. One must be from a suitable clinical researcher who can attest to the applicant's research abilities. Both letters of recommendation should address (a) the applicant's previous achievements in research and/or academics; (b) the applicant's potential for successfully completing a clinical/translational research project; (c) analysis of the applicant's career plans and commitment to research, and (d) how the joint degree would advance these plans.
- **Personal Statement** Applicants will also submit a personal statement detailing accomplishments to date, and career goals and plans. Specifically, applicants should address background information relevant to their interest in clinical and translational research, and how additional training through the DMD/MS in CTS program would help achieve these goals. The applicant should provide any prior or ongoing research experience and explain how this might interface with the joint degree program.

MD/Master of Science

- Students must meet the admissions criteria of both programs and are admitted separately to each through their respective applications. All students should contact the MS Program Coordinator who will explain the application process for MS students.
- For students applying to both programs simultaneously, MS admission will be contingent upon both admission to the MD program and the support of the College of Medicine

Dean of Educational Affairs. Prior to admitting students into the MS degree, HPA will check with COM to determine whether the student has been accepted into the MD program.
- Admission to the MS CTS program will be determined based on the support of the College of Medicine Dean of Educational Affairs, previous academic achievement, research potential, and commitment to CTS as evidenced by prior participation in clinical research.
- In addition to other application materials, joint degree applicants are also expected to submit the following:
- **Letters of Recommendation** Two required, one of which must be from a suitable clinical researcher who can attest to the applicant's research abilities. Both letters of recommendation should address (a) the applicant's previous achievements in research and/or academics; (b) the applicant's potential for successfully completing a clinical/translational research project; (c) analysis of the applicant's career plans and commitment to research, and (d) how the joint degree would advance these plans.
- **Personal Statement** Required, detailing accomplishments to date, and career goals and plans. Specifically, applicants should address background information relevant to their interest in clinical and translational research, and how additional training through the MD/MS CTS Program would help achieve these goals. The applicant should provide any prior or ongoing research experience and explain how this might interface with the joint degree program.

PharmD/Master of Science

- Students must meet the admission criteria of both programs and will be admitted separately to each through their respective applications.
- For students applying to both programs simultaneously, MS admission will be contingent upon both admission to the PharmD program and the support of the Associate Dean for Student Affairs in the COP. Prior to admitting students into the MS CTS degree, HPA will check with COP to determine whether the student has been accepted into the PharmD program, and to be sure that the applicant has a prior baccalaureate degree or has completed both the P1 and P2 years satisfactorily.
- Admission to the MS CTS program will be determined based on the support of the Associate Dean for Student Affairs in the COP, a baccalaureate degree (or successful completion of P1 and P2), previous academic achievement, research potential, and commitment to CTS as evidenced by prior participation in clinical research.
- In addition to other application materials, joint degree applicants are also expected to submit the following:
- **Letters of Recommendation** Two required, one of which must be from a suitable clinical researcher who can attest to the applicant's research abilities. Both letters of recommendation should address (a) the applicant's previous achievements in research and/or academics; (b) the applicant's potential for successfully completing a clinical/translational research project; (c) analysis of the applicant's career plans and commitment to research, and (d) how the joint degree would advance these plans.
- **Personal Statement** Required, detailing accomplishments to date, and career goals and plans. Specifically, applicants should address background information relevant to their interest in clinical and translational research, and how additional training through the PharmD/MS CTS program would help achieve these goals. The applicant should provide any prior or ongoing research experience and explain how this might interface with the joint degree program.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 48.
- **Course Work** *Required Courses:* 21 core course semester hours consisting of: BHIS 509, BSTT 400, BSTT 401, EPID 403, MHPE/HPA 512, HPA 522, and HPA 591.
- *Electives:* 11 semester hours.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** 16 semester hours of required mentored research (IPHS 598), producing a paper that is a scholarly contribution to the field in the form of a journal article, pilot data for a grant application, and a thesis-defense of the paper/research and data.
- **Other Requirements** Students must maintain regular attendance at a seminar series; successfully complete required skill development workshops; and a grant proposal

based upon the mentored research project.

DMD/Master of Science

- The DMD/MS in CTS is a five-year program. Students in the program must satisfy the requirements of the MS in Clinical and Translational Science, a 48 semester hour program, and satisfy four years of the required DMD program.
- For the College of Dentistry, the student must require no remediation or repetition of D1, D2, or D3 courses and must maintain a minimum grade point average required by the College's Executive Committee on Student Promotions. Failure to maintain the accepted standard of academic excellence in the College of Dentistry will lead to dismissal from the joint program.
- For the MS in Clinical and Translational Science, the student must adhere to all relevant Graduate College policies including minimum GPA, and limits on transfer credit.
- **Minimum Semester Hours Required** Students in the program must satisfy requirements of the Masters of Science in Clinical and Translational Science, a 48 semester hour program, and satisfy four years of the required Doctor of Dental Medicine Degree program of study.
    - D1 Year—(39 credit hours in the DMD program), plus MS in CTS workshops and seminars.
    - D2 Year—(59 credit hours in the DMD program), plus MS in CTS workshops and seminars.
    - D3 Year—(60 credit hours in the DMD program) with opportunity for shared hours, plus MS in CTS workshops and seminars. With proper planning and prior approval by the executive associate dean for academic affairs at the College of Dentistry, joint degree students may apply up to 4 hours of IPHS 598—Research in Public Health Sciences toward clinical rotation requirements.
    - D4 Year—(54 credit hours in the DMD program) with opportunity for shared hours, plus MS in CTS workshops and seminars. With proper planning and prior approval by the executive associate dean for academic affairs at the College of Dentistry, joint degree students may apply up to 4 hours of IPHS 598—Research in Public Health Sciences toward clinical rotation requirements (community service component).
- **Course Work** *School of Public Health Required Courses*: 19 core course semester hours consisting of: BHIS 509, BSTT 400, BSTT 401, EPID 403, MHPE/HPA 512, HPA 522, and HPA 590.
- Joint degree students take HPA 590, which focuses on developing an answerable question, conducting a literature review, drafting specific aims, and understanding the components of a grant application. A draft NIH Small Research Grant (R03) will be the product of the course.
- *Electives:* 13 semester hours of electives chosen with input from the program director and mentors.
- **Mentored Research Component** 16 semester hours of IPHS 598—Research in Public Health Sciences. With proper planning and prior approval by the executive associate dean for academic affairs at the College of Dentistry, joint degree students may apply up to 8 hours of IPHS 598 toward clinical rotation course work during the D3 and D4 years. All students in the DMD/MS program must pursue the joint degree at a full-time pace.
- No more than 8 total hours during D3 and D4 will consist of shared course work.
- All students in the DMD/MS program must pursue the joint degree at a full-time pace.

MD/Master of Science

- Students in the program must satisfy the requirements of the MS in Clinical and Translational Science, a 48 semester hour program, and satisfy four years of the required medical degree program.
- **Minimum Semester Hours Required** *School of Public Health:* MS CTS 48 semester hours. College of Medicine All Campuses: Specific course titles vary from campus to campus. This summary of credit hours by year is for the Chicago program: M1 Year—42 credit hours, plus MS CTS workshops and seminars; M2 Year—52 credit hours, plus MS CTS workshops and seminars; M3 Year—50 credit hours, plus MS CTS workshops and seminars; M4 Year—39 credit hours, with opportunity for shared hours and attendance at MS CTS workshops and seminars.
- A maximum of 8 hours of credit of the required 16 hours mentored research (IPHS 598) may be applied as a research elective in M4 elective requirement. With proper planning and prior approval by the Dean of Educational Affairs at the College of Medicine, joint degree students may receive additional credit toward the M4 electives by taking an advanced-level Public Health course.
- No more than 12 total hours will be allowed for shared course work.

- **Course Work** *School of Public Health Required Courses:* 19 core course semester hours consisting of: BHIS 509, BSTT 400, BSTT 401, EPID 403, MHPE/HPA 512, HPA 522, and HPA 590.
- Joint degree students take HPA 590, which focuses on developing an answerable question, conducting a literature review, drafting specific aims, and understanding the components of a grant application. A draft NIH Small Research Grant (R03) will be the product of the course.
- *Electives:* 13 semester hours. With proper planning and prior approval by the School of Public Health, joint degree students may receive additional credit toward the MS CTS elective requirement by taking an approved nonclinical medical elective.
- **Mentored Research Component** 16 semester hours of required mentored research (IPHS 598), producing a paper that is a scholarly contribution to the field in the form of a journal article, pilot data for a grant application, and a thesis-defense of the paper/research and data. A maximum of 8 hours of the required 16 hours of mentored research (IPHS 598) may be applied as a research elective in M4 elective requirement.
- No more than 12 total hours will consist of shared course work.
- All students in the MD/MS program pursue the joint degree at a full-time pace.

PharmD/Master of Science

- Students in the program must satisfy the requirements of the MS CTS program and the PharmD Program.
- **Minimum Semester Hours Required** *School of Public Health* MS CTS 48 semester hours; College of Pharmacy PharmD 133 semester hours.
- **Course Work** *College of Pharmacy*
  - P1 Year (33–36 hours)—Fall: PHAR 331, PHYB 301, PHAR 321, PHAR 441, Electives; Spring: PHAR 332, PHYB 302, PHAR 322, PHAR 400, PHAR 342, Electives; plus MS CTS workshops and seminars. **Note:** Students may also take MHPE 512 (1) and an MS CTS elective during the summer following the P1 or P2 year.
  - P2 Year (33–35 hours)—Fall: PHAR 333, PHAR 323, PHAR 401, PHAR 402, PHAR 352, Electives. Spring: PHAR 324, PHAR 343, PHAR 455, PHAR 403, PHAR 404, PHAR 344, Electives; plus MS CTS workshops and seminars.
  - P3 Year (35–40 hours)—Fall: PHAR 405, PHAR 406, PHAR 346, PHAR 445, PHAR 353, Electives; Spring: PHAR 407, PHAR 408, PHAR 354, PHAR 365, PHAR 356, Electives; Summer: PHAR 357; plus MS CTS seminars and workshops and opportunity for shared hours. With proper planning and prior approval by the Associate Dean for Academic Affairs at the College of Pharmacy and the School of Public Health, joint degree students may apply up to 4 hours of approved advanced public health elective course work toward PharmD elective course requirements and/or up to 4 semester hours of MS IPHS 598 Research Hours toward pharmacy elective requirements.
  - P4 Year (24 hours)—Fall: P4 Clerkships; Spring: P4 Clerkships; plus MS CTS seminars and workshops and opportunity for shared hours. With proper planning and prior approval by the Associate Dean for Academic Affairs at the College of Pharmacy, up to 4 hours of P4 Clerkship time may be used to complete the IPHS 598 Research Hours for the PharmD degree.
- No more than 12 total hours will consist of shared course work.
- **Course Work** *School of Public Health Required Courses*: 19 core course semester hours consisting of: BHIS 509, BSTT 400, BSTT 401, EPID 403, MHPE/HPA 512, HPA 522, and HPA 590.
- Joint degree students take HPA 590, which focuses on developing an answerable question, conducting a literature review, drafting specific aims, and understanding the components of a grant application. A draft NIH Small Research Grant (R03) will be the product of the course.
- *Electives:* 13 semester hours. With proper planning and prior approval by the School of Public Health and College of Pharmacy, joint degree students may receive up to 4 hours toward the MS in CTS elective requirement by taking an approved nonclinical pharmacy elective.
- **Mentored Research Component** 16 semester hours of required mentored research (IPHS 598), producing a paper that is a scholarly contribution to the field in the form of a journal article, pilot data for a grant application, and a thesis-defense of the paper/research and data. A maximum of 8 hours of the required 16 hours of mentored research (IPHS 598) may be applied toward pharmacy electives and P4 Clerkship credit.
- No more than 12 total hours will consist of shared course work.
- All students in the PharmD/MS CTS program pursue the joint degree at a full-time pace.

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Healthcare Administration

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Admission Requirements

- Master of Healthcare Administration

Degree Requirements

- Master of Healthcare Administration

Mailing Address:
MHA Program
Division of Health Policy and Administration
School of Public Health (MC 923)
1603 West Taylor Street
Chicago, IL 60612-4394

Campus Location: 778A SPHPI
Program Code: 20FS4060MHA
Telephone: (312) 996-7816
E-mail: mha@uic.edu
Web Site: http://publichealth.uic.edu
Program Coordinator: Benn Greenspan
Director of Graduate Studies: Babette Neuberger

The School of Public Health (SPH), with support from the College of Business Administration (CBA), offers a two-year graduate program leading to the Master of Healthcare Administration (MHA). The Master of Healthcare Administration is a program designed for students who have chosen a management career in health services organizations such as hospitals, community-based ambulatory care centers, managed-care plans, the health supply chain, and long-term care providers. These students will receive an educational program that combines competence in management with an in-depth knowledge of the healthcare sector and of the management issues it faces. Required core courses emphasize accounting, economics, finance, human resources, informatics, marketing, and management. Courses in CBA are an integral component of the MHA program. The program coordinates practical experience through the MHA Preceptorship with medical centers, hospitals, long-term care organizations, and ambulatory care centers.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Healthcare Administration

- **Baccalaureate Degree** Required.
- **Grade Point Average** 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and for all cumulative graduate work previously taken.

- **Tests Required** All MHA applicants must submit GRE verbal and quantitative or GMAT scores taken within five years. GRE or GMAT scores should typically be 70th percentile or better. Applicants can use a demonstrated record of success in management in a health services organization to compensate for somewhat lower scores on the GRE or GMAT. Applicants with advanced professional degrees may have this requirement waived.
- **Minimum English Competency Test Score**
  - **TOEFL** 585–600 (paper-based), plus Test of Written English scores in the range of 5–6; 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required, preferably from instructors or employers.
- **Personal Statement** Required; addressing the applicant's goals for graduate study and career development.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Healthcare Administration

- **Minimum Semester Hours Required** 60.
- **Course Work** *Required Courses:* ACTG 500, BSTT 400, EPID 400, FIN 500, HPA 403, HPA 410, HPA 417, HPA 434, HPA 441, HPA 451, HPA 463, HPA 465, HPA 470, HPA 490, HPA 495, HPA 496, HPA 525, HPA 551, MGMT 553.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** A capstone project (HPA 496) is required. No other options are available.
- **Other Requirements** Each student must complete a preceptorship (HPA 495). Credit will be granted for completion of the tasks in the published preceptor syllabus, and submission of an acceptable portfolio that is the primary academic product of the MHA Preceptorship.

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Public Health Sciences

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Admission Requirements

- Master of Science and Doctor of Philosophy
- MPH/MA in Anthropology
- MPH/MS in Nursing

Degree Requirements

- Master of Science
- MPH/MA in Anthropology
- MPH/MS in Nursing
- Doctor of Philosophy

Mailing Address:
School of Public Health (MC 923)
1603 West Taylor Street
Chicago, IL 60612-4394

Campus Location: 1149 SPHPI

Program Codes:
20FS1634MS (Biostatistics MS)
20FS1634PHD (Biostatistics PhD)
20FS1635MS (Community Health Sciences MS)
20FS1635PHD (Community Health Sciences PhD)
20FS1636MS (Environmental and Occupational Health Sciences MS)
20FS1636PHD (Environmental and Occupational Health Sciences PhD)
20FS1637MS (Epidemiology MS)
20FS1637PHD (Epidemiology PhD)
20FS1638MS (Health Policy and Administration MS)
20FS1638PHD (Health Policy and Administration PhD)

Telephone: (312) 996-5381
E-mail: bjn@uic.edu
Web Site: http://publichealth.uic.edu
Dean of the School: Paul Brandt-Rauf
Director of Graduate Studies: Babette Neuberger

The School of Public Health offers work leading to the Master of Science and Doctor of Philosophy degrees in Public Health, Master of Science in Clinical and Translational Science, Master of Healthcare Administration, participates with the College of Nursing in offering the MS in Nursing/MPH joint degree program, participates with the College of Medicine in offering the Medical Scientist Training Program, and also participates with the Department of Anthropology in the College of Liberal Arts and Sciences in offering the MA in Anthropology/MPH in Global Health. Master's and doctoral students may apply into one of five primary concentrations. Secondary concentrations are also available as noted in parenthesis: Biostatistics; Community Health Sciences; Environmental and Occupational Health Sciences (including Industrial Hygiene, Hazardous Substances Management, Occupational Safety, and

Occupational and Environmental Epidemiology); Epidemiology (including Cancer Epidemiology, and Occupational and Environmental Epidemiology); and Health Policy and Administration. Other secondary concentrations include: Global Health offered by the School of Public Health and available to all master's students; and interdepartmental concentrations in Gender and Women's Studies, Survey Research Methodology, Violence Studies, and Women's Health.

The School of Public Health also offers programs leading to the Master of Public Health and Doctor of Public Health, and participates with other academic units in offering the MBA/MPH, MD/MPH, DVM/MPH, and MSW/MPH (effective for Spring 2013) joint degree programs; a coordinated JD/MPH with IIT Kent College of Law and a coordinated DC/MPH with National University of Health Sciences. These professional degree programs are not part of the Graduate College.

Admission Requirements

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

- **Baccalaureate Field** A major in the biological, physical, or social sciences is preferred. Students applying to the primary concentration in Environmental and Occupational Health must have completed a full year of general chemistry, at least one semester of organic chemistry, and mathematics through differential and integral calculus; a course in human physiology is also required for those interested in a secondary concentration in Industrial Hygiene, Hazardous Substances Management, or Occupational Safety.
- **Grade Point Average** At least 3.00/4.00.
- **Tests Required** GRE General. For GRE General Tests taken prior to August 1, 2011, the combined verbal and quantitative scores must be at least 1000. For GRE General Tests using the revised scoring system (i.e., those taken on or after August 1, 2011), the combined verbal and quantitative scores must be at least 300.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required; the statement should address the applicant's intended research, career goals, and reason for pursuing the MS or PhD degree in the chosen area.
- **Other Requirements:** Generally, applicants to the PhD program must have a master's degree. Applicants may submit their master's thesis as evidence of their ability to plan and complete significant health-related research.

MPH/MA in Anthropology

To be admitted to the joint degree program, applicants must meet the admissions criteria of both programs and be admitted to each through separate applications. Consult the *College of Liberal Arts and Sciences* section for information on the admission requirements of the MA in Anthropology. Consult the *School of Public Health Handbook* for information on the admission requirements of the MPH program. Joint degree students must take their MPH training in either Community Health Sciences or Epidemiology.

MPH/MS in Nursing

To be admitted to the joint program, applicants must meet the admissions criteria of both programs and be admitted to each through separate applications. Consult the *College of Nursing* section for information on the admission requirements of the MS in Nursing program. Consult the *School of Public Health Handbook* for information on the admission requirements of the MPH program. Joint degree students must take their MPH training in Community Health Sciences.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

- **Minimum Semester Hours Required** 48; 50–51 for the Epidemiology concentration; 50 for the Cancer Epidemiology concentration; 53 for the Occupational and Environmental Epidemiology concentration; 52 for the Industrial Hygiene concentration; 54 for the Occupational Safety concentration; and 58 for the Hazardous Substances Management concentration.
- **Course Work** At least 32 semester hours must be in courses other than IPHS 598, and at least 9 semester hours must be at the 500-level (requirements for the Biostatistics concentration are described below). No more than 4 hours of IPHS 596 may be applied to the degree.
- *Required Courses:* EPID 403 and BSTT 400. Remaining courses and their distribution depend on the student's area of concentration. MS students select from one of thefollowing areas of concentration: Biostatistics, Community Health Sciences, Environmental and Occupational Health Sciences, Epidemiology, Cancer Epidemiology, Hazardous Substances Management, Health Policy and Administration, Industrial Hygiene, Occupational and Environmental Epidemiology, and Occupational Safety.
- *Biostatistics Concentration Requirements:* EPID 403; BSTT 506 or 507, 523, 524, 525, 535, 536, 537, 538, 550; STAT 401, 411; and a minimum of 8 semester hours of electives with at least one course selected from the SPH core courses not given in the Epidemiology and Biostatistics Division: CHSC 400, CHSC 401, EOHS 400 or HPA 400.
- *Community Health Sciences Concentration Requirements:* MS students concentrating in Community Health Sciences must complete all of the SPH requirements for the MS degree. In addition, students must take CHSC 400, CHSC 401, BSTT 401, CHSC 446, and CHSC 480.
- *Environmental and Occupational Health Sciences Concentration Requirements:* MS students concentrating in Environmental and Occupational Health Sciences must complete all of the SPH requirements for the MS degree in addition to BSTT 401 and EOHS 405. Students must also complete the division core of 12 semester hours in EOHS courses, choosing at least one course in each of the following three areas: Exposure Assessment and Measurement, Health Assessment, and Intervention Strategies. Students should see their advisor for a list of courses in each area.
- *Epidemiology Concentration Requirements:* MS students concentrating in Epidemiology must complete all of the SPH requirements for the MS degree. In addition, students must take: EPID 404, 406, 591, 595; BSTT 401; and one course from BSTT 505, 506, or 507.
- *Health Policy and Administration Concentration Requirements:* MS students concentrating in Health Policy and Administration must complete all of the SPH requirements for the MS degree. In addition, 25 hours of course work relevant to the disciplinary area of Health Policy and Administration are taken in consultation with the faculty advisor.

Additional course requirements for those pursuing a secondary concentration:

- *Cancer Epidemiology Concentration Requirements*: MS students concentrating in Cancer Epidemiology must complete all of the SPH requirements for the MS degree. In addition, students must take: EPID 404, 406, 591, 595; BSTT 401, BSTT 505; EPID 515; 2 courses from: CHSC 514, HN 594—Nutritional Epidemiology, EPID 516, EPID 520, EPID 554, EPID 594—Special Topics: Social Epidemiology, or EPID 594—Special Topics: Surveillance Epidemiology.
- *Global Health Concentration Requirements*: Students earning an MS in Public Health degree in any of the primary concentrations may also enroll in the Concentration in Global Health. Students in the Global Health Concentration program must satisfy school-wide and divisional requirements in addition to the following: IPHS 409—Global Public Health Challenges (3 hours), IPHS 410—Global Public Health Solutions (3 hours), and an elective (3 hours). Taking a cross-disciplinary approach to public health, the Global Health Concentration draws upon course work and other resources throughout UIC that will help GH students to deepen their knowledge and understanding of the challenges, issues, and skills required to successfully address health problems globally. Selection of an elective should be made with the help of the student's academic advisor; and is subject to the offering department's approval. MS students in the GH Concentration must focus their research thesis (IPHS 598, 8 or 16 hours, as required by the student's divisional concentration) on a global health related topic either outside the U.S. or domestically through an appropriate alternative venue. In addition, as feasible, students in the concentration are strongly encouraged to select topics of global health relevance when completing all course assignments for their program. Competency in a foreign

language is also highly recommended but not required for the program. With proper planning, courses may be used to satisfy both the Global Health Concentration and divisional requirements.
- *Hazardous Substances Management Concentration Requirements*: MS students concentrating in Hazardous Substances Management must complete all of the SPH requirements for the MS degree. In addition, students must take: BSTT 401; EOHS 405, EOHS 421, EOHS 425, EOHS 426, EOHS 427, EOHS 428, EOHS 432, EOHS 529, EOHS 551, EOHS 563, and two of the following: EOHS 408, EOHS 440, EOHS 455, EOHS 556.
- *Industrial Hygiene Concentration Requirements*: MS students concentrating in the ASAC-ABET-Accredited Program in Industrial Hygiene within the Environmental and Occupational Health Sciences Division must complete all of the SPH requirements for the MS degree. In addition, students must take: BSTT 401, EOHS 405, EOHS 421, EOHS 425, EOHS 426, EOHS 427, EOHS 428, EOHS 432, EOHS 529, EOHS 551, and EOHS 563.
- *Occupational and Environmental Epidemiology Concentration Requirements*: MS students concentrating in Occupational and Environmental Epidemiology must complete all of the SPH requirements for the MS degree. In addition, students must take the following courses for a total of 53 semester hours for the MS degree: BSTT 401; EPID 404, EPID 406, EOHS 421, EPID/EOHS 530, EPID/EOHS 535, EPID/EOHS 536, EOHS 551, EOHS 556, EPID/EOHS 571, EPID 410 or EPID 411; BSTT 505 (Epidemiology Students Only).
- *Occupational Safety Concentration Requirements*: MS students concentrating in Occupational Safety must complete all of the SPH requirements for the MS degree. In addition, students must take: BSTT 401, EOHS 405, EOHS 421, EOHS 427, EOHS 428, EOHS 529, EOHS 551, EOHS 563, EOHS/EPID 571, IE/EOHS 441, IE 461/EOHS 460, and one of the following: EOHS 425, IE 446, TSM 421.
- **Comprehensive Examination** Required only for Biostatistics students.
- **Thesis, Project, or Course-Work-Only Options** Thesis or course work only. No other options available.
- *Thesis*: Thesis required for all areas except Biostatistics. Thesis students must earn at least 8 hours in IPHS 598; students in the Epidemiology, Cancer Epidemiology, and Occupational and Environmental Epidemiology concentrations must earn at least 8 hours in IPHS 598. Students in MS Hazardous Substances Management concentration must earn at least 12 hours in IPHS 598.
- *Course Work Only*: Only for Biostatistics students. Comprehensive examination required.

MPH/MA in Anthropology

- **Minimum Semester Hours Required** 71–76.
- **Course Work** *Required Courses:*
- *Anthropology and Global Heath Core* (12 hours): ANTH/IPHS 415, 416, and 516.
- *Anthropology Core* (18 hours): ANTH 500, 501, 502, 503, and 595.
- *School of Public Health Core* (20 hours): CHSC 400, BSTT 400, HPA 400, EPID 403, EOHS 400, IPHS 650, IPHS 698.
- Students must select one of the following two areas in Public Health: Community Health Sciences or Epidemiology.
- *Community Health Sciences Core* (15 hours): CHSC 431, 433, 446, 480, and one of the following: CHSC 527, CHSC 543, or HPA 430.
- *Epidemiology Core* (18 hours): EPID 404, 406, 410, 411, 591; BSTT 401.
- **Electives:** 6–8 credit hours chosen in consultation with graduate advisors.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Field experience and capstone project required. No other options available.
- **Other Requirements** Students in the joint program will have two advisors, one from the Department of Anthropology faculty in the College of Liberal Arts and Sciences, and one from the Community Health Sciences or Epidemiology program in the School of Public Health.

MPH/MS in Nursing

- **Minimum Semester Hours Required** 54–59.
- **Course Work** *Required Core Courses:* BSTT 400 or NURS 525; NURS 526, 527, 528, 529, and 597 or 598.
- *Concentration Core:* NUSP 503, 504, 505, and 507; CHSC 400, 401, 431, 433, and 480; EPID 400; EOHS 400; IPHS 650 and 698; choose one of the following: CHSC 527, CHSC 543, or HPA 430.

- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project required. No other options available.
- *Thesis:* Students must earn 5 hours in NURS 598.
- *Project:* Students must earn 3 hours in NURS 597.

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate; 98 from the baccalaureate for the Cancer Epidemiology concentration. Students in the Occupational and Environmental Epidemiology Concentration may be required to take 115 to 117 hours, depending on prior course work taken.
- **Course Work** At least 9 hours must be in 500-level didactic courses in the student's major area. If a collateral area is required by the major, at least 6 hours must be in the collateral area at the 500-level.
- *Required Courses*: EPID 403, BSTT 400 and 401. BSTT 400 and 401 are not required for students in the Biostatistics concentration. Remaining courses and their distribution depend on the student's area of concentration. PhD students are admitted into one of the following primary concentrations: Biostatistics, Community Health Sciences, Environmental and Occupational Health Sciences, Epidemiology, or Health Policy and Administration.
- *Biostatistics Concentration Requirements*: EPID 403; BSTT 560, 561, 562; at least 1 semester (1 hour) of BSTT 595; 19 semester hours of electives with 12 hours selected from BSTT 563, 564, 565, 566, and 567. The remaining 7 elective hours may not include BSTT 400, 401, 505, 523, 524, or 525.
- *Community Health Sciences Concentration Requirements*: PhD students in Community Health Sciences must complete all of the SPH requirements for the PhD degree. In addition, students must take theory courses CHSC 550 and CHSC 551. They must select 6 credit hours each from an approved menu for both the advanced analytic methods and the advanced research methods course requirements. Two credits of CHSC 595—Doctoral Seminar are also required. Students must select 12 hours for their concentration. The student will be tested in the concentration area as part of the preliminary examination. Additional compensatory courses are required if the equivalent course work was not completed at the master's degree level. These compensatory courses are: EPID 403, CHSC 446, BSTT 400, BSTT 401, CHSC 400, and CHSC 480. Advisor approval is necessary for elective course selection. PhD students pursuing a program in Maternal and Child Health Epidemiology have additional requirements.
- *Environmental and Occupational Health Sciences Concentration Requirements*: PhD students concentrating in Environmental and Occupational Health Sciences must complete all of the SPH requirements for the PhD degree, and EOHS 557. In addition, students must complete the division core, choosing at least one course in each of the following three areas: Exposure Assessment and Measurement, Health Assessment, and Intervention Strategies. Students should see their advisor for a list of courses in each area.
- *Epidemiology Concentration Requirements*: PhD students concentrating in Epidemiology must complete all of the SPH requirements for the PhD degree. In addition, students must take: EPID 404, 406, 410, 411, 501, 591, 595; BSTT 505, and BSTT 506 or 507.
- *Health Policy and Administration Concentration Requirements*: PhD students in Health Policy and Administration must complete all of the SPH requirements for the PhD degree. No additional course requirements are specified. In addition, a minimum of 21 hours of course work relevant to the disciplinary area of Health Policy and Administration is taken in consultation with the faculty advisor.

Additional course requirements for those pursuing a secondary concentration:

- *Cancer Epidemiology Concentration Requirements*: PhD students concentrating in Cancer Epidemiology must complete all of the SPH requirements for the PhD degree. In addition, students must take: EPID 404, 406, 410, 411, 501, 591, 595; BSTT 505; CHSC 514 or HN 594—Nutritional Epidemiology; EPID 515, 516, 520, 554; EPID 594—Special Topics: Social Epidemiology or EPID 594—Special Topics: Surveillance Epidemiology.
- *Occupational and Environmental Epidemiology Concentration Requirements*: PhD students concentrating in Occupational and Environmental Epidemiology must complete all of the SPH requirements for the PhD degree. In addition, students must take: BSTT 505, EPID 404, EPID 406, EOHS 421, EPID 501, EPID/EOHS 530, EPID/EOHS 535, EPID/EOHS 536, EOHS 551, EOHS 556, EOHS 563, EPID/EOHS 571; EPID 410 or EPID 411; EOHS 564 or UPP 461; EPID 595 or EOHS 595.
- **Dissertation** Required. Students must register in IPHS 599 for at least 32 semester hours.
- **Other Requirements** Students must obtain supervised experience in classroom teaching in at least one course for at least part of a semester.

Interdepartmental Concentration in Gender and Women's Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Survey Research Methodology
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Survey Research Methodology after consulting with their graduate advisor. See Interdepartmental Graduate Concentration in Survey Research Methodology in the *Graduate College* section for more information.

Interdepartmental Graduate Concentration in Violence Studies
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Violence Studies after consulting with their graduate advisor. See Violence Studies in the *College of Liberal Arts and Sciences* section or the *Jane Addams College of Social Work* section for more information.

Interdepartmental Graduate Concentration in Women's Health
Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Women's Health after consulting with their advisor. See Interdepartmental Graduate Concentration in Women's Health in the *College of Nursing* section for more information.

Medical Scientist Training Program
The UIC School of Public Health has particularly strong programs in epidemiology, biostatistics, prevention research, community health, health systems management, occupational and environmental safety and health, and quantitative methods. Application to the PhD program is normally made at the time of application to the College of Medicine; however, applicants will also be considered during their first two years of medical training. Students must apply to the Medical Scientist Training Program and to the College of Medicine and indicate in their application that they are interested in one of the divisions of the UIC School of Public Health. Criteria for admission to the program include academic excellence, prior research experience, potential for independent and creative research, and commitment to a career in academic medicine. Students receive a stipend throughout their years of study. For more information, contact Sylvia E. Furner, PhD, Senior Associate Dean, SPH, (312) 996-5013, sefurner@uic.edu; or the Medical Scientist Training Program: Larry Tobacman, MD, Director, (312) 413-1010, lst@uic.edu; or Roberta Bernstein, Coordinator, (312) 996-7473, roberta@uic.edu.

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Professional Programs—Public Health

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Mailing Address:
School of Public Health
1603 West Taylor Street
Chicago, IL 60612-4394

Campus Location: Office of Student Affairs, Room 190, SPH-PI Building
Telephone: (312) 996-5381
E-mail: bjn@uic.edu
Web Site: http://publichealth.uic.edu
Contact Person: Babette J. Neuberger, Associate Dean for Academic Affairs

The School of Public Health is dedicated to excellence in protecting and improving the health and well-being of people around the world by educating public health professionals and the community, conducting research and affecting public health policy.

Through its diverse educational programs, centers, institutes and collaborations, the school represents a formidable and unique educational resource in the city of Chicago. Situated on one of the nation's most diverse campuses in one of the world's largest concentrations of advanced public and private healthcare facilities, it offers students extensive opportunities to translate classroom learning into hands-on experience and engaged research. Students have access to nearly all aspects of public health—locally, statewide, nationally, and internationally. The intellectual vibrancy within the school, paired with the vitality of Chicago and its multicultural communities and neighborhoods, provides an outstanding educational setting for the preparation of future public health practitioners and leaders.

The School of Public Health offers two professional degrees: the Master of Public Health (MPH) and the Doctor of Public Health (DrPH). The MPH provides graduates with a general understanding of the field of public health along with specific expertise in a selected area of study. Students matriculate into one of four divisions: Community Health Sciences, Environmental and Occupational Health Sciences, Epidemiology and Biostatistics, or Health Policy and Administration. The comprehensive program, which may be completed in two years, includes course work inside the classroom and field experience that culminates in the completion of a capstone project. A shorter professional enhancement program is available for those who already possess three or more years of practice in the field. The program may be completed in a distance-based or residential format.

The DrPH program is the advanced professional degree offered by the school. This program is tailored to meet the goals of midcareer public health professionals who want to expand their knowledge and practice of public health and attain the leadership skills necessary to enable them to advance the field. The program aims to help students become leaders of the public health community at the local, national and international levels. The program may be completed in a distance-based or residential format.

The school encourages collaborations between other schools by offering joint degree programs including MBA/MPH, MD/MPH, MA in Anthropology/MPH, MS in Nursing/MPH, DVM/MPH, MSW/MPH (effective for Spring 2013), as well as a coordinated JD/MPH with IIT Kent College of Law and a coordinated DC/MPH with National University of Health Sciences. The school also participates in the Medical Scientist Training Program with the College of Medicine.

The School of Public Health is fully accredited by the Council on Education for Public Health (CEPH), the only fully accredited school of public health within Illinois. The MPH and DrPH degrees at UIC are considered professional programs and are not administered by the Graduate College. To learn more about the degree programs and how to apply, please visit the following Web sites:

- MPH and DrPH admission process and requirements: http://publichealth.uic.edu/admissions
- MPH and DrPH degree requirements: http://publichealth.uic.edu/academics
- MPH and DrPH course information: http://publichealth.uic.edu/academics/coursedescriptions

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College of Urban Planning and Public Affairs

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- Public Administration (MPA, PhD)
- Urban Planning and Policy (MUPP, PhD)

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Public Administration

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Admission Requirements

- Master of Public Administration
- Doctor of Philosophy

Degree Requirements

- Master of Public Administration
- Doctor of Philosophy

Mailing Address:
Department of Public Administration (MC 278)
412 South Peoria Street, Room 130
Chicago, IL 60607-7064

Campus Location: 130 CUPPAH
Program Codes: 20FS0339MPA (MPA); 20FS0339PHD (PhD)
Telephone: (312) 996-3109
E-mail:painfo@helpdesk.uic.edu
Web Site: http://www.uic.edu/cuppa/pa/
Head of the Department: Karen Mossberger
MPA Director of Graduate Studies: George Beam
PhD Director of Graduate Studies: Rebecca Hendrick

The graduate program in Public Administration is part of the College of Urban Planning and Public Affairs. The unit offers course work leading to the Master of Public Administration (MPA) and the Doctor of Philosophy in Public Administration

The MPA is a professional program fully accredited by the National Association of Schools of Public Affairs and Administration. Its broad goal is to train both preservice and working professionals for productive careers in the public service.

The doctoral program is designed to produce graduates with demonstrated research abilities, and the creativity and potential for making significant, original contributions to the field of Public Administration. The program builds on a core of ideas and issues, with strong emphasis on theory construction and empirical research in the areas of Public Management; Financial Management; Science, Technology, and Information Policy; and Survey Methods.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Public Administration

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.

- **Tests Required** GRE or GMAT scores are required from applicants who are requesting program-administered financial assistance.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from instructors familiar with the applicant's academic training or supervisors familiar with the applicant's professional experiences.
- **Personal Statement** Required. Applicants must submit a brief statement of their professional goals and academic interests.
- **Additional Materials** Applicants must submit a resume and a 5–10 page writing sample.
- **Nondegree Applicants** Nondegree applicants must submit an official transcript from their baccalaureate institution, resume, writing sample, three letters of recommendation, and a letter stating which courses they would like to take and why they feel nondegree admission would be beneficial.

Doctor of Philosophy

- **Prior Degrees** Master's degree required. Applicants must present evidence of having completed a graduate-level statistics course. Students with a deficiency in this area will be required to take additional course work as prescribed by the program director. Such course work will not apply to the degree requirements.
- **Grade Point Average** At least 3.50/4.00 for all undergraduate and postbaccalaureate course work.
- **Tests Required** GRE General. All applicants should have a combined score of at least 235 (tests taken August 2011 or after) or a combined score of 1100 (tests taken prior to August 2011) on the verbal and quantitative portions of the GRE. If an applicant fails to present a minimum GRE score of 235 or 1100 and a GPA of 3.50, the applicant may still be considered by the PhD Committee. The committee will review all evidence of high promise, including, but not limited to, trend of graduate grade, type of graduate program, and mature work experience.
- **Minimum English Competency Test Score**
  - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
  - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required from persons familiar with the applicant's academic achievements or professional experience.
- **Personal Statement** Required. Applicants must submit a brief statement of their professional goals and academic interests.
- **Other Requirements** Applicants must submit a 3–5 page written essay, a resume, and may be asked to interview with one or more members of the faculty.

Degree Requirements

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Public Administration

- **Minimum Semester Hours Required** 52.
- **Course Work** *Required Core Courses:* PA 400, 407, 410, 502, 503, 504, 506, and 590. In addition to the core courses, students must select one of six areas of concentration: Financial Management; Local Government Administration; Information and Performance Management; Nonprofit Management; Public Management; or Survey Methods. At least 12 credit hours must be taken in the area of concentration. Two additional courses of the student's choosing are to be selected in consultation with the student's advisor. PA 490—Field Experience in Public Administration may be used to substitute for one of these additional courses.
- The courses included in each area of concentration are as follows:
  - Financial Management—At least two among the following: PA 550, 551, 552, 553, and UPP 533; additional courses that meet the requirements for this concentration: PA 521, 523, and 526.
  - Local Government Administration—PA 415, 523, 526, 537 (required), 550 or 552 or 553, UPP 530, UPP 533, POLS 551, and POLS 553.
  - Information and Performance Management—PA 460, 461, 462, 463, 465, 521, 526, and 567.
  - Nonprofit Management –At least two among the following: PA 530, 536, and 538; additional courses that meet the requirements for this concentration: PA 462, 521,

and 550.
    - Public Management—At least two among the following: PA 415, 521, 522, 523, 524, 526, 529, 532, and 533; additional courses that meet requirements for this concentration: PA 461 or 462.
    - Survey Methods—BSTT 440; CHSC 447 (required), PA 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, and 588.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Course work only. No other options are available.

Doctor of Philosophy

- **Minimum Semester Hours Required** 100 from the baccalaureate. Students holding a master's degree from UIC or an equivalent program will ordinarily receive a maximum of 32 semester hours toward the degree requirement.
- **Course Work** A cumulative grade point average of at least 3.00/4.00 in all graduate courses taken at UIC is required for graduation. Credit is not given for any required course in which a grade of less than B is earned.
- *Required Core Theory Courses:* PA 510, 511, 515.
- *Required Core Methods Courses:* PA 540, 541; and two from among PA 528, PA 542, PA 544, or CHSC 447. Students may substitute a methods course from outside the department for PA 528, PA 542, PA 544, or CHSC 447 with the permission of the director of graduate studies.
- *Required Applied Research Seminars:* PA 545, 546
- Students must select two of four areas of concentration: Public Management; Financial Management; Science, Technology, and Information Policy; or Survey Methods. At least 2 courses must be taken in each area of concentration. A total of 14 hours are required in the Survey Methods area of concentration, including PA 578 and one of the following: CHSC 447, CHSC 577, BSTT 440, PA 484, PA 486.
- The courses included in each concentration are as follows:
    - Public Management—PA 521, 522, 523, 524, 526, 527 (required), 529, 534.
    - Financial Management—PA 521, 523, 552, 553, and 554 (required); UPP 533.
    - Science, Technology, and Information Policy—PA 461, 463, 464 (required), 466 (required).
    - Survey Methods—BSTT 440; CHSC 447, PA 575, 576, 577, 578 (required), 579, 580, 581, 582, 583, 584, 585, 586, 587, 588.
- **Departmental Qualifying Examination** Required. After completion of course work students must pass a departmental qualifying examination designed to test their scholarly competence and knowledge. The doctoral departmental qualifying examination is designed to assess the degree of mastery which degree candidates have achieved over a body of knowledge, to measure their ability to integrate the knowledge, and to apply it creatively in the analysis of problems to which it is germane. The departmental qualifying examination will consist of three parts: core PA theory and each area of concentration. Students are required to take all three required exams within one year of completing all PA course work (excluding PA 545 and PA 546).
- **Dissertation** Required**.** The dissertation will make a contribution to knowledge in public administration and will be publicly defended before the scholarly community and a committee appointed by the dean of the Graduate College on the recommendation of the program director. At least 16 and no more than 28 semester hours may be awarded for dissertation research.
- It is expected that no later than the end of the semester following the completion of the departmental qualifying examination the student will submit a written statement of the dissertation plans to his/her major advisor. Upon the recommendation of the program director and approval of the dean of the Graduate College, a five-person dissertation committee will be appointed. The committee will include at least one member from outside the Public Administration program.
- **Preliminary Examination** Required. The dissertation prospectus will contain an analysis of the relevant literature, the theoretical issues to be pursued, the data to be used and the methods of analysis, and a statement of the anticipated significance of the research project. The prospectus will be defended before a committee and constitutes the student's preliminary examination. Successful defense of the prospectus authorizes the student to proceed with dissertation research and formally admits the student to PhD candidacy. The final version of the dissertation will incorporate any changes recommended by the committee.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a master's degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their

graduate advisor. *See* Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Survey Research Methodology

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Survey Research Methodology. See Interdepartmental Graduate Concentration in Survey Research Methodology in the *Graduate College* section for more information.

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Urban Planning and Policy

Important Note: This is the archived version of the 2012–2014 Graduate Catalog. The information on these pages was archived on August 22, 2012 and will not be updated as requirement and/or program changes are approved.

Admission Requirements

- Master of Urban Planning and Policy
- Doctor of Philosophy

Degree Requirements

- Master of Urban Planning and Policy
- Doctor of Philosophy

Mailing Address:
Department of Urban Planning and Policy (MC 348)
412 South Peoria Street
Chicago, IL 60607-7068

Campus Location: 215 CUPPAH
Program Codes: 20FS1786MUPP (MUPP); 20FS1785PHD (PhD)
Telephone: (312) 996-5240
E-mail: upp@uic.edu
Web Site: http://www.uic.edu/cuppa/upp/
Head, Urban Planning and Policy: Kazuya Kawamura
Director of Graduate Studies: Curtis Winkle

The Department of Urban Planning and Policy offers programs of professional study leading to the Master of Urban Planning and Policy (MUPP) degree and to the Doctor of Philosophy (PhD) in Urban Planning and Policy. The MUPP program is accredited by the Planning Accreditation Board of the American Institute of Certified Planners and the Association of Collegiate Schools of Planning. Students in the MUPP program generally choose one of five substantive concentrations: Community Development, Economic Development, Environmental Planning and Policy, Globalization and International Planning, Spatial Planning and Design (Land Use or Urban Design track), or Urban Transportation. Students with special interests or career goals may, with faculty approval, pursue a program area of their own design, such as environmental planning.

Admission Requirements

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Urban Planning and Policy

- **Baccalaureate Field** No restrictions.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** None required for admission. Applicants for research assistantships and fellowships must submit GRE General scores. Applicants with undergraduate degrees from universities outside the U.S. are strongly urged to submit GRE General scores.
- **Minimum English Competency Test Score**

    - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. The statement must address the applicant's educational and career goals and previous pertinent work, volunteer, and/or academic experience.
- **Other Requirements** Applicants must submit a recent paper, essay, or project of which they are the sole author or designer. This material may be of an academic, professional, or personal nature, and must be at least 1000 words in length. Applicants for research assistantship positions must submit a resume.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; check the Department or Graduate College webpage for information on application deadlines.

Doctor of Philosophy

- **Prior Degrees** Applicants must normally have a master's degree in Urban Planning or related program.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.
- **Tests Required** GRE General. Applicants may substitute the GMAT or LSAT.
- **Minimum English Competency Test Score**
    - **TOEFL** 550 (paper-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (iBT Internet-based), **OR**,
    - **IELTS** 6.5, with subscores of 6.0 for all four subscores.
- **Letters of Recommendation** Three required.
- **Personal Statement** Required. A research statement, including the applicant's educational and professional goals, and detailing relevant academic and employment experience.
- **Other Requirements** Applicants must submit a recent paper, essay, or project of which they are the sole author or designer. This material may be of an academic, professional, or personal nature, and must be at least 1000 words in length. Applicants for research assistantship positions are encouraged to submit a resume.
- **Deadlines** The application deadline for this program is earlier than the Graduate College deadline; check the Department or Graduate College webpage for information on application deadlines.

Degree Requirements

Master of Urban Planning and Policy

- **Minimum Semester Hours Required** 60.
- **Course Work** At least 24 hours must be at the 500-level, and at least 16 hours must be in the student's major area, including 12 at the 500-level.
- *Required Courses:* UPP 500, 501, 502, 505, and 506.
- *Concentration Courses:* Students must complete at least one three-course concentration in a substantive field of planning. Students may select from the following approved concentrations or develop their own with faculty approval.
    - Community Development—UPP 540, UPP 541, and another 540-series or faculty-approved course.
    - Economic Development—UPP 530, UPP 531, and another 530-series or faculty-approved course.
    - Environmental Planning and Policy—UPP 570, UPP 571 or 572, and another 570-series or faculty-approved course.
    - Globalization and International Planning—UPP 520, UPP 521, and another 520-series or faculty-approved course.
    - Spatial Planning and Design—Land Use track: UPP 558, UPP 557, UPP 552, or equivalent studio assigned by department; Urban Design track: UPP 550, UPP 551, UPP 556, or equivalent design studio assigned by department.
    - Urban Transportation—UPP 560, UPP 561, and UPP 562.
- **Comprehensive Examination** None.
- **Thesis, Project, or Course-Work-Only Options** Thesis or project. No other options are available.
- *Thesis:* No more than 16 hours of UPP 598 can be applied to the degree.
- *Project:* No more than 4 hours of UPP 597 can be applied to the degree.
- **Other Requirements** *Continuous Registration:* Students who have completed all degree requirements except the thesis/project must register for zero semester hours to maintain continuity of registration.

- *Internship:* Students must complete an approved 300-hour internship and register for UPP 590—Professional Practice Experience .

Doctor of Philosophy

- **Minimum Semester Hours Required** 96 from the baccalaureate, up to 64 from the master's.
- **Course Work** *Required Courses:* UPP 510 (or alternate), UPP 580, UPP 583, UPP 588, and either UPP 589 or PA 544. Must demonstrate competency in urban theory, policy evaluation, statistics, and economic analysis through previous master's degree or course work.
- *Plan of Study:* Each student must have a written plan of study approved by an advisory committee.
- *Concentration Courses:* At least 28 hours must be taken in the area of concentration, selected in consultation with a faculty committee. At least 8 hours in advanced research design and methods are required in the area of concentration. Concentrations include Physical Planning, Urban Transportation, Community Development, Economic Development, Globalization and International Planning, or another faculty-approved concentration.
- **Preliminary Examination** Required; written. An oral examination may also be required at the discretion of the committee.
- **Dissertation** Required.
- **Other Requirements** *Career Training:* Students must complete a collaborative faculty/student research project or classroom teaching under faculty supervision. No more than 12 hours of credit for career training can be applied to the degree.

Interdepartmental Concentration in Gender and Women's Studies

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Gender and Women's Studies after consulting with their graduate advisor. See Gender and Women's Studies in the *College of Liberal Arts and Sciences* section for more information.

Interdepartmental Graduate Concentration in Survey Research Methodology

Students earning a graduate degree in this department may complement their courses by enrolling in a concentration in Survey Research Methodology. See Interdepartmental Graduate Concentration in Survey Research Methodology in the *Graduate College* section for more information.

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UIC Course Descriptions - Archived in Fall 2012

Important Note: This is the archived version of the 2012–2014 Graduate Catalog. The information on these pages was archived on August 22, 2012 and will not be updated as requirement and/or program changes are approved.

The 2012-2014 Graduate Catalog includes an archive of the Fall 2012 course descriptions. For the most up-to-date course descriptions, please see the Course Descriptions web page.

- Accounting - ACTG
- African American Studies - AAST
- Anatomy and Cell Biology - ANAT
- Ancient Greek - GKA
- Anthropology - ANTH
- Architecture - ARCH
- Art and Design - AD
- Art History - AH
- Asian American Studies - ASAM
- Asian Studies - ASST
- Associated Health Studies - AHS
- Biochemistry and Molecular Genetics - BCMG
- Bioengineering - BIOE
- Biological Sciences - BIOS
- Biomedical and Health Information Sciences - BHIS
- Biomedical Visualization - BVIS
- Biopharmaceutical Sciences - BPS
- Biostatistics - BSTT
- Business Administration - BA
- Campus Courses - CC
- Central and Eastern European Studies - CEES
- Chemical Engineering - CHE
- Chemistry - CHEM
- Civil and Materials Engineering - CME
- Classics - CL
- Committee on Institutional Cooperation - CIC
- Communication - COMM
- Community Health Sciences - CHSC
- Computer Science - CS
- Criminology, Law, and Justice - CLJ
- Curriculum and Instruction - CI
- Disability and Human Development - DHD
- Earth and Environmental Sciences - EAES
- Economics - ECON
- Education - ED
- Educational Policy Studies - EDPS
- Educational Psychology - EPSY
- Electrical and Computer Engineering - ECE
- Energy Engineering - ENER
- Engineering - ENGR
- English - ENGL
- English as a Second Language - ESL
- Entrepreneurship - ENTR
- Environmental and Occupational Health Sciences - EOHS
- Epidemiology - EPID
- Finance - FIN
- French - FR
- Gender and Women's Studies - GWS

- Geography - GEOG
- Germanic Studies - GER
- Graduate College - GC
- Graduate College - Life Sciences - GCLS
- Health Information Management - HIM
- Health Policy and Administration - HPA
- Histology - HSTL
- History - HIST
- Honors College Courses - HON
- Human Nutrition - HN
- Industrial Engineering - IE
- Information and Decision Sciences - IDS
- Interdisciplinary Public Health Sciences - IPHS
- Interdisciplinary Studies in the Arts - ISA
- Italian - ITAL
- Jewish Studies - JST
- Kinesiology - KN
- Latin - LAT
- Latin American and Latino Studies - LALS
- Learning Sciences - LRSC
- Liberal Arts and Sciences - LAS
- Linguistics - LING
- Literatures, Cultural Studies, and Linguistics - LCSL
- Lithuanian - LITH
- Management - MGMT
- Marketing - MKTG
- Master of Business Administration - MBA
- Master of Engineering - MENG
- Mathematical Computer Science - MCS
- Mathematics - MATH
- Mathematics Teaching - MTHT
- Mechanical Engineering - ME
- Medical Biotechnology - MBT
- Medical Education - MHPE
- Medical Humanities - MHUM
- Medicinal Chemistry - MDCH
- Medicinal Chemistry and Pharmacognosy - PMMP
- Microbiology and Immunology - MIM
- Moving Image Arts - MOVI
- Music - MUS
- Native American Studies - NAST
- Natural Sciences - NATS
- Neuroscience - NEUS
- Nursing Core - NURS
- Nursing Elective - NUEL
- Nursing Practicum - NUPR
- Nursing Specialty - NUSP
- Occupational Therapy - OT
- Oral and Maxillofacial Surgery - OSUR
- Oral Medicine and Diagnostic Sciences - OMDS
- Oral Sciences - OSCI
- Orthodontics - ORTD
- Pathology - PATH
- Patient Safety Leadership - PSL
- Pediatric Dentistry - PEDD
- Pharmacognosy - PMPG
- Pharmacology - PCOL
- Pharmacy - PHAR
- Pharmacy Administration - PMAD
- Pharmacy Practice - PMPR
- Philosophy - PHIL
- Physical Therapy - PT
- Physics - PHYS
- Physiology and Biophysics - PHYB
- Polish - POL
- Political Science - POLS
- Prosthodontics - PROS
- Psychology - PSCH
- Public Administration - PA
- Public Health - PUBH

- Public Policy Analysis - PPA
- Religious Studies - RELS
- Russian - RUSS
- Slavic and Baltic Languages and Literatures - SLAV
- Social Work - SOCW
- Sociology - SOC
- Spanish - SPAN
- Special Education - SPED
- Statistics - STAT
- Study Abroad - SABR
- Surgery - SURG
- Theatre - THTR
- Urban and Public Affairs - UPA
- Urban Planning and Policy - UPP

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Accounting - ACTG

Accounting	ACTG	417	Advanced Financial Accounting	3 OR 4 hours.	Financial accounting theory for business combinations, consolidated financial statements, international transactions and investments, and partnership accounting. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 316.
Accounting	ACTG	420	Professional Presence	3 OR 4 hours.	Workshop style, experiential course using simulations and adapted theater exercises of graduating difficulty that teach students to refine their professional presence. Course information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 211.
Accounting	ACTG	435	Auditing	3 OR 4 hours.	Introduction to the audit function; ethical and legal environment; audit standards; objectives and procedures; materiality and audit risk; sampling; auditing in a computer environment; reporting. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 316.
Accounting	ACTG	445	Federal Income Tax I	3 OR 4 hours.	Concepts and provisions of federal income taxation as applicable to individual taxpayers, partnerships, individuals and trusts. 3 undergraduate hours. 4 graduate hours. Credit is not given for ACTG 445 if the student has credit for ACTG 508. Extensive computer use required. Prerequisite(s): ACTG 315.
Accounting	ACTG	446	Federal Income Tax II	3 OR 4 hours.	Concepts and provisions of federal income taxation on corporations and partnerships; special problems in reorganization, liquidations, and personal holding companies. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 445 or the equivalent.
Accounting	ACTG	456	Business Law II: Business Organizations	3 OR 4 hours.	Business organizaions, including: agency, general partnerships, limited partnerships, corporations, limited liability companies, securities regulations, bankruptcy, suretyship, bailments, real property, wills and trusts, accounting liability. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 355 or the equivalent.
Accounting	ACTG	465	Governmental and Non-Profit Accounting	3 OR 4 hours.	Financial transaction analysis and recording system; budget preparation and control; concepts and principles underlying the financial reports of governmental and non-profit organizations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 316.
Accounting	ACTG	470	Ethical Environment of Business	3 OR 4 hours.	An examination of the decision making process on both the individual and organizational levels. The effect of moral, legal, and economic factors on the decision making process. Course information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 211.
Accounting	ACTG	474	Accounting Information Systems	3 OR 4 hours.	Skills and concepts that enable the documentation, design and use of accounting information systems, understanding transaction cycles, sound internal controls, accounting software and the electronic business environment. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Grade of C or better in ACTG 210 and Grade of C or better in ACTG 211; and IDS 200.
Accounting	ACTG	475	Database Accounting Systems	3 OR 4 hours.	Concepts and principles of designing database systems to perform accounting functions, applications of microcomputer accounting software packages systems design tools, and computerized transaction cycles. Same as IDS 475. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 211 and IDS 200.
Accounting	ACTG	484	International Accounting	3 OR 4 hours.	Financial accounting for international operations, multinational managerial accounting and control, comparative international accounting, international reporting issues and international taxation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 316.
Accounting	ACTG	485	Valuation and Analysis	3 OR 4 hours.	Financial analysis and valuation of firms. Corporate strategies, financial reporting issues and market perceptions. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 315 and FIN 300 for undergraduate students. One accounting and one finance class or consent of the instructor for graduate students.
Accounting	ACTG	493	Accounting Cases, Research and Analysis	3 OR 4 hours.	Examines US GAAP, alternatives, SEC filings and company financial statements, through cases and research projects using various research methodologies. Satisfies research requirements for CPA candidacy. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 316; and ECON 346 or IDS 371.
Accounting	ACTG	494	Special Topics in Accounting	1 TO 4 hours.	Topics rotate in various areas of accounting, including but not restricted to financial, managerial, governmental and nonprofit accounting, law and business ethics. Explores current issues and proposed alternatives. Prerequisite(s): Two courses in accounting or finance beyond ACTG 211 and FIN 300 or the equivalent.
Accounting	ACTG	495	Competitive Strategy	4 hours.	Multidisciplinary analysis of organization strategy and policy, using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.
Accounting	ACTG	500	Introduction to Financial Accounting	4 hours.	Concepts and principles of financial accounting for preparation and evaluation of external reports and financial statements. Extensive computer use required. Prerequisite(s): Admission to the MBA or M.S. in Accounting or Master of Healthcare Administration program.
Accounting	ACTG	502	Financial Accounting I	4 hours.	Accounting theory and practice related to asset valuation, revenue recognition, and the determination of short-term liabilities; aspects of financial statement analysis related to these issues. Prerequisite(s): ACTG 500.
Accounting	ACTG	503	Financial	4 hours.	Contemporary financial accounting issues, including liabilities, pensions, tax allocation, leases,

			Accounting II		price level reporting, investments, capital transactions and financial statement analysis. Prerequisite(s): ACTG 500 and ACTG 502 or the equivalents.
Accounting	ACTG	506	Management Accounting	4 hours.	Design of cost accounting systems; alternate costing methods; costing for decision making; budget planning and performance evaluation. Prerequisite(s): ACTG 500.
Accounting	ACTG	508	Federal Income Tax - Graduate	4 hours.	Concepts and provisions of federal income taxation generally applicable to individual taxpayers, corporations and partnerships. Credit is not given for ACTG 508 if the student has credit for ACTG 445. Prerequisite(s): ACTG 502.
Accounting	ACTG	509	Business Law: Commercial Transactions	4 hours.	Commercial transactions including: contracts, sales of goods, negotiable instruments, and secured transactions. Prerequisite(s): ACTG 500 or the equivalent.
Accounting	ACTG	515	Accounting Theory and Paradigms	4 hours.	Theory construction, conceptual framework, and paradigmatic avenues in accounting with relation to applications. Prerequisite(s): ACTG 502 or the equivalent.
Accounting	ACTG	516	Financial Statement Analysis	4 hours.	Use of financial information by decision makers external to the firm; profitability and risk analysis; financial forecasting and equity valuation. Extensive computer use required. Prerequisite(s): ACTG 502; or approval of the department.
Accounting	ACTG	525	Management Control of Strategic Performance	4 hours.	Contemporary overview of the management control systems measuring technological activities, measuring value added, outsourcing non-core compensation plan and performance measurement. Extensive computer use required. Prerequisite(s): ACTG 506; or approval of the department.
Accounting	ACTG	535	Advanced Auditing	4 hours.	Review & evaluation of academic research in auditing? behavioral & capital market research. Overview of audit research methodology, examination of Sarbanes-Oxley and its effect on Internal Controls, auditing standards, and the accounting profession. Extensive computer use required. Prerequisite(s): ACTG 435.
Accounting	ACTG	537	Fraud Examination	4 hours.	Concepts and skills necessary for examining financial fraud. Content will include fraud schemes, prevention and detection of fraud, ethics, forensic software tools, auditing techniques, and the law and regulations governing fraud cases. Extensive computer use required. Prerequisite(s): ACTG 474 and ACTG 502 or equivalents.
Accounting	ACTG	545	Taxes and Business Policy	4 hours.	The role of taxes in business decisions. Emphasizes integrating taxes with other variables -- behavioral, financial, environmental and other. Also discusses the relationship between taxation and financial and managerial accounting. Prerequisite(s): ACTG 345 and ACTG 446.
Accounting	ACTG	565	Advanced Government and Nonprofit Accounting	4 hours.	Financial accounting principles applicable to governments and nonprofit organizations. Transactions and events are analyzed, leading to the preparation and analysis of financial statements. Prerequisite(s): ACTG 503 or equivalent.
Accounting	ACTG	570	The Legal and Ethical Environment of Business	4 hours.	An examination of the decision making process on both the individual and organizational levels. The effect of moral, legal, and economic factors on the decision making process. Course information: Prerequisite(s): ACTG 502; or consent of the instructor.
Accounting	ACTG	585	Corporate Valuation and Accounting Information	4 hours.	Valuation using discounted cash flow and multiples. Use of financial disclosures to construct forecasts. How multiples behave. How accounting affects valuation ratios. Credit is not given for ACTG 585 if the student has credit for ACTG 485. Prerequisite(s): ACTG 502; and FIN 510 or FIN 520; or approval of the department.
Accounting	ACTG	590	Case Based Research in Accounting	4 hours.	Development of skills necessary to research and interpret accounting standards and guidelines to resolve recognition and disclosure issues using real-life and simulated cases. Prerequisite(s): ACTG 503 or equivalent.
Accounting	ACTG	593	Accounting Research: Methodology and Communication	4 hours.	Instruction in research methods, issues, and research appreciation and evaluation together with individual practice in planning, conducting, and reporting professional research projects in accounting and capital markets. Extensive computer use required. Prerequisite(s): ACTG 502.
Accounting	ACTG	594	Special Topics in Accounting - Graduate	1 TO 4 hours.	Topics rotate in the various areas of accounting, including but not restricted to financial, managerial, governmental and nonprofit accounting, explores current issues and proposed alternatives. May be repeated. Students may register in more than one section per term. Extensive computer use required. Prerequisite(s): Approval of the department.
Accounting	ACTG	596	Independent Study in Accounting - Master's	1 TO 4 hours.	Independent study on an accounting topic chosen with faculty approval; requires a study plan and a paper of length and specification required by a faculty member. Prerequisite(s): ACTG 515 and ACTG 525.
Accounting	ACTG	599	Ph.D. Thesis Research	0 TO 16 hours.	Research on topic of the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Faculty acceptance of thesis proposal.

African American Studies - AAST

African American Studies	AAST	405	Urban Ethnography	3 OR 4 hours.	The study of processes and meanings in African American communities in urban areas, interviews, participant observation, focus groups. Same as SOC 406. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100; and junior standing or above.
African American Studies	AAST	406	Politics of Race, Gender and Class	3 OR 4 hours.	Formation of social status categories, individual and collective identity construction, the mechanisms of group-based marginalization and stigmatization; relationship between social status categories. Same as GWS 406. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100 or GWS 102 or GWS 101; or graduate or professional standing; or consent of the instructor.
African American Studies	AAST	407	Seminar in Comparative Racialization	3 OR 4 hours.	Provides an interdisciplinary and comparative approach to the making and remaking of "race" and the resultant racialized experiences of different groups in the U.S. and globally. Same as SOC 407. Prerequisite(s): AAST 247 or AAST 248 or AAST 340 or SOC 225; and senior standing or above; or consent of the instructor.
African American Studies	AAST	410	Seminar in Black Child Development	3 OR 4 hours.	Race, class and cultural theories of black child development. Examination of socialization process and developmental outcomes, with particular attention to social attitudes and behaviors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 201 or PSCH 100 or consent of instructor.
African American Studies	AAST	431	The History and Politics of Africa on Film	3 OR 4 hours.	Key moments and issues in African history through the eyes of African film and documentary makers. Same as MOVI 431. Prerequisite(s): Junior standing or above.
African American Studies	AAST	441	Topics in African History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 441. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of African history, African American studies, or consent of the instructor.
African American Studies	AAST	445	History of Islam in the African World	3 OR 4 hours.	A comprehensive study of the history of Islam and its role among the people of African descent in sub-Saharan Africa and the United States. Same as HIST 445. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
African American Studies	AAST	481	Topics in African and African American History	3 OR 4 hours.	African and/or African American history for students with significant background in the field. Topics vary. Same as HIST 485. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): AAST 247 or AAST 248 or HIST 104 or HIST 247 or HIST 248 or consent of the instructor.
African American Studies	AAST	490	Topics in African American Literature	3 OR 4 hours.	African American literature and culture for students with significant background in the field. Topics vary. Same as ENGL 473. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): AAST 357 or AAST 360 or ENGL 357; and senior standing or above; or consent of the instructor.
African American Studies	AAST	492	Topics in Social Science Research	3 OR 4 hours.	Inclusive examination of a selected specialized topic based on instructor's field. Topics are drawn from research in political science, psychology, sociology, and history. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): AASt 100 or consent of the instructor.
African American Studies	AAST	496	Topics in Race, Ethnic and Minority History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 496. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of history or consent of the instructor.

Anatomy and Cell Biology - ANAT

Anatomy and Cell Biology	ANAT	403	Human Neuroanatomy	3 hours.	Morphological organization of the nervous system. Functional correlations of neural structures. Same as NEUS 403. Meets eight weeks of the semester. Prerequisite(s): Graduate standing and consent of the instructor. Must be in a degree program.
Anatomy and Cell Biology	ANAT	414	Neuroanatomy for Allied Health Program	3 hours.	Basic Development and gross features of the central nervous system and systems neuroanatomy; motor, sensory and integrative functional areas.
Anatomy and Cell Biology	ANAT	439	Gross Human Anatomy I	3 hours.	Gross structure of the adult human thorax, abdomen, pelvis and perineum, emphasizing spatial relationships and functional/clinical relevance. Includes embryology and radiology topics. Limited to six (6) students. Prerequisite(s): Graduate standing in a degree-granting program only and consent of the instructor.
Anatomy and Cell Biology	ANAT	440	Gross Human Anatomy II	4 hours.	Gross structure of the adult human head & neck/deep back and limbs, emphasizing spatial relationships and functional/clinical relevance. Includes embryology and radiology topics. Limited to six (6) students. Prerequisite(s): Graduate standing in a degree-granting program only and consent of the instructor.
Anatomy and Cell Biology	ANAT	441	Gross Human Anatomy	5 hours.	Functional and structural anatomy of the body. For allied health students. Prerequisite(s): Graduate standing and consent of the instructor; or enrollment in the Doctor of Physical Therapy program or M.S. in Biomedical Visualization program.
Anatomy and Cell Biology	ANAT	442	Cell Structure and Human Histology	5 hours.	Structure and function of cells and fundamental tissues. Function and microscopic anatomy of organs. Prerequisite(s): Graduate standing and consent of the instructor.
Anatomy and Cell Biology	ANAT	511	Experimental Foundations of Psychopharmacology	2 hours.	An introduction to the molecular mechanisms underlying synaptic transmission; review of the principal neurotransmitter systems and the biochemical, anatomical and behavioral methods used to study these systems. Same as NEUS 511. Prerequisite(s): Grade of B or better or concurrent registration in NEUS 501 and Grade of B or better or concurrent registration in NEUS 502; or Grade of B or better or concurrent registration in BIOS 484 and Grade of B or better or concurrent registration in BIOS 485; or consent of the instructor.
Anatomy and Cell Biology	ANAT	520	Concepts of Synaptic Function and Morphology	2 hours.	Overview of current and classical methods employed in the study of synapses. A review of some of the most interesting aspects of synaptic function, such as sources of synaptic vesicles, synaptic patterns, synaptic plasticity, and synaptic specificity. Prerequisite(s): Consent of the instructor.
Anatomy and Cell Biology	ANAT	521	Plasticity in the Nervous System	2 hours.	Neural plasticity is the ability to adaptively modify neural structure or function. Topics range from developmental plasticity to aging, including response to injury and neurodegenerative diseases, trophic factors, learning and memory, and neural transplantation. Prerequisite(s): ANAT 403 or consent of instructor.
Anatomy and Cell Biology	ANAT	523	Biology of MicroRNAs and other Small RNAs	2 hours.	History, overview and biology of small RNA pathways, including microRNAs, siRNAs, RNA interference, roles in various biological processes, implication in disease pathophysiology, and potential therapies. Same as BIOS 523. Prerequisite(s): Consent of the instructor.
Anatomy and Cell Biology	ANAT	525	Molecular and Cellular Mechanisms of Neurodegenerative Diseases	2 hours.	Molecular, cellular and physiological mechanisms underlying neuropathology in neurodegenerative diseases and trauma to the central and peripheral nervous system of humans. Same as NEUS 525. Recommended background: A basic course in neuroscience.
Anatomy and Cell Biology	ANAT	527	Cellular and Systems Neurobiology	3 hours.	Molecular and cellular properties of ion channels in neurons and sensory cells and their relationship to brain and sensory systems. Same as BIOS 527 and NEUS 527. Prerequisite(s): Credit in one neuroscience course or consent of the instructor.
Anatomy and Cell Biology	ANAT	544	Advanced Craniofacial Anatomy	3 hours.	Functional and clinical aspects of head and neck anatomy, based on detailed laboratory dissection, original readings, and project work. Prerequisite(s): Any human gross anatomy course or the equivalent.
Anatomy and Cell Biology	ANAT	554	Neuroendocrinology	2 hours.	Survey of neuroendocrine integration including neuroendocrine regulation of development, homeostasis, reproduction, and behavior. The hypothalamohypophyseal axis receives special attention from both morphologic and functional viewpoints. Prerequisite(s): ANAT 403 or the equivalent.
Anatomy and Cell Biology	ANAT	560	Practicum in the Teaching of Anatomy	1 hours.	Provides an opportunity for supervised discussion and evaluation of materials and methods in teaching the basic anatomical sciences. Satisfactory/Unsatisfactory grading only. May be repeated. No graduation credit. For anatomy and cell biology teaching assistants. Prerequisite(s): Consent of the instructor.
Anatomy and Cell Biology	ANAT	585	Cell Biology	4 hours.	Functional and structural organization of the cell with emphasis on the cellular basis of physiological activity. Same as MIM 585, and PHYB 585.
Anatomy and Cell Biology	ANAT	586	Cell and Molecular Neurobiology	3 hours.	Structure and function of voltage-dependent and neurotransmitter-gated ion channels; the role of these ion channels in synaptic transmission, synaptic modification, and neuromodulation. Same as BIOS 586. Prerequisite(s): BIOS 442 or consent of the instructor.
Anatomy and Cell Biology	ANAT	595	Department Seminar	1 hours.	Oral presentations are made by students each session on timely journal articles, followed by in-depth discussions of the reported research. Presentation of research by invited lecturers. Satisfactory/Unsatisfactory grading only.
Anatomy and	ANAT	596	Independent Study	1 TO 4 hours.	Independent study under the direction of a faculty member.

Cell Biology					
Anatomy and Cell Biology	ANAT	598	Master's Thesis Research	0 TO 16 hours.	Thesis research under the direction of a faculty member. Satisfactory/Unsatisfactory grading only.
Anatomy and Cell Biology	ANAT	599	Research in Anatomy	0 TO 16 hours.	Independent research, directed by a faculty member. Satisfactory/Unsatisfactory grading only.

Ancient Greek - GKA

Ancient Greek	GKA	498	Advanced Topics in Ancient Greek Literature	3 OR 4 hours.	Intensive reading of ancient Greek literature. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): 4 hours of ancient Greek at the 200-level or the equivalent.
Ancient Greek	GKA	499	Independent Reading	3 OR 4 hours.	Individual study under faculty direction. For students qualified by preparation and interest. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 4 hours of ancient Greek at the 200-level or the equivalent.

Anthropology - ANTH

Anthropology	ANTH	401	Linguistic Anthropology	3 OR 4 hours.	Exploration of the relationship between language and culture in a cross-cultural perspective. Attention to methods of field research as well as theory and substantive issues. Course information: 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	409	Ancient Maya Writing, Language and Culture	3 OR 4 hours.	Recent trends in Maya epigraphy, information gained from Maya hieroglyphs, linguistics, and historical ethnographies are applied to anthropological analyses of past lifeways. Same as LALS 409. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and consent of the instructor.
Anthropology	ANTH	411	Urban Cultural Problems	3 OR 4 hours.	A study of the processes of urbanization and of cultural and social adjustments to the city; illustrated by case studies. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	413	Social Organization	3 OR 4 hours.	Theory and method in the study of kinship and social organization, for advanced undergraduate and graduate students. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 213 or graduate standing or consent of the instructor.
Anthropology	ANTH	414	Symbolic Anthropology	3 OR 4 hours.	The interpretation of cultures through their ritual, religions, culture and other types of symbolism. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or consent of the instructor.
Anthropology	ANTH	415	Foundations in Anthropology and Global Health I	3 OR 4 hours.	Explores the field of cultural medical anthropology and provides a theoretical foundation allowing for understanding and exploration of anthropology's role in international health. Same as IPHS 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in ANTH 216; and junior standing or above; or consent of the instructor.
Anthropology	ANTH	416	Foundations in Anthropology and Global Health II	3 OR 4 hours.	Provides an evolutionary and biocultural approach to human biology, physiology, health and disease. Same as IPHS 416. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in ANTH 232; and junior standing or above; or consent of the instructor.
Anthropology	ANTH	417	Marxist Approaches to Anthropology	3 OR 4 hours.	Issues concerning Marx's theories on primitive societies, the development of his evolutionary model from Morgan's work, and current use of Marxist concepts in anthropology. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	418	Ethnographic and Qualitative Research Methods	3 OR 4 hours.	Practical introduction to the techniques of social scientists for research in natural social settings: participant observation/non-participant observation, interviewing, use of documentary sources, etc. Same as GEOG 418. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above.
Anthropology	ANTH	420	Seminar in Archaeology and Ethnography	3 OR 4 hours.	Case studies of investigations in archeology using research monographs and other primary sources. Substantive data and related theoretical problems are examined simultaneously. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 15 hours. Prerequisite(s): Junior standing or consent of the instructor.
Anthropology	ANTH	421	Geomorphology and Archaeology	3 OR 4 hours.	Relevance of geomorphic processes and landform development to archaeology; role of geomorphology in archaeological surveys, paleogeographic reconstruction, and archaeological interpretation. Elements of geoarchaeology. Same as GEOG 432. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 131 or EAES 101 or consent of the instructor.
Anthropology	ANTH	422	Prehistory of the Levant and the Nile Valley	3 OR 4 hours.	Detailed analysis of Levantine and Nile Valley prehistory during the Pleistocene and early Holocene. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 221 or ANTH 222 or consent of the instructor.
Anthropology	ANTH	423	Andean Prehistory	3 OR 4 hours.	An overview of the cultural evolution of the Andean region from the arrival of the first inhabitants to the development of the Inca empire. Same as LALS 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 228 or ANTH 269; or consent of the instructor.
Anthropology	ANTH	424	Violence	3 OR 4 hours.	Explores how men and women have experienced violence historically and in modern times. Students examine how violence is perpetrated through words, pictures, physical harm, and silences. Same as CLJ 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101 and CLJ 200.
Anthropology	ANTH	425	Field Techniques in Archaeology	4 hours.	Exposure to field methods in archaeology through participation in an actual research project. Students are instructed in field excavation techniques. Usually offered in summer session. Same as GEOG 425. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 426 or GEOG 426.
Anthropology	ANTH	426	Laboratory Techniques in Archaeology	4 hours.	Exposes students to laboratory methods in archaeology through the analysis of excavated materials. Students are instructed in laboratory techniques. Same as GEOG 426. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 425 or GEOG 425.
Anthropology	ANTH	427	Theory and Application in Ethnoarchaeology	3 OR 4 hours.	Focuses on the application of scientific experimentation and ethnographic information to enhance our understanding of the archaeological record, material culture, and past human behavior. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One 100- or 200-level archaeology course; or graduate standing and consent of the instructor.
Anthropology	ANTH	428	Chiefdoms	3 OR 4 hours.	Focus on traditional non-state, yet complex, societies known as "chiefdoms." Examine the organization and evolution of such societies through a combination of ethnographic, historical and archaeological data. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or ANTH 102; or consent of the instructor.

Anthropology	ANTH	429	Archaeological Methods	3 OR 4 hours.	This course will familiarize students with various methodologies used by archaeologists and geo-archaeologists. Course will concentrate on a different method each time it is taught. Course information: Same as GEOG 429. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Students may register for more than one section per term.
Anthropology	ANTH	430	Seminar in Primate Biology	4 OR 5 hours.	Theoretical and substantive issues in the study of non-human primates and hominids, as represented in current journals and topical volumes. 4 undergraduate hours. 5 graduate hours. May be repeated up to 2 time(s). Students may register for more than one section per term.
Anthropology	ANTH	432	Mortuary Archaeology	3 OR 4 hours.	Provides a cross-cultural survey of mortuary customs, an overview of general theoretical approaches and a critical analysis in the study of mortuary customs and human remains in archaeological contexts. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): Undergraduates only: Grade of C or better in ANTH 237. Recommended background: Undergraduates only: 200-level courses in archaeology and cultural anthropology.
Anthropology	ANTH	437	Bioarchaeology	5 hours.	Provides an overview of mortuary theory and the bioarchaeological methods used to study health and disease, diet, activity patterns, kinship and cultural practices in archaeological populations. Prerequisite(s): Grade of B or better in ANTH 237; and consent of the instructor.
Anthropology	ANTH	438	Reproductive Ecology	3 OR 4 hours.	Utilizes an evolutionary framework to consider both proximate (physiological) and ultimate (evolutionary) explanations for the relationship between female and male reproductive patterns and environmental challenges. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in ANTH 238, and graduate or professional standing; or consent of the instructor.
Anthropology	ANTH	440	The Experience of Culture Difference: Culture Shock	3 OR 4 hours.	Explores experience of different cultures, the process of learning a different culture, and issues arising from the nature of the encounter in fieldwork. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in social or cultural anthropology, or experience in another culture.
Anthropology	ANTH	441	Psychoanalytic Anthropology I: Cross-Cultural Theory	3 OR 4 hours.	Introduction for social scientists to psychoanalytic theory and methods including Freud's theories and more recent developments. Crosscultural tests and applications of psychoanalytic theories. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in anthropology or psychology; or consent of the instructor.
Anthropology	ANTH	442	Psychoanalytic Anthropology II: Cross-Cultural Applications	3 OR 4 hours.	Explores ways in which anthropologists and analysts have used psychoanalysis to understand individuals, practices and institutions of other cultures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 441 or consent of the instructor.
Anthropology	ANTH	443	Leadership: Psychology, Strategy, Culture	3 OR 4 hours.	Psychological and anthropological theories of leadership developed on our culture will be tested against descriptions of leadership in diverse non-Western societies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in anthropology.
Anthropology	ANTH	444	Dreams, Dreaming and Dream Beliefs	3 OR 4 hours.	The dreaming experience examined from the point of view of psychological interpretation, laboratory experiments and anthropological study of dreams in other cultures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in anthropology or psychology and junior or senior standing, or consent of the instructor.
Anthropology	ANTH	445	Structuralism in Anthropology	3 OR 4 hours.	Explores the theoretical approach offered by structuralism emphasizing that elements of culture must be understood in terms of their relationship to the entire system. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	453	Seminar in Cultural Ecology	3 OR 4 hours.	Cultural ecology and cultural evolution, emphasizing peasant farming and other subsistence systems. Soil management under shifting and sedentary agriculture. Same as GEOG 453. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or GEOG 151 or consent of the instructor.
Anthropology	ANTH	454	A Dynamic Human Habitat: Amazonia Past, Present and Future	3 OR 4 hours.	Traces the dynamic interaction of humans and their habitats in Amazonia from prehistory until today, illustrating the co-evolution of its environments and populations. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	455	Quantitative Methods	3 OR 4 hours.	Introductory statistics course in statistical methods for anthropological problem-solving. Primary emphasis is on univariate and bivariate statistics, such as means standard deviations, correlation, chi square, t-tests, and simple regressions. Same as GEOG 455. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above; and consent of the instructor.
Anthropology	ANTH	461	Museum Collecting: Documentation, Registration, and Curation	4 hours.	Introduction to the collection of anthropological objects for museum curation. Ethics of collecting, standards for documentation, legal aspects of collecting, ethnographic interviewing, registration of objects and archives, curation and housing.
Anthropology	ANTH	462	Museum Exhibit Research and Design	4 hours.	Introduction to anthropological museum exhibitions. Issues of representation and cultural politics, museums¿ roles in the communities they serve, developing a story around objects, and the technical aspects of exhibit design.
Anthropology	ANTH	470	Classic Ethnographies	3 OR 4 hours.	Analysis of method and theory reflected in selected classic anthropological works, studied in their historical contexts and contemporary uses. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or ANTH 213 or consent of the instructor.
Anthropology	ANTH	473	Anthropology of Social Movements	3 OR 4 hours.	Examines the causes of social change from the perspective of sociocultural anthropology. An ethnographic approach to political life, how communities describe and enact their experiences

					as individuals and citizens. 3 undergraduate hours; 4 graduate hours.
Anthropology	ANTH	474	Urban Cultures of Africa	3 OR 4 hours.	A study of the indigenous urban centers of sub-Saharan Africa; the multi-cultural cities of colonial and contemporary Africa, and the processes of detribalization. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	475	Indians of the Andes and the Amazon	3 OR 4 hours.	Intensive research in theoretical and ethnographic problems in South American Indian social structures and cultures. Special attention will be given Levi-Strauss' ideas on the formulation of cultural theory in South America. Same as LALS 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 213 or consent of the instructor.
Anthropology	ANTH	476	Rise and Fall of the Inca Empire	3 hours.	Using an integration of ethnographic, historical, and archaeological information, this course is designed to provide a thorough introduction to the study of the Incas. Prerequisite(s): Sophomore standing or above.
Anthropology	ANTH	477	Remote Sensing of the Environment	4 hours.	Principles and practices of processing and interpretation of remotely sensed imagery including aerial photographs, radar and multispectral satellite images. Hands-on use of image-processing software. Same as GEOG 477. Extensive computer use required.
Anthropology	ANTH	478	Paleoindians and Peopling of the Americas: From Alaska to Tierra del Fuego	3 OR 4 hours.	Summarizes current knowledge of the first migration of humans to the New World, analyzes its significance, and evaluates the controversies. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	479	Culture and Colonialism in South Asia	3 OR 4 hours.	Examines the emergence of colonial cultures of domination and resistance on the Indian subcontinent from the eighteenth century to 1947. Same as ASST 479, and HIST 479. 3 undergraduate hours. 4 graduate hours.
Anthropology	ANTH	480	Sociolinguistics	3 OR 4 hours.	Variations in language that correlate with variation in societies and smaller social groups; interactions of languages and societies. Same as LING 480. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LING 405 or junior standing and consent of the instructor.
Anthropology	ANTH	481	Geographic Information Systems I	4 hours.	Components and performance properties of geographic information systems. Geographic hierarchies and data structures. Problems and solutions in handling large geographic files. Geocoding. Same as GEOG 481. Prerequisite(s): GEOG 100 and one from GEOG 278, GEOG 386, IDS 100; or consent of the instructor.
Anthropology	ANTH	482	Geographic Information Systems II	4 hours.	Application of raster (or grid) based geographic information systems to the spatial analysis of landscapes. Same as GEOG 482.
Anthropology	ANTH	483	Geographic Information Systems III	4 hours.	Problems encountered in the analysis and portrayal of geographic data. Topics include taxonomy, regionalization, trend surface analysis, time series, markov probabilities, and computer cartographic procedures for displaying output from analytic procedures. Same as GEOG 483. Prerequisite(s): GEOG 482 or ANTH 482 or consent of the instructor.
Anthropology	ANTH	484	Mapping with Microcomputers	4 hours.	Micro-computer applications including computer principles for mapping, alternative design for coordinate files, kinds of devices for mapping, direct control of devices for mapping, characteristics and limitations of mapping programs. Same as GEOG 478. Prerequisite(s): GEOG 475 or consent of the instructor.
Anthropology	ANTH	485	Computer Cartography	4 hours.	The fundamentals of cartography and cartographic design. The use of state-of-the-art, Windows-based computer mapping software for querying and displaying cartographic data contained in GIS databases. Same as GEOG 485.
Anthropology	ANTH	490	Independent Study	1 TO 6 hours.	Independent reading under the supervision of a faculty member. May be repeated to a maximum of 8 hours with approval. Students may register in more than one section per term. Prerequisite(s): Junior standing and consent of the instructor.
Anthropology	ANTH	494	Special Topics in Anthropology	3 OR 4 hours.	Reading, study, and discussion of selected problems for graduate students and majors in anthropology. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Junior standing or approval of the department.
Anthropology	ANTH	496	Internship	1 TO 4 hours.	Professional field experience with an agency or organization in the private or public sector on projects related to the student's area of specialization. Same as GEOG 496. May be repeated to a maximum of 8 hours. Only 4 hours of credit may be applied toward the Minor in Geography. Prerequisite(s): Declared major in anthropology, minor in geography or full graduate standing in anthropology or geography and consent of the faculty advisor, head of the department, or the director of internship programs.
Anthropology	ANTH	500	Social and Cultural Theory I	4 hours.	Historical survey of approaches to field and library research in anthropology.
Anthropology	ANTH	501	Social and Cultural Theory II	4 hours.	Continuation of Anthropology 500. Prerequisite(s): ANTH 500.
Anthropology	ANTH	502	Theory and Method in Archaeology	4 hours.	Middle-range and general theory in prehistoric archaeology: the reconstruction of prehistoric economic, social, and political systems; cultural materialism and its critiques; cultural ecology and systems theory; social evolution.
Anthropology	ANTH	503	Hominid, Phylogeny	5 hours.	Data, methods, and approaches for reconstruction of geneological relationships of species;

			and Adaptations		interpretation of adaptations of extinct species in an evolutionary context.
Anthropology	ANTH	508	Research Design and Grant Writing	4 hours.	Each student will produce a research grant proposal, similar in style and length to an NSF proposal. May be repeated. Prerequisite(s): Approval of the department.
Anthropology	ANTH	510	Seminar in Social Organization	4 hours.	Theoretical and substantive issues about how societies are organized. Same as GEOG 510. May be repeated to a maximum of 12 hours.
Anthropology	ANTH	514	Gender Issues in Cross-Cultural Perspectives	4 hours.	Selected substantive and theoretical issues in the cross-cultural study of gender roles, conceptions, and relations. Same as GWS 514. Prerequisite(s): ANTH 500 or consent of the instructor.
Anthropology	ANTH	516	Anthropology and Global Health Integrative Seminar	4 hours.	Critical examination of global health issues from social science and public health perspectives. Includes consideration of cultural underpinnings, geo-political influences, design of appropriate and effective interventions, and policy formation. Same as IPHS 516. Prerequisite(s): Graduate or professional standing; and consent of the instructor.
Anthropology	ANTH	520	Seminar in Archaeological Theory and Method	4 hours.	Theoretical and substantive issues in the study of prehistory and the recovery and interpretation of the archaeological record. May be repeated. Prerequisite(s): ANTH 502 or consent of the instructor.
Anthropology	ANTH	521	Analysis of Stone Artifacts	4 hours.	Analyzing stone objects.
Anthropology	ANTH	530	Seminar in Physical Anthropology	5 hours.	A critical examination of current literature on methods and theories dealing with the evolution of primate biology and behavior May be repeated. Students may register in more than one section per term.
Anthropology	ANTH	531	Anthropological Genetics	4 hours.	Basic overview of genetic theory and techniques, followed by a survey of the contributions of human genetics to human adaptation and evolution. Prerequisite(s): Grade of B or better in ANTH 508 or grade of B or better in BIOS 220; or consent of the instructor.
Anthropology	ANTH	532	Advances in Ancient DNA	4 hours.	Basic techniques and special concerns in the application of molecular biology techniques to the study of ancient DNA, followed by a discussion of recent advances and contributions to the field. Prerequisite(s): Grade of B or better in ANTH 531 or grade of B or better in BIOS 220.
Anthropology	ANTH	533	Lab Methods for Ancient DNA	2 hours.	Provides students with laboratory training in molecular biology techniques commonly used in studies of ancient DNA. Prerequisite(s): Consent of the instructor.
Anthropology	ANTH	534	Dental and Medical Anthropology Within Human Evolution	1 TO 3 hours.	Studies the biological and physical anthropology of hominid teeth and the craniofacial complex with relevant medical anthropology, ethno-pharmoacology, forensic sciences, and paleo-pathology topics. Same as OSCI 534 and PMPG 534. Field work required. A lab experience,independent study and a research paper is required for 3 hours of credit. Prerequisite(s): Graduate standing and consent of the instructor.
Anthropology	ANTH	555	Landscape Archaeology and GIS	4 hours.	Study of the space between settlements; meanings these spaces have for peoples of the past and today; theoretical approaches to landscape; methods for archaeological landscape analysis through GIS and remote sensing techniques. Prerequisite(s): Consent of the instructor.
Anthropology	ANTH	570	Regional Application of Anthropology	4 hours.	Application of a specific theory or the testing of competing theoretical frameworks to data provided by one of the major geographical or cultural areas of the world. Emphasis on deductive reasoning and the derivation and testing of hypotheses with data from several cultures of a single culture area. May be repeated.
Anthropology	ANTH	591	Readings in Anthropology and Global Health	1 TO 8 hours.	Student along with his/her advisor will develop a series of readings focused on a specific topic of interest to the student. Same as IPHS 591. May be repeated up to 1 time(s). Prerequisite(s): Consent of the instructor.
Anthropology	ANTH	592	Research in Anthropology and Global Health	1 TO 8 hours.	Research and methods class combined with practical fieldwork in Anthropology and Global Health. Same as IPHS 592. May be repeated to a maximum of 8 hours. Field work required. Prerequisite(s): Consent of the instructor.
Anthropology	ANTH	593	Special Topics in Anthropology and Global Health	4 hours.	Covers special topics in Anthropology and Global Health. Same as IPHS 593. May be repeated if topics vary. Prerequisite(s): Graduate or professional standing; and consent of the instructor.
Anthropology	ANTH	594	Special Topics in Anthropology	4 hours.	Study of a selected topic in anthropology. May be repeated to a maximum of 12 hours. Students may register in more than one section per term.
Anthropology	ANTH	595	Graduate Seminar in Anthropology	1 hours.	Presentations of current research by faculty followed by student discussion. Course is to be taken during student's first year in the graduate program as one of the core courses. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the graduate program in anthroplogy.
Anthropology	ANTH	596	Independent Study	2 TO 6 hours.	Independent research is done under the supervision of a faculty member. May be repeated to a maximum of 12 hours with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Prerequisite(s): Consent of the instructor.
Anthropology	ANTH	597	Project Research	2 TO 6 hours.	The student will do an independent research project with the aid of a faculty advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Anthropology	ANTH	599	Ph.D. Thesis	0 TO 16 hours.	Research on doctoral dissertation topic. Satisfactory/Unsatisfactory grading only. May be

			Research		repeated. Prerequisite(s): Advancement to candidacy for the Ph.D. in Anthropology.

Architecture - ARCH

Architecture	ARCH	414	Contemporary Practices	3 hours.	An upper level "selective" seminar that examines specific approaches to the contemporary practice of architecture; students choose by lottery from among several options that are offered by faculty. Prerequisite(s): ARCH 252 and ARCH 371 and ARCH 372; and approval of the department. BS in Architecture students must concurrently enroll in ARCH 465.
Architecture	ARCH	440	Digital Design and Fabrication	3 hours.	Lectures, 3D software modeling lab time, and lab time for fabricating these files into physical models and prototypes, delivers a survey knowledge of digital fabrication and production in contemporary architectural practice. Course information: Prerequisite(s): ARCH 106; and approval of the department.
Architecture	ARCH	443	Professional Practice I	2 hours.	Legal and ethical considerations in architectural practice; operation and management guidelines. Overview of the history of the professional architectural practice. Prerequisite(s): Completion of the second plateau or approval of the school.
Architecture	ARCH	444	Professional Practice II	2 hours.	Business and financial considerations in architectural practice; scope of services communications and marketing guidelines. Interrelationship with clients, consultants, collaborators and the manufacturing and construction industry. Prerequisite(s): ARCH 443 and approval of the school.
Architecture	ARCH	465	Advanced Topic Studio 1	6 hours.	Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by faculty. Extensive computer use required. Field trip required at a nominal fee. Field work required. Students will use city as a research laboratory with field work on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 360 and ARCH 365 and ARCH 366 and ARCH 372; and junior standing or above; and approval of the department. Students must have earned an average grade of C or better in both ARCH 365 and ARCH 366. Students with a lower grade point average for the 365/366 studio sequence are required to take an eight-week summer studio in which they must earn at least a C in order to advance to the studio sequence for the following year.
Architecture	ARCH	466	Advanced Topic Studio 2	6 hours.	Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by faculty. Extensive computer use required. Field trip required at a nominal fee. Field work required. Students will use city as a research laboratory with field work on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 465; and approval of the department. Students must have earned an average grade of C or better in ARCH 365 and ARCH 366. Students with a lower grade point average for the 365/366 studio sequence are required to take an eight-week summer studio in which they must earn at least a C in order to advance to the studio sequence for the following year.
Architecture	ARCH	470	Structures I: Statics	3 hours.	Introduction to the analysis of structural elements. Introduction to fundamental structural planning criteria and relevant concepts of tension, compression and bending. Introduction to historical and contemporary structural precedents. Prerequisite(s): MATH 180 and PHYS 105 and PHYS 106.
Architecture	ARCH	471	Structures II: Strength of Materials	3 hours.	Introduction to material properties; strength characteristics of building materials and material assemblies; stress and strain; rigidity and deformation; temperature effects; torsion effects; combined loading of elements and systems. Prerequisite(s): ARCH 470 and approval of the school.
Architecture	ARCH	486	Urban Ecologies and Infrastructures	4 hours.	Introduction to dynamic relationship of ecology and infrastructure in the context of contemporary urban landscape. Built and natural environments as inseparable networks of a dynamic process. Prerequisite(s): Graduate standing in the Master of Architecture program or, for students in the Bachelor of Arts in Architectural Studies program, consent of the instructor.
Architecture	ARCH	494	Special Topics in Architecture	2 TO 4 hours.	Current problems. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): 12 hours of history of architecture and art and graduate standing in the Master of Architecture program.
Architecture	ARCH	499	Special Topics	3 OR 4 hours.	Special topics in theory, design, technology, or graphic skills and craft (manual or digital). 3 undergraduate hours. 4 graduate hours. May be repeated up to 3 time(s). Prerequisite(s): Senior standing or above.
Architecture	ARCH	500	Best Practices: Space	3 hours.	Issues of planning and programming including context awareness and analysis; site and facilities master planning; workload analysis, existing facility capacity analysis and facilities programming. Prerequisite(s): Approval of the department.
Architecture	ARCH	501	Best Practices: Type	3 hours.	An understanding of operations, activities and functions associated with health settings, including facilities planning and design, departmental planning and design, space planning and design, and equipment planning. Prerequisite(s): Approval of the department.
Architecture	ARCH	502	Best Practices: Process	3 hours.	Regulatory constraints on the design process are discussed: government and licensing agencies including review of building codes, zoning controls, Certificate-of-Need, licensing agencies, and other regulatory issues. Prerequisite(s): Approval of the department.
Architecture	ARCH	503	Best Practices: Institution	3 hours.	A basic understanding of health delivery organizations including funding mechanisms and economies. Topics in the supply and demand for health services, the role of insurance, public

					policy issues of cost and quality regulation. Prerequisite(s): Approval of the department.
Architecture	ARCH	504	Ethics in Health Design	3 hours.	An understanding of the ethical foundations of health design. Including multi-cultural definitions of health. Issues of sustainable design; universal design; health equity; global access to health; gender equality; and health as a human right. Prerequisite(s): Approval of the department.
Architecture	ARCH	505	Introduction to Evidence Based Design	3 hours.	Evidence based health design recognizes the need to be problem-oriented using, as needed, the theories and methods of related disciplines (e.g. psychology, sociology, anthropology, biology, ecology). Prerequisite(s): Approval of the department.
Architecture	ARCH	510	Advanced Architectural Design I	8 hours.	Design of multiple or complex building types with emphasis on varying topics related to architectural design. Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	511	Advanced Architectural Design II	8 hours.	Design of a comprehensive, single case study with emphasis on varying topics related to architectural design. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551; or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	512	Advanced Architectural Design I: Activist Practice	8 hours.	Design of multiple or complex building types with an emphasis on the theoretical, technical, political and economic considerations relating to community activism and identity politics. Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	513	Advanced Architectural Design II: Activist Practice	8 hours.	Design of a comprehensive, single case study with emphasis on theory and site planning, interior space, building systems and materials relating to community activism and identity politics. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	514	Advanced Architectural Design I: Architectural Technologies	8 hours.	Design of multiple, public buildings with an emphasis on the relationship of aesthetics and construction methods in the making of comprehensive architecture. Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	515	Advanced Architectural Design II: Architectural Technologies	8 hours.	Design of a single, public building with an emphasis on the relationship of aesthetics and construction methods in the making of comprehensive architecture. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	516	Advanced Architectural Design I: Digital Media	8 hours.	Design of multiple or complex building types with an emphasis on the theoretical, technical, societal and economic considerations relating to digital media. Extensive computer use required. Prerequisite(s): ARCH 430 and ARCH 454 and ARCH 464 and ARCH 474; or approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	517	Advanced Architectural Design II: Digital Media	8 hours.	Design of a comprehensive, single case study with emphasis on theory and site planning, interior space, building systems and materials relating to digital media. Extensive computer use required. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	518	Advanced Architectural Design I: Landscape Urbanism	8 hours.	Design of urban landscapes and public spaces as informed by large scale infrastructures, natural environments and urban systems. Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	519	Advanced Architectural Design II: Landscape Urbanism	8 hours.	Design of public building and/or space including surrounding urban landscape with emphasis on perceptual, phenomenal and temporal aspects of design. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	520	Topics in Architectural Theory and History	4 hours.	Seminar on a current topic in the criticism, theory or history of architecture and urbanism. May be repeated to a maximum of 12 hours.
Architecture	ARCH	521	Contemporary Theories and Practices	4 hours.	Discusses a diversity of critical and generative approaches to twentieth century architecture and theory, and introduces current themes and debates in contemporary design practices and related disciplines.
Architecture	ARCH	522	Topics in Architectural Technology	4 hours.	Seminar on a current topic in technology, structures, or digital fabrication and new media. May be repeated to a maximum of 12 hours.
Architecture	ARCH	523	Gender and Space	4 hours.	A gendered perspective in conceptualizing and critiquing the plan and design, representation, and form of the built and designed natural environment, the distribution of spatial and physical resources, and environmental experience. Same as GWS 523. Credit is not given for ARCH 523 if the student has credit in ARCH 412 or GWS 412. Students in the Gender and Women's Studies Concentration should contact the School of Architecture to enroll in the course.

Architecture	ARCH	524	Digital Fabrication and Visualization	4 hours.	Seminar/lab that explores architecture through the design technology of its production. Through digital techniques of production, new forms of visual discrimination, prototyping, and communication are introduced. Extensive computer use required.
Architecture	ARCH	531	Architectural Theory and History I	4 hours.	Discusses a diversity of critical and generative approaches to twentieth-century architecture and theory, with an emphasis on how architects invent and instrumentalize history.
Architecture	ARCH	532	Architectural Theory and History II	4 hours.	The emergence of the metropolis beginning in the mid-nineteenth century is examined through a survey of the forces that produced it, and the ideologies and practices that have attempted to organize, control, and simulate it.
Architecture	ARCH	535	Quantitative Methods in Evidence-Based Design	4 hours.	Basic experimental and survey design for health design research and associated methods for data analysis. The unit is intended to develop students' capabilities in a range of exploratory and hypothesis-testing data analytic techniques. Prerequisite(s): Approval of the department.
Architecture	ARCH	536	Critical Design Methodologies	4 hours.	Introduction to current critical design methodologies in health design including integrated practice; building information modeling; GIS; and other advanced forms of visualization and imaging. Prerequisite(s): Approval of the department.
Architecture	ARCH	544	Professional Practices	4 hours.	An introduction to the law and business of architecture, with an emphasis on alternative models for contemporary professional practice. Prerequisite(s): Approval of the department.
Architecture	ARCH	551	Architectural Design I	6 hours.	Introduction to the architectural design discipline as an instigator of qualities and as a function of technique and geometry. Exercises address issues of scale, proportion, intricacy, and formal organizing systems through analog and digital media. Previously listed as ARCH 451. Corequisite(s): ARCH 531 and ARCH 561.
Architecture	ARCH	552	Architectural Design II	6 hours.	Introduction to the architectural design discipline as an organizer of quantities and as a function of argument and scenario. Exercises confront issues of size, number, expediency, and activity through diagramming, modeling, and graphic techniques. Previously listed as ARCH 452. Prerequisite(s): ARCH 551.
Architecture	ARCH	553	Architectural Design III	6 hours.	Addresses contemporary collective space through the development of a large, mixed-use complex on an urban site, and the communication with diverse audiences by synthesizing information and identity from multiple programs and publics. Previously listed as ARCH 453. Prerequisite(s): Advanced standing in the second year of the 3-year Master of Architecture program, or completion of both ARCH 551 and ARCH 552 with a grade point average of B or better in this course sequence. Students with a lower grade point average for the 551/552 studio sequence are required to take an eight-week summer studio in which they must earn at least a B in order to advance to the studio sequence for the following year.
Architecture	ARCH	554	Architectural Design IV	6 hours.	Comprehensive housing design studio using building codes, structural and mechanical systems, and material lifecycles as generative design parameters to attain the scale of detail development and the level of construction documents. Previously listed as ARCH 454. Prerequisite(s): ARCH 553.
Architecture	ARCH	561	Architectural Technology I	4 hours.	Introduction to building construction processes, terminology, conventions, standards, materials, principles of structural behavior, application of components and assemblies, and communication and specifications. Previously listed as ARCH 461. Corequisite(s): ARCH 531 and ARCH 551.
Architecture	ARCH	562	Architectural Technology II	4 hours.	Focuses on the relationship between architecture and the environment, including the high performance, material specification, adaptive behavior, and assembly systems at their primary interface, the building's envelope. Previously listed as ARCH 462. Prerequisite(s): ARCH 561.
Architecture	ARCH	563	Architectural Technology III	4 hours.	Focuses on the relationship between architecture and its occupant, through an analysis and integration of building and core systems: HVAC, electrical, plumbing, ADA and universal design, vertical transport, egress and life safety systems. Previously listed as ARCH 463. Prerequisite(s): ARCH 562 or advanced standing in the second year of the three year Master of Architecture program.
Architecture	ARCH	564	Architectural Technology IV	4 hours.	An advanced seminar/lab in architectural technologies, structures, new materials, and fabrication techniques; students choose by lottery into one of several sections with diverse content. Previously listed as ARCH 464. Prerequisite(s): ARCH 561 and credit or concurrent registration in ARCH 562 and ARCH 563; and credit or concurrent registration in ARCH 573 and ARCH 574. Students who are admitted advanced standing into the second year of the three year Master of Architecure program have the option to take ARCH 562 OR ARCH 573 concurrently with ARCH 564.
Architecture	ARCH	565	Topic Studio	8 hours.	Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by permanent and distinguished visiting faculty. Extensive computer use required. Field work; field trips required at a nominal fee. Prerequisite(s): Completion of both ARCH 553 and ARCH 554 with a grade point average of B or better in this course sequence. Students with a lower grade point average for the 553/554 studio sequence are required to take an eight-week summer studio in which they must earn at least a B in order to advance to the studio sequence for the following year.
Architecture	ARCH	566	Research Seminar	4 hours.	The first part of a year-long design-research project, the seminar establishes the information base to be developed into publishable form in the subsequent research studio. Field work required.
Architecture	ARCH	567	Research Studio	8 hours.	Collaborative and individual design-research, in multiple genres, that addresses concerns at the edge of the contemporary discipline and results from a year-long course of study. Extensive

					computer use required. Field work; field trips required at a nominal fee. Prerequisite(s): ARCH 566.
Architecture	ARCH	568	Advanced Design	6 hours.	Design of a complex project that extends the genetic and generic material of Chicago--its history of technical invention, landscape fabrication, infrastructural ingenuity, and lifestyle production--to a current disciplinary project. Extensive computer use required. Field work; field trips required at a nominal fee.
Architecture	ARCH	573	Architectural Structures I	4 hours.	Introduction to the analysis of elementary structures by quantitative and graphical means; introduction to historical and contemporary structural precedents. Previously listed as ARCH 473. Prerequisite(s): ARCH 561.
Architecture	ARCH	574	Architectural Structures II	4 hours.	Introduction to the design of structural elements and systems in steel, concrete and wood including the application of computer-aided engineering software and approximate methods. Previously listed as ARCH 474. Prerequisite(s): ARCH 561 or advanced standing into the second year of the three year Master of Architecture program.
Architecture	ARCH	577	Health Design Preceptorship	1 TO 3 hours.	Preceptor-guided field experience in health intended to promote evidence based design problem solving skills, and application of critical knowledge and skills in architecture practice. Satsifactory/Unsatisfactory grading only. May be repeated to a maximum of 7 hours. Field work required. Prerequisite(s): Approval of the department.
Architecture	ARCH	579	Capstone Colloquium	4 hours.	Intensive, advanced program of readings, documentation, presentations and discussion that structures and supports research activity related to individual capstone projects. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the department.
Architecture	ARCH	585	Architectural Theory and History III	4 hours.	Focuses on ten contemporary practices through close attention to the distinct design concepts, theoretical and formal argumentation, built production, critical reception, and legacies and genealogies that those practices have sponsored. Previously listed as ARCH 485.
Architecture	ARCH	586	Architectural Theory and History IV	4 hours.	An advanced seminar in architectural and urban criticism, theory and history; students choose by lottery into one of several sections with diverse content.
Architecture	ARCH	587	Pro-seminar I: Design Criticism	4 hours.	Introduction to the methods and styles of design criticism, with specific attention to architectural, urban, landscape, and environmental design disciplines.
Architecture	ARCH	588	Pro-seminar II: Publication and Graphic Argumentation	4 hours.	Revisits the archive of publications on design to liberate strategies and tactics for use in the present day, as well as to encourage the invention of new forms of evidence through diagramming and projective graphics. Prerequisite(s): ARCH 587.
Architecture	ARCH	589	Writing Tutorial I	4 hours.	Independent research and writing, pursued under the direction of a primary advisor. Prerequisite(s): Consent of the instructor.
Architecture	ARCH	590	Writing Tutorial II	4 hours.	Independent research and writing, pursued under the direction of a primary advisor. Prerequisite(s): ARCH 589; and consent of the instructor.
Architecture	ARCH	591	Architectural Study Abroad	0 TO 17 hours.	Lectures, seminars, studio and independent travel/study abroad. Architectural design, planning, structures, history and technology. May be repeated to a maximum of 34 hours. Previously listed as ARCH 491. Field work required. Prerequisite(s): Completion of at least one year of architectural graduate course work; 3.00 cumulative grade point average in architecture; and approval of the school.
Architecture	ARCH	595	Thesis Seminar	4 hours.	Thesis seminar is an intensive, advanced program of readings, documentation, presentations and discussion that structures and supports research activity related to individual thesis projects. Satisfactory/Unsatisfactory grading only. Field work required. Prerequisite(s): Approval of the Department. Students who wish to take the ARCH 595/ARCH 598 thesis sequence must submit a proposal and have it approved by the program before being permitted to register.
Architecture	ARCH	596	Independent Study for Graduate Students	1 TO 8 hours.	Individual study. May be repeated to a maximum of 16 hours. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551; or ARCH 554; and approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
Architecture	ARCH	597	Capstone Project	0 TO 8 hours.	Comprehensive project that explores the relationship of architecture to health-care delivery, evidence-based heatlh design, facilities planning, multidisciplinary research methods, technological adaptive design, and enviornmental innovation. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): ARCH 579; and approval of the department.
Architecture	ARCH	598	Thesis Studio	0 TO 16 hours.	Individual research under faculty direction. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): ARCH 595; and approval of the department.

Art and Design - AD

Art and Design	AD	400	Foreign Studies in Art and Design	1 TO 16 hours.	Study abroad within approved programs of foreign exchange and/or education. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the appropriate major area faculty committee, the director of the school and/or director of graduate studies. Graduate credit only with approval of the director of the school and the director of graduate studies. Prerequisites: Junior or graduate standing within a major program within the School of Art and Design and approval of the appropriate major area faculty committee, director of the school and/or director of graduate studies.
Art and Design	AD	406	Advanced Special Topics in Art and Design	0 TO 5 hours.	Intensive workshops in specific art and design related topics and techniques directed and announced by the instructor. 1 to 4 undergraduate hours. 2 to 5 graduate hours. May be repeated. Prerequisite(s): Junior or graduate standing, and consent of the instructor.
Art and Design	AD	409	Electronic Visualization: Senior Project	0 TO 5 hours.	A practical and conceptual exploration into the production of a public interactive media event. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 405 and AD 407 and credit or concurrent registration in AD 408; and senior standing or above; or consent of the instructor.
Art and Design	AD	410	Advanced Special Topics in Graphic Design	1 TO 5 hours.	Intensive workshops in specific graphic design related topics and techniques directed and announced by the instructor. 1 to 4 undergraduate hours. 2 to 5 graduate hours. May be repeated. A maximjm of 8 hours of credit is allowed for undergraduates; 10 hours for graduate students. Extensive computer use required. Prerequisite(s): AD 315; and junior standing or above; and consent of the instructor. Portfolio review required.
Art and Design	AD	411	Graphic Design Professional Practice	0 TO 5 hours.	Design projects with real-world clients in the private or public sector. The designer/client relationship. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): AD 315 and AD 317; and senior standing or above; and consent of the instructor.
Art and Design	AD	412	Graphic Design Thesis	0 TO 5 hours.	Thesis topics chosen in consultation with graphic design faculty. 4 undergraduate hours. 5 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Credit or concurrent registration in AD 315 and credit or concurrent registration in AD 317 and credit or concurrent registration in AD 411; and consent of the instructor.
Art and Design	AD	413	Interactive Design	0 TO 5 hours.	Advanced examination of graphic design in the new media technologies. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 315 and credit or concurrent registration in AD 412, and senior standing or above.
Art and Design	AD	414	Interactivity in Graphic Design	0 TO 5 hours.	Advanced examination of graphic design in the new media technologies. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 315 and AD 317 and credit or concurrent registration in AD 412.
Art and Design	AD	415	Design Colloquium	4 OR 5 hours.	Presentations, lectures and discussions conducted by faculty, design professionals and individuals from design-related disciplines. Overview and contextual understanding of design theory, practice, process and research. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): Senior standing or above, and consent of the instructor. Senior students must be in their final semester and preparing to graduate at the end of that semester.
Art and Design	AD	418	Independent Study in Graphic Design	1 TO 5 hours.	Supervised independent study in graphic design. 1 to 4 undergraduate hours. 2 to 5 graduate hours. May be repeated. A maximum of 8 hours of credit is allowed for undergraduates; 10 hours for graduate students. Extensive computer use required. Prerequisite(s): Senior standing or above and consent of the instructor. Taken by faculty invitation only.
Art and Design	AD	420	Interdisciplinary Product Development I	0 TO 5 hours.	'Real world' simulation collaborating in teams with other disciplines gathering, assimilating and synthesizing information for problem identification to investigate and solve a problem. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 321 and AD 326 and credit or concurrent registration in AD 422; and senior standing or above; or consent of the instructor.
Art and Design	AD	421	Interdisciplinary Product Development II	0 TO 5 hours.	'Real world' simulation collaborating in teams with other disciplines to assimilate and synthesize information into action plan, design development and implementation within structured stage-gated product development process. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 420 and AD 422 and credit or concurrent registration in AD 423; and credit or concurrent registration in AD 415; and senior standing or above; or consent of the instructor.
Art and Design	AD	422	Interactive Product Design II	0 TO 5 hours.	Advanced 2-D and 3-D methods in the design of interactive products and art works. Includes human factors, 3-D modeling and design of 3-D virtual products. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 321 and AD 326 and credit or concurrent registration in AD 420; and senior standing or above; or consent of the instructor.
Art and Design	AD	423	Industrial Design Thesis	0 TO 5 hours.	Capstone course that enables students to select and explore an area of industrial design research. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 420 and AD 422 and credit or concurrent registration in AD 421; and credit or concurrent registration in AD 415; and senior standing or above; and consent of the instructor.
Art and Design	AD	424	Industrial Design Independent Study	4 OR 5 hours.	Supervised independent study in any area of industrial design activity not covered in the regular curriculum. 4 undergraduate hours. 5 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): AD 320 and AD 321 and senior standing or above; and consent of the instructor.
Art and	AD	425	Design Visualization	0 TO 5 hours.	Advanced principles, methodologies and tools for designing both mechanical and electronic

Design					interactive products using digital tools as well as analysis utilizing prototyping and user testing methods. Applications include interactive web site design. 4 undergraduate hours. 5 graduate hours. May be repeated up to 1 time(s). Extensive computer use required. Prerequisite(s): AD 322 and senior standing or above; and consent of the instructor.
Art and Design	AD	452	Informational Aesthetics I	4 hours.	Introduction to information visualization and programming in the context of art and design. Project oriented course using computer code and custom software for information analysis, representation and creative expression. Extensive computer use required. Prerequisite(s): AD 100 and AD 205; and sophomore standing or above; or consent of the instructor.
Art and Design	AD	453	Informational Aesthetics II	4 hours.	Intermediate course emphasizing the database as cultural form. Creative projects and research in information aesthetics through date driven two, three and four dimensional visualizations and custom computer interfaces. Extensive computer use required. Prerequisite(s): AD 100 and AD 205 and AD 452; and sophomore standing or above; or consent of the instructor.
Art and Design	AD	454	3D Space I: Modeling	4 hours.	Introduction to 3D modeling. texturing, lighting and rendering. Students develop a cross-media skill set that can be used for visualizing sculptural and/or architectural installations, filmic animation and compositing, gaming and object design. Extensive computer use required. Prerequisite(s): AD 100 and AD 205; or consent of the instructor.
Art and Design	AD	455	3D Space II: Animation	4 hours.	Continuation of 3D Space I: Modeling. Includes a focus on environment design with advanced texturing, lighting, rendering and particles. Extensive computer use required. Prerequisite(s): AD 100 and AD 205 and AD 454; or consent of the instructor.
Art and Design	AD	456	Embedded Media: Physical Computing	4 hours.	A practical and conceptual exploration into electronic sensors, processors and actuators as applied to interactive media. Previously listed as AD 405. Extensive computer use required. Prerequisite(s): AD 205; and junior standing or above; or consent of the instructor.
Art and Design	AD	457	Interactive 3D	4 hours.	An introduction to real-time interactive art theory and to the design and production practices used in creating 3D applications for games and the web. Previously listed as AD 407. Extensive computer use required. Prerequisite(s): AD 205 and junior standing or above; or consent of the instructor.
Art and Design	AD	458	Advanced Interactive 3D	4 hours.	Advanced theory and practice of real-time interactive art and producing 3D applications for games and the web. Conceptualization, planning, and development of interactive 3D and virtual reality environments. Previously listed as AD 408. Extensive computer use required. Prerequisite(s): AD 205 and AD 457; and credit or concurrent registration in AD 409; and credit or concurrent registration in AD 415; and junior standing or above; or consent of the instructor.
Art and Design	AD	462	Advanced Art/Studio Critique	6 hours.	Critique/discussion for advanced art majors. Prerequisite(s): AD 391 and senior standing or above; and consent of the instructor. Open only to Studio Arts, Photography, Moving Image majors who have completed their major art requirements.
Art and Design	AD	463	Art/Studio Thesis	6 hours.	Exhibition/thesis production and seminar culminating in an exhibition/final thesis show for graduating seniors. Prerequisite(s): AD 462 and senior standing or above; and consent of the instructor. Open only to Studio Arts, Photography, Moving Image majors who have completed all requirements and are prepared to graduate.
Art and Design	AD	471	Advanced Film/Video/Animation	0 TO 5 hours.	Investigation of contemporary concerns in various areas of film and/or video activity under the direction of an instructor. 4 undergraduate hours. 5 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): AD 272 or AD 474, and consent of the instructor.
Art and Design	AD	472	Independent Study in Film/Video/Electronic Visualization	4 TO 12 hours.	Supervised independent study in any areas of cinema, video production, or electronic visualization. May be repeated to a maximum of 12 hours. Students may register for more than one four-hour section per term, or repeat the course in four-hour sections in subsequent terms. Prerequisite(s): 12 hours in any film, video, and/or electronic visualization courses and consent of the instructor.
Art and Design	AD	482	Visual and Verbal Literacy in Art Education	4 hours.	Explores relevance of critical theory, text-based contemporary art, cultural studies, and aesthetics to the school art curriculum. Strategies for incorporating reading and writing into arts education. May be repeated once if grade is lower than B. Field work required. Prerequisite(s): Grade of B or better in AD 281; and credit or concurrent registration in AD 382; and junior standing or above; and approval of the school.
Art and Design	AD	484	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Field experience plus lecture, demonstration and discussion. May be repeated once if grade lower than B. Graduate credit only with approval of the school. Prerequisite(s): Grade of B or better in AD 281 and grade of B or better in AD 382 and grade of B or better in AD 482; and credit or concurrent registration in AD 485; and senior standing or above and completion of 100 clock hours of pre-student-teaching field experiences, and approval of the school.
Art and Design	AD	485	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Field experience, plus lecture, demonstration, and discussion. May be repeated once if grade lower than B. Graduate credit only with approval of the school. Prerequisite(s): Grade of B or better in AD 281 and grade of B or better in AD 382 and grade of B or better in AD 482; and credit or concurrent registration in AD 484; and senior standing or above and good academic standing in a teacher eduation program and completion of 100 clock hours of pre-student-teaching field experience and approval of the school.

Art and Design	AD	488	Computer Graphics I	0 TO 4 hours.	Principles of interactive computer graphics. Raster and vector display, techniques and hardware considerations. Introduction to two-dimensional and three dimensional rendering. Laboratory. Same as CS 488. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in CS 340.
Art and Design	AD	494	Special Topics in Art Therapy	1 TO 5 hours.	Specializations, new developm ents in the field, in-depth study of theory, process, application, or independent study. 1 to 4 undergraduate hours. 2 to 5 graduate hours. May be repeated. Students may register in more than one section per term. A maximjm of 8 hours of credit is allowed for undergraduates; 10 hours for graduate students. Prerequisite(s): Consent of the instructor.
Art and Design	AD	499	Cooperative Education	0 TO 4 hours.	Introduction to professional practice offering students the opportunity to couple academic learning with professional experience in an off-campus placement. Satisfactory/Unsatisfactory grading only. May be repeated. Only 8 hours of credit may be counted toward satisfying requirements for any art and design major. Prerequisite(s): Junior standing, a minimum cumulative grade point average of 3.00, and approval of the school.
Art and Design	AD	500	Art and Design Teaching Internship	0 TO 2 hours.	Practical and theoretical aspects of teaching lecture/lab studio, and/or seminar courses in Art and Design. Satisfactory/Unsatisfactory grading only. May be repeated. No graduation credit. Prerequisite(s): Consent of the instructor and consent of director of graduate studies.
Art and Design	AD	502	Seminar in Contemporary Theory	4 hours.	Developments and current issues in contemporary design, studio and media arts: major philosophies, debates, and social/environmental aspects (may include visiting lecturers, critics, and discussants). May be repeated. Must be repeated for a minimum of 16 hours of credit. Prerequisite(s): Consent of the school, graduate faculty committee, and the student's advisor.
Art and Design	AD	507	Special Projects in Art and Design	0 TO 16 hours.	Student initiated projects not covered in available curriculum. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the sponsoring instructor and the graduate faculty committee in the student's area of specialization.
Art and Design	AD	508	Advanced Electronic Visualization and Critique	4 hours.	Individualized graduate study; creative projects and research in electronic visualization through a consultive agreement with graduate faculty committee. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee.
Art and Design	AD	509	Advanced Electronic Visualization	5 hours.	Individualized graduate study; creative projects and research in electronic visualization through a consultive agreement with graduate advisor. May be repeated. Prerequisite(s): Consent of the school graduate faculty committee and the student's advisor.
Art and Design	AD	510	Advanced Graphic Design and Critique	4 hours.	Individualized graduate study; creative projects and research in graphic design by each student through consultive agreement with graduate faculty committee. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee.
Art and Design	AD	511	Advanced Graphic Design	5 hours.	Individualized graduate study; creative projects and research in graphic design by each student through consultive agreement with graduate advisor. May be repeated. Prerequisite(s): Consent of the school graduate faculty committee and the student's advisor.
Art and Design	AD	520	Advanced Industrial Design and Critique	4 hours.	Individualized graduate study; creative projects and research in industrial design by each student through consultive agreement with graduate faculty committee. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee.
Art and Design	AD	521	Advanced Industrial Design	5 hours.	Individualized graduate study; creative projects and research in industrial design by each student through consultive agreement with graduate advisor. May be repeated. Prerequisite(s): Consent of the school graduate faculty committee and the student's advisor.
Art and Design	AD	530	Advanced Studio Arts and Critique	4 hours.	Individualized graduate study; creative projects and research in studio arts by each student through consultive agreement with graduate faculty committee. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee.
Art and Design	AD	531	Advanced Studio Arts	5 hours.	Individualized graduate study; creative projects and research in studio arts by each student through consultive agreement with graduate advisor. May be repeated. Prerequisite(s): Consent of the School graduate faculty committee and the student's advisor.
Art and Design	AD	560	Advanced Photography and Critique	4 hours.	A forum for presenting and discussing individual work with all photography graduates and faculty participating. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee.
Art and Design	AD	561	Advanced Photography	5 hours.	Individualized graduate study; creative projects and research in photography by each student through consultive agreement with graduate advisor. May be repeated. Prerequisite(s): Consent of the school graduate faculty committee and the student's advisor(s).
Art and Design	AD	570	Advanced Moving Image and Critique	4 hours.	Individualized graduate study; projects for creative research in film, video, and animation by each student through conference and consultive agreement with graduate faculty committee. May involve supportive consultation in other areas. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee.
Art and Design	AD	571	Advanced Moving Image	5 hours.	Individualized graduate study; projects for creative research in film, video, and animation by each student through consultive agreement with graduate advisor. May involve supportive consultation in other areas. May be repeated. Prerequisite(s): Approval of the school graduate faculty committee and the student's advisor.
Art and Design	AD	588	Computer Graphics II	4 hours.	State of the art in computer graphics and interactive techniques: Three-dimensional surface and volumetric models. A laboratory is required. Same as CS 526. Prerequisite(s): CS 488.
Art and	AD	594	Special Topics in Art	1 TO 4 hours.	Specialized research topics in art and design directed and announced by the instructor. May be

Design			and Design		repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and the student's advisor.
Art and Design	AD	597	Master's Project	0 TO 16 hours.	Independent research under faculty supervision in a specific area of interest. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 16 hours. Prerequisite(s): 20 hours of 500-level courses and consent of the instructor.

Art History - AH

Art History	AH	404	Topics in Architecture, Art and Design	3 OR 4 hours.	Selected topics in the history of European and North American architecture, art and design. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students may register in more than one section per term. Prerequisite(s): 3 hours of art history at the 200 level or consent of the instructor.
Art History	AH	420	History of Architecture I	4 hours.	Introduction to architecture, urbanism, and architectural theory worldwide from antiquity to 1450. Prerequisite(s): Graduate standing.
Art History	AH	421	History of Architecture II	4 hours.	Introduction to architecture, urbanism and architectural theory worldwide from 1450 to the present. Prerequisite(s): Graduate standing and AH 420.
Art History	AH	422	Topics in the Literature of Architecture	3 OR 4 hours.	Discussion of selected readings in the theory and criticism of architecture. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours in the history of architecture or consent of the instructor.
Art History	AH	423	Topics in Modern and Contemporary Architecture	4 hours.	Selected topics in modern and contemporary architecture. May be repeated if topics vary. Prerequisite(s): Graduate standing, and four hours in the history of architecture or consent of the instructor.
Art History	AH	424	Topics in Architecture and Urban Form in Chicago	2 TO 4 hours.	Topics on the development of the built environment of the Chicago and metropolitan area, and the effect on its architecture of social, political and economic forces.
Art History	AH	430	Contemporary Photography	3 OR 4 hours.	Developments in the history of photography since 1950. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours in the history of photography or consent of the instructor.
Art History	AH	432	Topics in Film and Video	3 OR 4 hours.	Selected studies in genres, schools, individual artists, critics, and theorists of film and video. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Graduate standing or 3 hours in the history of film or consent of the instructor.
Art History	AH	434	Women and Film	3 OR 4 hours.	Roles and representations of women in classical Hollywood, European art and independent feminist cinemas. Same as ENGL 472, and GWS 472. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 302 or ENGL 342 or ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.
Art History	AH	435	Topics in Modern and Contemporary Design	3 OR 4 hours.	Topics in modern and contemporary design. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours in the history of design or consent of the instructor.
Art History	AH	441	Topics in Medieval Art and Architecture	3 OR 4 hours.	Selected topics in European art and architecture of the Middle Ages. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of medieval art and architecture or consent of the instructor.
Art History	AH	450	Topics in Renaissance Art	3 OR 4 hours.	Selected topics in Early Renaissance, High Renaissance, or Mannerist Art and Architecture. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 3 hours in art history at the 200 level or above, or consent of the instructor.
Art History	AH	460	Topics in Modern and Contemporary Art	3 OR 4 hours.	Selected topics in nineteenth- and twentieth-century modern and contemporary art. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of modern art and architecture or consent of the instructor.
Art History	AH	463	Topics in North American Art and Architecture	3 OR 4 hours.	Selected topics in North American art and architecture from colonial times to 1945. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of North American art and architecture or consent of the instructor.
Art History	AH	464	Topics on Art in Chicago	2 TO 4 hours.	Topics on the survey of art in Chicago, from the nineteenth century to the present, with an emphasis on contemporary Chicago art expressions.
Art History	AH	465	Arts of the Black Atlantic	3 OR 4 hours.	Interdisciplinary and discursive explorations of the visual and artistic expressions of artists of African descent in the New World. 3 undergraduate hours. 4 graduate hours.
Art History	AH	470	Topics in Non-Western Art and Architecture	3 OR 4 hours.	Selected topics in the art and architecture of Africa, Asia, Oceania, and the indigenous peoples of the Americas. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary.
Art History	AH	471	Topics in Asian Art and Architecture	3 OR 4 hours.	Selected topics in the art and architecture of Asia. Same as ASST 471. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of Asian art and/or architecture or consent of the instructor.
Art History	AH	480	History of Collecting and Museology	3 OR 4 hours.	The history of collecting and patronage: Public and private collections, museums, and commercial art galleries, government funding and the arts. Exhibition planning, research, selection, and catalog preparation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AH 110 and AH 111 or consent of the instructor.
Art History	AH	481	Museum Practices	3 OR 4 hours.	Administration of visual arts organizations, their budgets, staffing, structures, accreditation, and long-range planning. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AH 480 or consent of the instructor.
Art History	AH	482	Museology	6 OR 8 hours.	Practical supervised experience in institutions serving the visual arts. Placements in museums,

			Internship		community art centers, college, commercial, or non-traditional galleries, and public agencies. Prerequisite(s): AH 481 or consent of the instructor.
Art History	AH	485	Introduction to Historic Preservation	3 OR 4 hours.	Preservation planning, historic building restoration, and the political and economic factors affecting the conservation of historic resources. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of art history at the 200 level or consent of the instructor.
Art History	AH	490	Honors Thesis	3 hours.	Individual study on a project selected with the approval of the adviser. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to seniors.
Art History	AH	491	Study Abroad in Art History	0 TO 12 hours.	Study abroad within an approved foreign exchange program or department-sponsored program. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): Approval of the department.
Art History	AH	492	Readings in Art and Architecture History	1 TO 4 hours.	Individually planned readings on selected topics under the supervision of a faculty member. 1 to 3 undergraduate hours. 2 to 4 graduate hours. May be repeated to a maximum of 9 hours for undergraduate students or 12 hours for graduate students. Students may register in more than one section per term. Prerequisite(s): Junior standing and 3 hours of Art History above the 100 level and consent of the instructor. Enrollment priority will be given to majors and graduate students in Art History.
Art History	AH	510	Historiography of the Visual Arts, 1750 to 1960	4 hours.	Examines some of the intellectual underpinnings of art history, theory and criticism and explores ways of doing research and making arguments in art history. Prerequisite(s): Graduate standing in art history or consent of the instructor.
Art History	AH	511	Toward New Histories of the Visual Arts, 1960 to the Present	4 hours.	Examines the transformation of Art History, theory, and criticism since 1960 with regard to issues of gender, class, ethnicity, popular culture, post-colonialism and contemporary aesthetics. Prerequisite(s): Graduate standing in art history or consent of the instructor.
Art History	AH	512	Art History Teaching Seminar	0 hours.	Theoretical and practical aspects of teaching in undergraduate courses in the history of the visual arts. Satisfactory/Unsatisfactory grading only. May be repeated up to 1 time(s). Prerequisite(s): Graduate standing in the art history program and appointment as a teaching assistant in the department.
Art History	AH	513	PhD Proseminar	4 hours.	Historical, theoretical, and critical issues in art history. May be repeated for credit.
Art History	AH	522	Issues in Architecture, Design and Urbanism	4 hours.	Theories and contemporary critical issues relating to the history of the environment created and modified by people. Readings and presentations on historic and regional variations.
Art History	AH	530	Seminar in The History of Photography	4 hours.	Selected topics in the history of photography with emphasis on primary source materials for research purposes. May be repeated if topics vary.
Art History	AH	532	Museum and Exhibition Studies Workshop	3 hours.	Practical, theoretical and institutional settings of the museum and exhibition professions. Students meet in seminar environments, read and discuss core texts and ideas; travel to representative exhibition and cultural heritage sites. Extensive computer use required. Field work required. Prerequisite(s): Approval of the Department.
Art History	AH	540	Topics in Medieval, Byzantine and Islamic Art and Architecture	4 hours.	Selected topics in the art, architecture and archaeology of the Medieval west, Byzantium and Islam. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Art History	AH	542	Material and Display Practices for Exhibitions	4 hours.	Core course in material and display practices. Exposure to the mechanics of preparing exhibitions in physical and virtual environment; exhibition planning, design, management and marketing. Prerequisite(s): Approval of the Department.
Art History	AH	543	Writing for Exhibitions	4 hours.	Practicum in producing texts for sites across physical and virtual museum and exhibition environments, from labels to exhibition catalogs. Includes digital and virtual exhibition venues. Extensive computer use required. Prerequisite(s): Approval of the Department.
Art History	AH	544	Methods and Approaches to Creating Public Interaction in Museum Studies	4 hours.	Development of methods of audience and public interaction with exhibiting institutions and forms. Includes practicum in publicity, promotion, audience-development assessment. Prerequisite(s): Approval of the Department.
Art History	AH	545	Museum Genres, Practices and Institution	4 hours.	History of museums, cultural heritage sites, other sites of preservation and exhibition; includes discussion of contemporary sites of virtual display. Extensive computer use required. Field trips to multiple cultural sites in the Chicago area. Prerequisite(s): Approval of the Department.
Art History	AH	550	Seminar in Renaissance and Baroque Art and Architecture	4 hours.	European art and architecture of the Renaissance. May be repeated if topics vary.
Art History	AH	560	Seminar in Modern Architecture, Art, and Design	4 hours.	North American and European art, architecture and design between 1780 and 1945. May be repeated if topics vary. Students may register in more than one section per term.

Art History	AH	561	Seminar in Contemporary Architecture and Art	4 hours.	Selected topics in recent North American or European art, architecture and design. Prerequisite(s): Consent of the instructor.
Art History	AH	562	Issues in the Art of the Americas	4 hours.	Historical, theoretical and critical issues in the art of the Americas and the Caribbean; indigenous, imported, and diasporan cultures and the interaction between them.
Art History	AH	563	Seminar in North American Architecture and Art	4 hours.	North American art and architecture from the colonial period to 1945. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Art History	AH	570	Seminar in Non-Western Art and Architecture	4 hours.	Selected topics in Pre-Columbian, North American Indian, African, and Oceanic art.
Art History	AH	582	Supervised Internship in Museum and Exhibition Studies	4 hours.	Practical supervised experience in institutions serving the visual arts. Placements in museums; community arts centers; college, commercial, or non-traditional galleries; public agencies, and commercial and not-for-profit sites. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the Department.
Art History	AH	590	MA Paper Research	0 TO 4 hours.	Student will work with advisors on two qualifying papers. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours. Prerequisite(s): Consent of the instructor.
Art History	AH	592	Preliminary Examination Research	0 TO 16 hours.	Supervised research and reading in preparation for the preliminary examinations. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Prerequisite(s): Open only to Ph.D. degree students. Only by consent of the Director of Graduate Studies and after all other coursework has been completed.
Art History	AH	596	Readings in Art and Architecture	1 TO 4 hours.	Individually planned readings on selected topics under the supervision of a faculty member. Prerequisite(s): Consent of the instructor.
Art History	AH	597	Project Research	0 TO 8 hours.	Capstone project appropriate to area of study, developed in consultation with graduate advisor. Projects may cover areas of visual exhibition or professional practice that fall outside traditional boundaries of scholarly research. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Extensive computer use required. Prerequisite(s): Approval of the Department.
Art History	AH	598	Master's Thesis Research	0 TO 8 hours.	Individual research under faculty direction. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the instructor.
Art History	AH	599	Ph.D. Dissertation Research	0 TO 16 hours.	Supervised research on the part of the student. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 24 hours. Prerequisite(s): Consent of the instructor and satisfactory completion of the preliminary examination.

Asian American Studies - ASAM

Asian American Studies	ASAM	428	Asian/Asian American Women in the Global Economy	3 OR 4 hours.	Examines the racialization and feminization of a global division of labor and focuses primarily on Asian and Asian American women's participation and incorporation as workers and key actors in the development of the global economy. Same as GWS 428 and SOC 428. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): At least one ASAM or GWS or SOC course; or consent of the instructor.
Asian American Studies	ASAM	441	Topics in Asian American Literature and Culture	3 OR 4 hours.	An advanced seminar that examines various forms of cultural production by Asian American artists of diverse ethnic backgrounds. Topics vary. Same as ENGL 441. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 327 or ENGL 328 or ENGL 359; and senior standing or above; or consent of the instructor.
Asian American Studies	ASAM	458	Asian America and Transnational Feminism	3 OR 4 hours.	Advanced, cross-disciplinary examination of feminism among Asian Americans from critical race and decolonizing perspectives and in a transnational context. Course information: Same as GWS 458. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): At least one ASAM or GWS course; or consent of the instructor.
Asian American Studies	ASAM	463	Politics of Gender and Sexuality in Asian America	3 OR 4 hours.	Advanced, cross-disciplinary examination of issues related to gender and sexuality among Asian Americans, with critical attention paid to feminist and queer perspectives on the politics of representation and identity construction. Same as GWS 463. 3 undergraduate hours. 4 graduate hours.
Asian American Studies	ASAM	490	Advanced Topics in Asian American Studies	3 OR 4 hours.	Study of a specific advanced topic within Asian American Studies. May be repeated if content does not duplicated previous coursework. May be repeated to a maximum of 12 hours. 3 undergraduate hours. 4 graduate hours.
Asian American Studies	ASAM	495	Independent Study	1 TO 4 hours.	Faculty-supervised independent reading or research on a specialized topic in Asian American studies. May be repeated. Prerequisite(s): Consent of the instructor.

Asian Studies - ASST

Asian Studies	ASST	438	Women in South Asian History	3 OR 4 hours.	A study of the diversity of women's experiences in South Asia in a range of social, cultural, and religious contexts from the ancient period to the present. Same as HIST 438 and GWS 438. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 3 hours of History or consent of the instructor.
Asian Studies	ASST	471	Topics in Asian Art and Architecture	3 OR 4 hours.	Selected topics in the art and architecture of Asia. Same as AH 471. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of Asian art and/or architecture or consent of the instructor.
Asian Studies	ASST	472	Issues and Events in Twentieth-Century China	3 OR 4 hours.	Covers the events, places, people, political movements, ideologies, and issues that shaped twentieth-century China, and considers different approaches to the writing of that history. Same as HIST 472. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history at the 100 or 200 level.
Asian Studies	ASST	473	Topics in East Asian History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 473. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of East Asian history or consent of the instructor.
Asian Studies	ASST	478	Women in Chinese History	3 OR 4 hours.	Focuses on scholarship on women in Chinese society throughout history, dealing with topics such as marriage and family, literacy, career options, women in revolution and the historiography of the field. Same as GWS 478, and HIST 478. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history or women's studies.
Asian Studies	ASST	479	Culture and Colonialism in South Asia	3 OR 4 hours.	Examines the emergence of colonial cultures of domination and resistance on the Indian subcontinent from the 18th century to 1947. Same as ANTH 479, and HIST 479. 3 undergraduate hours. 4 graduate hours.
Asian Studies	ASST	499	Independent Study	1 TO 4 hours.	Supervised individual reading or research in Asian studies. Conducted under the direction of a faculty member in an Asia-related field. May be repeated to a maximum of 4 hours. A maximum of 3 hours of credit may be applied to the Minor in Asian Studies. Students may register in more than one section per term. Student will be required to meet with faculty supervisor on a regular basis. Prerequisite(s): Sophmore standing or above; and three hours of credit in Asian Studies coursework and approval of the program.

Associated Health Studies - AHS

Associated Health Sciences	AHS	495	Urban Health Multicultural Seminar	1 hours.	Students attend multicultural and urban health-related seminars, participate in faculty-student discussion, academic presentations, and directed reading groups to integrate issues of cultural difference into students' professional development. Satisfactory/Unsatisfactory grading only. May be repeated. All Academy seminars are pre-approved: other approved events will be announced to students. Any off-campus events must have prior approval. One academic year is allotted for completion of seminar. Students should register the semester they begin attending lectures; grades will be deferred until course is completed. Prerequisite(s): Sophomore standing or above.
Associated Health Sciences	AHS	510	Research Methods in Allied Health	3 hours.	Application of basic concepts of research methodology to Allied Health, including problem formulation, research design, sampling, measurement and data analysis. Emphasis on critique of research studies and preliminary proposal writing. Prerequisite(s): Consent of the instructor.
Associated Health Sciences	AHS	594	Special Topics in Associated Health Sciences	1 TO 4 hours.	Selected topics of interest within disciplinary specialty areas of the Allied Health Professions. Particular attention is given to topics of cross cutting importance to these professions.
Associated Health Sciences	AHS	595	Seminar in Associated Health Sciences	1 hours.	Topics of current interest in a discipline of associated health sciences. Includes discussions of current journal articles and important new developments in the specific disciplines. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Associated Health Sciences	AHS	596	Independent Study	1 TO 4 hours.	For graduate students who wish to pursue independent study not related to their project/thesis research. May be repeated. Students may register in more than one section per term.
Associated Health Sciences	AHS	597	Project Research in Associated Health Sciences	1 TO 4 hours.	Independent investigation of a topic to contribute to the associated health professions. Students investigate a topic/problem in this area, write an article/report, and/or make an oral presentation. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.

Biochemistry and Molecular Genetics - BCMG

Biochemistry and Molecular Genetics	BCMG	411	Introduction to Biological Chemistry	4 hours.	Includes chemistry of cellular constituents; enzymology; metabolism of sugars, proteins, lipids, and nucleic acids; and regulation of metabolism. Prerequisite(s): Organic chemistry. Lecture course designed primarily for students in the College of Dentistry.
Biochemistry and Molecular Genetics	BCMG	501	Faculty Research Seminars	1 hours.	Faculty presentation of research areas within molecular genetics. Satisfactory/Unsatisfactory grading only. Should be taken in the first year in the Ph.D. in Biochemistry and Molecular Genetics program. Prerequisite(s): Graduate standing in the Ph.D. in Biochemistry and Molecular Genetics program or consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	502	Somatic Cell and Human Genetics	4 hours.	The genetics of somatic cells and advanced human genetics. Gene transfer, mutagenesis, drosophila genetics, genetic linkage and human disease, cancer genetics, and gene therapy. Prerequisite(s): GCLS 501 or consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	503	Research Methods in Biochemistry and Molecular Genetics	5 hours.	Laboratory course in experimental methods in biochemistry and molecular genetics. May be repeated to a maximum of 10 hours. Prerequisite(s): Consent of the instructor. Open only to students entering as Ph.D. students in Biochemistry and Molecular Genetics.
Biochemistry and Molecular Genetics	BCMG	512	Experimental Design and Analysis in Molecular Genetics	4 hours.	Methods and logic in the analysis of gene function, gene cloning, analysis of genetic changes, studies of gene expression, design of experimental controls. Prerequisite(s): GCLS 501 or consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	513	Structure of Biopolymers	3 hours.	Explores the relationship between structural stability, kinetic properties and function of biopolymers, with particular emphasis on proteins and nucleic acids. Same as MIM 513, and PMPG 513. Prerequisite(s): GCLS 501 and one year of physical chemistry, or consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	514	Structure and Function of Nucleic Acids	4 hours.	Describes the structure and function of nucleic acids. Unravels the basic molecular mechanisms underlying heredity, including replication, transcription and recombination. Prerequisite(s): GCLS 501 or consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	515	Journal Club	1 hours.	Student presentation and critical analysis of recent journal articles and current topics in biochemistry and molecular genetics. May be repeated. Prerequisite(s): Consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	522	Strategies for Effective Scientific Communication	1 hours.	Development of critical skills for evaluation, development, and execution of forms of scientific communication, including research and grant proposals, manuscripts describing original research, and review summaries. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	526	Molecular and Genetic Analysis of Development	3 hours.	Examines developmental mechanisms used in animal model systems. Same as BIOS 526. Prerequisite(s): Graduate standing or consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	531	Medical Biochemistry I	3 hours.	Chemistry of Biopolymers; enzymology; metabolism of carbohydrates, Lipids, amino acids and proteins; molecular biology. Prerequisite(s): Membership in the medical school class or consent of the instructor. Intended primarily for first year medical students.
Biochemistry and Molecular Genetics	BCMG	532	Introduction to Molecular Medicine and Genetics	3 hours.	Introduction to the principles of molecular medicine and genetics, including molecular biology, hemostasis, gene therapy, mechanisms of mutation, pharmacogenomics, cancer genetics, and immunogenetics. Intended primarily for medical students. Prerequisite(s): BCMG 531 and membership in the medical school and consent of the course coordinator.
Biochemistry and Molecular Genetics	BCMG	533	Nutrition for Medical Students	2 hours.	Biochemical and nutritional basis of disease including heart disease, hypertension, obesity, malnutrition, and cancer. Prerequisite(s): BCMG 531 and BCMG 532 and membership in the medical school or consent of the instructor. Intended primarily for medical students.
Biochemistry and Molecular Genetics	BCMG	561	Biochemistry of Cellular Regulation	3 hours.	Membrane structure and function, transport, receptor and signal transduction mechanisms and growth factors. Cytoskeleton and motility, cell-cell communication, enzyme cascades and cellular control mechanisms.
Biochemistry and Molecular Genetics	BCMG	563	Principles of Molecular Medicine	3 hours.	A lecture/discussion/writing course which integrates biochemical and molecular biological concepts into a clinical context. Diseases will be described in terms of molecular mechanisms. Prerequisite(s): Consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	575	Topics in Biochemistry and Molecular Genetics	3 hours.	Students will be exposed to, present , and discuss recent scientific literature in biochemistry and molecular genetics. Prerequisite(s): Completion of the first year of the program and consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	594	Special Topics in Biochemistry and Molecular Genetics	1 TO 3 hours.	Topics of current interest in the field of biochemistry and molecular genetics, and may include protein structure, membrane proteins and trafficking, development and gene regulation, signal transduction, and cancer biology. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	595	Student Research Seminars	1 hours.	Research presentations by graduate students in the biochemistry and molecular genetics program. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Biochemistry and Molecular Genetics	BCMG	598	Masters Thesis Research	0 TO 16 hours.	Investigation carried out by M.S. candidate under the direction of a faculty member leading to the M.S. in Biochemistry and Molecular Genetics. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Biochemistry and Molecular Genetics	BCMG	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent dissertation research by the student, under the guidance of the adviser. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Advanced standing in the Ph.D. in Biochemistry and Molecular Genetics program.

Bioengineering - BIOE

Bioengineering	BIOE	402	Medical Technology Assessment	2 OR 3 hours.	Bioentrepreneur course. Assessment of medical technology in the context of commercialization. Objectives, competition, market share, funding, pricing, manufacturing, growth, and intellectual property; many issues unique to biomedical products. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.
Bioengineering	BIOE	405	Atomic and Molecular Nanotechnology	3 OR 4 hours.	Nanoscale structures and phenomena. Simulation methods for nano systems, and molecular assemblies. Molecular building blocks, scanning probe and atomic force microscopy, quantum mechanical phenomena. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing or above. Recommended background: Engineering or physical science major.
Bioengineering	BIOE	406	Regulation and Manufacturing Practices in Medical Technology	2 OR 3 hours.	Bioentrepreneur course. Product requirement definition, FDA, quality system regulation, community Europe, medical device directive, role of management, United States pharmacopoeia, toxicity testing, hazard analysis, risk assessment, import/export. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.
Bioengineering	BIOE	407	Pattern Recognition I	3 OR 4 hours.	The design of automated systems for detection, recognition, classification and diagnosis. Parametric and nonparametric decision-making techniques. Applications in computerized medical and industrial image and waveform analysis. Same as ECE 407. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 220.
Bioengineering	BIOE	408	Medical Product Development	2 OR 3 hours.	Bioentrepreneur course. Major stages of medical product development (investigative, feasibility, development, commercialization, maturation and growth), regulatory issues, product performance, failure mode and effect analysis, hazard analysis. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.
Bioengineering	BIOE	410	FDA and ISO Requirements for the Development and Manufacturing of Medical Devices	3 OR 4 hours.	FDA Performance Standard for General Medical Devices for manufacturing and development engineers. Product requirement definition, design control, hazard analysis, failure mode and effect analysis, regulatory submission, product tests, ISO 9001. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOS 100 and BIOE 250. Recommended background: Junior standing or above.
Bioengineering	BIOE	415	Biomechanics	3 OR 4 hours.	Use of rigid and deformable body statics and rigid body dynamics to analyze various aspects of the human musculoskeletal system. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 201 and ME 210; and BIOS 430 or BIOS 443 or BIOS 484 or BIOS 485.
Bioengineering	BIOE	420	Introduction to Field and Waves in Biological Tissues	3 OR 4 hours.	Principles of electromagnetic and ultrasonic interaction with biological systems; characterization of biological materials; diagnostic and therapeutic uses; and techniques of dosimetry and measurement. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 310.
Bioengineering	BIOE	421	Biomedical Imaging	3 OR 4 hours.	Introduction to engineering and scientific principles associated with X-ray, magnetic resonance, ultrasound, computed tomographic and nuclear imaging. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): MATH 210 and PHYS 142.
Bioengineering	BIOE	430	Bioinstrumentation and Measurements I	3 OR 4 hours.	Theory and application of instrumentation used for physiological and medical measurements. Characteristics of physiological variables, signal conditioning devices and transducers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOS 100; and ECE 115 or ECE 210 or ECE 225; and BIOE 310 or ECE 310 or ME 312.
Bioengineering	BIOE	431	Bioinstrumentation and Measurement Laboratory	2 hours.	Practical experience in the use of biomedical instrumentation for physiological measurements. Prerequisite(s): Credit or concurrent registration in BIOE 430.
Bioengineering	BIOE	432	Bioinstrumentation and Measurements II	3 OR 4 hours.	Principles of bioinstrumentation for the assessment of physiological function and therapeutic intervention. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 430.
Bioengineering	BIOE	433	Bioinstrumentation and Measurements II Laboratory	1 hours.	Laboratory experiments using instruments to assess physiological function. Prerequisite(s): Credit or concurrent registration in BIOE 432.
Bioengineering	BIOE	439	Biostatistics II	4 hours.	Statistical treatment of data, model estimation, and inference are treated in a framework of biological experiments and attributes of data generated from such experiments. Credit is not given for BIOE 439 if the student has credit for BSTT 400. Extensive computer use required. Prerequisite(s): MATH 210 and CS 108; and consent of the instructor. Recommended background: Knowledge of MATLab.
Bioengineering	BIOE	440	Biological Signal Analysis	3 OR 4 hours.	Analysis of signals of biological origin. Transient signals. Stability analysis. Control. Probabilities, stochastic processes. Medical applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 210 and senior or graduate standing.
Bioengineering	BIOE	450	Molecular Biophysics of the Cell	4 hours.	Introduction to force, time energies at nanometer scales; Boltzmann distribution; hydrodynamic drag; Brownian motions; DNA, RNA protein structure and function; sedimentation; chemical kinetics; general aspects of flexible polymers. Same as PHYS 450. Prerequisite(s): PHYS 245 or the equivalent.
Bioengineering	BIOE	452	Biocontrol	3 OR 4 hours.	Considers the unique characteristics of physiological systems using the framework of linear systems and control theory. Static and dynamic operating characteristics, stability, and the

					relationship of pathology to control function. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 310; and either BIOS 442 or BIOS 443.
Bioengineering	BIOE	455	Introduction to Cell and Tissue Engineering	3 OR 4 hours.	Foundation of cell and tissue engineering covering cell technology, construct technology, and cell-substrate interactions. Emphasis in emerging trends and technologies in tissue engineering. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 260; and credit or concurrent registration in BIOE 430 or BIOS 443 or BIOS 484 or BIOS 485.
Bioengineering	BIOE	456	Cell and Tissue Engineering Laboratory	2 hours.	Includes polymer scaffold fabrication, microstamping biomolecules, cellular adhesion and proliferation assays, and immo/fluorescent tagging. Prerequisite(s): Credit or concurrent registration in BIOE 455; or consent of the instructor.
Bioengineering	BIOE	460	Materials in Bioengineering	3 OR 4 hours.	Analysis and design considerations of problems associated with prostheses and other implanted biomedical devices. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 260; and BIOS 220 or BIOS 222 or BIOS 240 BIOS 286 or BIOS 352.
Bioengineering	BIOE	465	Metabolic Engineering	3 OR 4 hours.	Quantitative descriptions of biochemical networks; modeling, control, and design of metabolic pathways to achieve industrial and medical goals. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 310 or ECE 310 or ME 312; or consent of the instructor.
Bioengineering	BIOE	470	Bio-Optics	3 OR 4 hours.	Physical principles and instrumentation relevant to the use of light in biomedical research. Several current and developing clinical applications are explored. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHYS 142.
Bioengineering	BIOE	472	Models of the Nervous System	3 OR 4 hours.	Mathematical models of neural excitation and nerve conduction, stochastic models and simululation of neuronal activity, models of neuron pools and information processing, models of specific neural networks. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 310 or ECE 310 or ME 312; and credit or concurrent registration in BIOS 484 or BIOS 485.
Bioengineering	BIOE	475	Neural Engineering I: Introduction to Hybrid Neural Systems	3 OR 4 hours.	Modeling and design of functional neural interfaces for in vivo and in vitro applications, electrodes and molecular coatings, neural prostheses and biopotential control of robotics. Same as BIOS 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 472; or consent of the instructor.
Bioengineering	BIOE	476	Neural Engineering I Laboratory	2 hours.	Hands-on experience with computational and experimental models of engineered neural systems, with emphasis on neuroprostheses and biosensors. Animals used in instruction. Prerequisite(s): Credit or concurrent registration in BIOE 475.
Bioengineering	BIOE	480	Introduction to Bioinformatics	3 OR 4 hours.	Computational analysis of genomic sequences and other high throughput data. Sequence alignment, dynamic programming, database search, protein motifs, cDNA expression array, and structural bioinformatics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOS 100 and CS 201; or consent of the instructor.
Bioengineering	BIOE	481	Bioinformatics Laboratory	2 hours.	How to use bioinformatics tools, including sequence alignment methods such as Blast, Fasta, and Pfam, as well as structural bioinformatics tools, such as Rasmol and CastP. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in BIOE 480; and senior standing or above; and consent of the instructor.
Bioengineering	BIOE	482	Introduction to Optimization Methods in Bioinformatics	3 OR 4 hours.	The objectives are to provide the students with a basis for understanding principles of the optimization methods and an insight on how these methods are used in bioinformatics. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): BIOS 100 and CS 201.
Bioengineering	BIOE	483	Molecular Modeling in Bioinformatics	3 OR 4 hours.	Basic structural and dynamics tools in protein structure prediction, structure comparison, function prediction, Monte Carlo and molecular dynamics simulations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in BIOE 480.
Bioengineering	BIOE	494	Special Topics in Bioengineering	1 TO 4 hours.	Special topics to be arranged. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Bioengineering	BIOE	500	Interfacial Biosystems Engineering	4 hours.	Advanced and detailed exposition of the fundamentals of biological systems using quantitative approaches. Areas of concentration include bioinformatics, cell and tissue engineering, and neuroengineering. Prerequisite(s): BIOS 442.
Bioengineering	BIOE	504	Emerging Medical Technologies	2 hours.	Investigates new and emerging medical technologies following the technical due diligence process, a methodical evaluation of strengths, weaknesses, opportunities and threats of the identified technology. Prerequisite(s): BIOE 401 or BIOE 402 or BIOE 403 or the equivalent.
Bioengineering	BIOE	505	NanoBioTechnology	4 hours.	Nanotechnology theory and applications in biology and medicine. Molecular simulations, combinatorial chemistry. Nanoscale structures, molecular building blocks, integrated nano-bio complexes. Positional and self-assembly, self-replication. Recommended background: Engineering or physical sciences.
Bioengineering	BIOE	514	Biotransport	4 hours.	Diffusion and flow in living systems. Blood rheology and flow. Microcirculation, oxygen transport, diffusive transport across membranes. Membrane structure; water, and ion flows, active transport. Same as CHE 514. Prerequisite(s): CHE 410 or consent of the instructor.
Bioengineering	BIOE	515	Mechanics of the Human Spine	4 hours.	Biomechanics as applied to the human spine. Spinal loading. Experimentation methods and modelling of intact ligamentous spine. Nature and treatment of adolescent idiopathic scoliosis. Thoracolumbar injuries. Prerequisite(s): BIOE 415 or the equivalent.
Bioengineering	BIOE	518	Controlled Drug Delivery	3 hours.	Controlled drug delivery systems utilizing polymers, synthesis of different types of devices, and the delivery expected from these devices, and mathematical modeling of delivery systems.

					Same as BPS 518. Prerequisite(s): MATH 220 or approval of the department.
Bioengineering	BIOE	521	Imaging Systems for Biological Tissues	4 hours.	Examination of major imaging systems using ionizing and nonionizing energy for characterization of biological tissues and physiological lesions. Prerequisite(s): BIOE 420.
Bioengineering	BIOE	522	Principles of Polymeric Science and Engineering	3 hours.	Intermediate polymer science, thermodynamics of polymer solutions, phase separations, MW determination, crystallization, elasticity, kinetics and processing. Same as BPS 522. Prerequisite(s): MATH 220 or consent of the instructor.
Bioengineering	BIOE	525	Physiological and Cellular Effects of Biomechanical Forces	4 hours.	Discuss how biomechanical forces are generated, the impact the forces have on cells and tissues, plus methods for studying them. Mechanisms by which cells may sense forces and transduce this information to the nucleus are also covered. Prerequisite(s): Consent of the instructor.
Bioengineering	BIOE	548	Micro and Nanotechnology for Biomedical Applications	4 hours.	This course covers selected topics in micro- and nano-technology underlying biomedical applications; topics include: microfabrication and nanofabrication; microfluidic processes; neuroMEMS; nanoscale structures as functional bio-interfaces. Prerequisite(s): PHYS 244.
Bioengineering	BIOE	550	Principles of Cell and Tissue Engineering	4 hours.	Introduction to tissue engineering. Presents principles of biomedical, biochemical, and biomaterials science applied to tissue engineered organ replacements, implantable medical devices, and drug delivery systems. Prerequisite(s): BIOS 442 or BIOS 443; and CEMM 260. Recommended background: A course in cell biology.
Bioengineering	BIOE	552	Advanced Biocontrol	4 hours.	Modeling and analysis of physiological systems including such topics as adaptive control, statistical analysis error signal analysis and the characteriszation of individual neural control elements. Prerequisite(s): BIOE 452.
Bioengineering	BIOE	560	Processing and Properties of Structural Biomaterials	4 hours.	Considers the inter-relationships between atomic bonding, atomic/molecular structure and material processing to provide a fundamental understanding of the properties and performance of advanced biomaterials. Prerequisite(s): CEMM 260. Recommended background: Credit in BIOE 460.
Bioengineering	BIOE	575	Neural Engineering II - Neural Coding	4 hours.	Analytical techniques and models used to assess and predict neural activity. Emphasis on information coding in sensory systems. Prerequisite(s): Consent of the instructor. Recommended background: Working knowledge of Matlab.
Bioengineering	BIOE	576	Sensory Prostheses Engineering	4 hours.	Critical review of existing and emerging prosthetic devices for sensory systems damaged by trauma or disease. Technology and information flow in hybrid systems are emphasized. Prerequisite(s): BIOE 475 and BIOS 442; or consent of the instructor.
Bioengineering	BIOE	579	Neural and Neuromuscular Prostheses	4 hours.	Neuromuscular electrical stimulation for ambulation by paraplegics, of upper limb in tetraplegics, of vocal cord and breathing functions, stimulation of bladder, cochlea, retina, and visual cortex. Prerequisite(s): Consent of the instructor.
Bioengineering	BIOE	580	Principles of Bioinformatics	4 hours.	Bioinformatics analysis of sequence, phylogeny, and molecular structure. Focus on probabilistic models and algorithms, as well as structural analysis. Extensive computer use required. Prerequisite(s): BIOE 480; and graduate or professional standing; or consent of the instructor. Recommended background: Exposure to biochemistry, molecular biology, or evolution.
Bioengineering	BIOE	582	Computational Functional Genomics	4 hours.	Modern statistical and computational methods relevant to functional genomics. Cell function, gene regulation and protein expression. Microarray technology and use; cluster analysis; prediction of protein function. Prerequisite(s): BIOE 480. Recommended background: Basic knowledge of probability, statistics, vector algebra, calculus and cell biology.
Bioengineering	BIOE	590	Internship in Bioengineering	1 TO 4 hours.	Current clinical practice experience in a health care setting culminating in a written and oral report. Satisfactory/Unsatisfactory grading only. Prerequisite(s): BIOE 430 and BIOE 431 and BIOE 479.
Bioengineering	BIOE	594	Advanced Special Topics in Bioengineering	1 TO 4 hours.	Systematic review of selected topics in bioengineering theory and practice. Subjects vary from year to year. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Bioengineering	BIOE	595	Seminar on Bioengineering	0 TO 1 hours.	Recent innovations in bioengineering theory and practice presented by invited speakers, faculty and graduate students. Satisfactory/Unsatisfactory grading only. May be repeated. Students who are presenting seminars should register for 1 hour, others for 0 hour.
Bioengineering	BIOE	596	Independent Study	1 TO 5 hours.	Research on special problems not included in thesis research. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Bioengineering	BIOE	598	Masters Thesis Research	0 TO 16 hours.	Research in M.S. thesis project. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.
Bioengineering	BIOE	599	Ph.D. Thesis Research	0 TO 16 hours.	Research in Ph.D. thesis project. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.

Biological Sciences - BIOS

Biological Sciences	BIOS	416	Natural Products	3 OR 4 hours.	Biogenetic approach to secondary metabolites. General principles and selected studies of phenolic compounds, terpenes, alkaloids, and other interesting natural products. Same as CHEM 456. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One year of organic chemistry.
Biological Sciences	BIOS	424	Mammalian Histology	4 hours.	The microscopic anatomy of tissues and organs in relation to their function. Prerequisite(s): BIOS 272 or BIOS 325.
Biological Sciences	BIOS	429	Laboratory in Electron Microscopy	3 hours.	Laboratory instruction in cell preparation and instrument operation in transmission and scanning electron microscopy. Satisfactory/Unsatisfactory grading only. Animals used in instruction. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	430	Evolution	4 hours.	Mechanisms of genetic and phenotypic stability and change in populations and species; modes of speciation and macroevolution; trends in evolution. Lecture and discussion. Prerequisite(s): BIOS 220.
Biological Sciences	BIOS	431	Plant and Animal Interactions	3 hours.	Ecology of non-symbiotic relationships of plants and animals, including protection mutualisms, pollination, seed dispersal, animal herbivory and plant defense. Prerequisite(s): BIOS 100 and BIOS 101 and any 200- or 300-level course in biological sciences.
Biological Sciences	BIOS	432	Restoration Ecology	3 hours.	Philosophical, historical, and ecological basis for ecological restoration, with emphasis on readings in the primary literature and writing. Prerequisite(s): BIOS 230 or the equivalent.Recommended background: BIOS 331.
Biological Sciences	BIOS	433	Plant Diversity and Conservation	4 hours.	Focus on seed-plant diversity: morphological features and family identification; major evolutionary process; evolutionary relationships among plant groups; and goals, problems, and progress in the conservation of plant diversity. Prerequisite(s): BIOS 230.
Biological Sciences	BIOS	435	Plant Evolution	3 hours.	Examines the history of plant life in a rigorous survey of plant genetics, factors that influence diversity of form and function, the astonishing diversity of plant sexual systems, and conservation. Prerequisite(s): BIOS 230; and junior standing or above.
Biological Sciences	BIOS	437	Topics in Tropical Ecology	3 hours.	Introduction to the character of tropical ecosystems. In-depth reading and discussion of one or more current topics. Prerequisite(s): BIOS 230 and junior standing or above.
Biological Sciences	BIOS	443	Animal Physiological Systems	4 hours.	Basic function of renal, respiratory and digestive systems. Integrative role of endocrine systems. Animals used in instruction. Prerequisite(s): Four courses in the Biological Sciences.
Biological Sciences	BIOS	450	Advanced Microbiology	3 hours.	Comprehensive analysis of metabolic, ecological, phylogenic, and cytological diversity among the major groups of eubacteria and archaeobacteria. Prerequisite(s): BIOS 350.
Biological Sciences	BIOS	452	Biochemistry I	4 hours.	Chemistry of proteins, nucleic acids, carbohydrates and lipids. Same as CHEM 452. Prerequisite(s): Credit or concurrent registration in CHEM 234.
Biological Sciences	BIOS	454	Biochemistry II	4 hours.	Continues Biological Sciences 452. Carbohydrate and lipid metabolism, electron transport. Metabolism of amino acids, nucleic acids, proteins. Biosynthesis of macromolecules and regulation of macromolecular synthesis. Same as CHEM 454. Prerequisite(s): BIOS 452 or CHEM 452.
Biological Sciences	BIOS	457	General Virology	4 hours.	Nature of viruses, their morphology, chemical composition, assay, host-parasite interactions, and life cycles. Prerequisite(s): BIOS 220; and either BIOS 222 or BIOS 350.
Biological Sciences	BIOS	458	Biotechnology and Drug Discovery	3 OR 4 hours.	Molecular and gene therapy, using small molecules including antisense, aptamers, and proteins. Structure-based drug design. Structural bioinformatics and drug discovery program. High-throughput screening. Combinatorial chemistry technology. Same as CHEM 458. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOS 352 or CHEM 352; or Credit or concurrent registration in BIOS 452 or Credit or concurrent registration in CHEM 452; or consent of the instructor.
Biological Sciences	BIOS	466	Principles of Paleontology	3 hours.	Theory and methods of evolutionary paleobiology; includes paleoecology, functional morphology, and major features of organic evolution. Same as EAES 466. Prerequisite(s): EAES 360 or consent of the instructor.
Biological Sciences	BIOS	473	Soils and the Environment	4 hours.	Soil science, emphasizing local soils and parent materials, soil classification and mapping, soil physics, soil gases and greenhouse gas emissions, soil chemistry and biogeochemistry, soil-plant interactions, and soil invertebrates. Course information: Same as EAES 473. Field work required. Recommended background: Introductory courses in Chemistry and Biology are recommended. Coursework in EAES (such as EAES 101 and/or 111) is preferred.
Biological Sciences	BIOS	475	Neural Engineering I: Introduction to Hybrid Neural Systems	3 OR 4 hours.	Modeling and design of functional neural interfaces for in vivo and in vitro applications, electrodes and molecular coatings, neural prostheses and biopotential control of robotics. Same as BIOE 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 472; or consent of the instructor.
Biological Sciences	BIOS	483	Neuroanatomy	4 hours.	Organization of the nervous system, with an emphasis on mammals. Same as PSCH 483 and NEUS 483. Animals used in instruction. Prerequisite(s): BIOS 272 or BIOS 286 or BIOS 325 or PSCH 262; or consent of the instructor.
Biological Sciences	BIOS	484	Neuroscience I	3 hours.	Neuroscience as an integrative discipline. Neuroanatomy of vertebrates, neural development, cellular neurobiology, action potential mechanisms, synaptic transmission and

					neuropharmacology. Same as PHIL 484 and PSCH 484. Prerequisite(s): BIOS 286 or PSCH 262.
Biological Sciences	BIOS	485	Neuroscience II	3 hours.	Integrative neuroscience; continuation of BIOS/PSCH/PHIL 484. Sensory and motor systems; learning, memory, and language. Pathology of nervous systems. Philosophical perspectives, and modeling. Same as PHIL 485 and PSCH 485. Prerequisite(s): BIOS 484.
Biological Sciences	BIOS	486	Animal Behavior and Neuroethology	4 hours.	Neural and behavioral mechanisms of environmental information processing and interaction throughout the animal kingdom; emphasis on invertebrate and lower vertebrates. Laboratory emphasizing individual research projects with a final report, and occasional field trips required. Animals used in instruction. Prerequisite(s): One advanced course in zoology and animal physiology.
Biological Sciences	BIOS	488	Developmental Neurogenetics	3 hours.	Classical and molecular genetic approaches to the study of the development of the nervous system, concentrating on studies in fruit flies, nematodes and vertebrates. Prerequisite(s): BIOS 220 and either BIOS 225 or BIOS 420.
Biological Sciences	BIOS	489	Cellular Neurobiology Laboratory	3 hours.	Recording from and analyzing the activity of nerve cells, neuronal networks, and other electrically excitable tissues. Prerequisite(s): BIOS 286 or the equivalent.
Biological Sciences	BIOS	490	Topics in Ecology and Evolution	3 TO 4 hours.	In-depth analysis of advanced topics in ecology and evolution, involving reading primary literature, term paper, student presentations and critical discussion. Credit varies according to topic offered. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.
Biological Sciences	BIOS	518	Geobiology	4 hours.	Interactions between microorganisms and minerals, preservation of organisms and biofilms, influence of microorganisms in biogeochemical cycles, microorganisms on early Earth, life in extreme environments, the ?dark? biosphere, and astrobiology. Same as EAES 518. Recommended background: Basic knowledge of biology, chemistry, and earth sciences at the level of introductory college courses in each subject.
Biological Sciences	BIOS	520	Topics in Genetics	2 hours.	Discussion of selected topics of current interest in genetics. May be repeated. Students may register in more than one section per term. Prerequisite(s): BIOS 220 and BIOS 221 and consent of the instructor.
Biological Sciences	BIOS	522	Molecular Biology Methods	3 hours.	Current research in molecular biology. Prerequisite(s): Consent of the instructor. Corequisites: Requires concurrent registration in BIOS 524.
Biological Sciences	BIOS	523	Biology of MicroRNAs and other Small RNAs	2 hours.	History, overview and biology of small RNA pathways, including microRNAs, siRNAs, RNA interference, roles in various biological processes, implication in disease pathophysiology, and potential therapies. Same as ANAT 523. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	524	Molecular Biology Principles	3 hours.	Structures of DNA, RNA and protein; DNA replication, transcription of RNA, protein synthesis; chromatin; regulation of gene expression; principles of recombinant DNA. Prerequisite(s): Consent of instructor. Corequisites: Requires concurrent registration in BIOS 522.
Biological Sciences	BIOS	525	Principles and Methods in Cell Biology	3 hours.	Principles and Methods in Cell Biology and function in lambda, prokaryotes and eukaryotes; promoters, enhancers, RNA splicing, developmental regulation; protein secretion and targeting. Prerequisite(s): BIOS 522 and BIOS 524 and consent of the instructor. Corequisites: Requires concurrent registration in BIOS 528.
Biological Sciences	BIOS	526	Molecular and Genetic Analysis of Development	3 hours.	Examines developmental mechanisms used in animal model systems. Same as BCMG 526. Prerequisite(s): Graduate standing or consent of the instructor.
Biological Sciences	BIOS	527	Cellular and Systems Neurobiology	3 hours.	Molecular and cellular properties of ion channels in neurons and sensory cells and their relationship to brain and sensory systems. Same as ANAT 527 and NEUS 527. Prerequisite(s): Credit in one neuroscience course or consent of the instructor.
Biological Sciences	BIOS	528	Current Literature in Cell Biology	3 hours.	Topics in cell biology. Prerequisite(s): BIOS 522 and BIOS 524; and graduate standing; and consent of the instructor. Corequisites: Requires concurrent registration in BIOS 525.
Biological Sciences	BIOS	530	Population Ecology	3 hours.	Life histories, population processes and interactions, and theories of distribution and abundance. Prerequisite(s): BIOS 220 and BIOS 221 and BIOS 330 and BIOS 331 and consent of the instructor.
Biological Sciences	BIOS	531	Introduction to Ecology and Evolution I	3 hours.	Concepts, techniques, and skills needed for research in ecology and evolution. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	532	Introduction to Ecology and Evolution II	3 hours.	Evolutionary and physiological research. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	534	Ecology of Biodiversity	3 hours.	Causes and consequences of different levels of species diversity across a broad spectrum of systems. Core approaches and concepts of community ecology. Application of theory and empirical findings to conserving, managing and restoring biodiversity. Prerequisite(s): Consent of the instructor. Recommended Background: Undergraduate courses in basic ecology, calculus, and introductory statistics; at least one graduate course from the following: BIOS 530, BIOS 535, CME 521, UPP 554, or similar courses at UIC or other institutions.
Biological Sciences	BIOS	535	Ecosystems	3 hours.	Flow of energy and nutrients in aquatic and terrestrial environments. Prerequisite(s): BIOS 330.
Biological	BIOS	539	Seminar in Ecology	0 TO 1 hours.	Graduate student and faculty seminars on selected topics in ecology and evolution. Credit is given

Sciences			and Evolution		only upon completion of a seminar presentation. Satisfactory/Unsatisfactory grading only. May be repeated.
Biological Sciences	BIOS	540	Interdisciplinary Approaches to the Study of Integrated Human and Natural Landscapes	3 hours.	Examination of ecological, biogeochemical and evolutionary principles; techniques and philosophies of ecological remediation, restoration and conservation; environmental regulation and policy; sustainability in theory and practice. Same as EAES 540 and CME 540. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	546	Research Methods for Landscape Ecological and Anthropogenic Processes	4 hours.	Students will develop the skills to choose and utilize relevant methods and tools used in the study and management of altered natural landscapes to achieve research and management objectives through hands-on interdisciplinary laboratory modules. Same as CME 546 and EAES 546. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	547	Field Experiences in Landscape Ecological and Anthropogenic Processes	4 hours.	Evaluation of the issues and needs of various landscape restorations and related urban-impacted sites in the Chicago metropolitan area based upon selected readings, site visits and presentations and discussions with the site manager/coordinators. Same as CME 547 and EAES 547. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	548	Capstone Project in Landscape, Ecological and Anthropogenic Processes	4 hours.	Interdisciplinary capstone project course that explores a "real-world" environmental issue selected by the students and approved by the faculty. Students will conduct research and analysis collaboratively and develop solutions and recommendations. Same as CME 548 and EAES 548. Prerequisite(s): Grade of B or better in BIOS 540 or Grade of B or better in CME 540 or Grade of B or better in EAES 540 or Grade of B or better in UPP 555; and Grade of B or better in BIOS 546 or Grade of B or better in CME 546 or Grade of B or better in EAES 546 or Grade of B or better in UPP 555; and Grade of B or better in BIOS 547 or Grade of B or better in CME 547 or Grade of B or better in EAES 547 or Grade of B or better in UPP 555.
Biological Sciences	BIOS	552	Chemical Biology	4 hours.	Major trends and recent developments in research at the interface of chemistry and biology. Same as CHEM 552.
Biological Sciences	BIOS	559	Special Topics in Biochemistry	3 TO 4 hours.	Selected topics of current interest in biochemistry. Same as CHEM 559. May be repeated. Students may register in more than one section per term. Prerequisite(s): CHEM 454 or BIOS 454 or consent of the instructor.
Biological Sciences	BIOS	560	Topics in Paleontology	3 TO 4 hours.	In-depth analysis of current problems and issues in paleontology, involving reading primary literature, student presentations, and critical discussions. Same as EAES 560. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	582	Methods in Modern Neuroscience	2 hours.	Underlying principles and applications of techniques used to analyze nervous system organization and function. Behavioral, electrophysiological, anatomical, and biochemical approaches are considered. Same as NEUS 582. Animals used in instruction.
Biological Sciences	BIOS	584	Foundations of Neuroscience I	3 hours.	Provides a core understanding of modern neuroscience. Focuses on topics in cell and molecular neuroscience. Taught by faculty from multiple units. Same as NEUS 501. Recommended background: Credit or concurrent registration in GCLS 503.
Biological Sciences	BIOS	585	Foundations of Neuroscience II	3 hours.	A core understanding of modern neuroscience. Focus is on topics in systems, cognitive and behavioral neuroscience. Will be taught by faculty from multiple units. Continuation of NEUS 501. Same as NEUS 502. Prerequisite(s): NEUS 501 or BIOS 584. Recommended background: Credit or concurrent registration in NEUS 403.
Biological Sciences	BIOS	586	Cell and Molecular Neurobiology	3 hours.	Structure and function of voltage-dependent and neurotransmitter-gated ion channels; the role of these ion channels in synaptic transmission, synaptic modification, and neuromodulation. Same as ANAT 586. Prerequisite(s): BIOS 442 or consent of the instructor.
Biological Sciences	BIOS	587	Topics in Neurobiology	1 TO 2 hours.	In-depth analysis of advanced topics in neurobiology, involving reading primary literature, student presentations, and critical discussion. Credit varies according to the topic offered. May be repeated. Students may register in more than one section per term.
Biological Sciences	BIOS	592	Research Seminar	1 TO 2 hours.	Presentation of student research with an emphasis on problem-solving and theoretical implications. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of instructor.
Biological Sciences	BIOS	593	Introduction to Laboratory Research	2 TO 6 hours.	A hands-on, in-depth introduction to selected research topics and laboratory techniques designed for the beginning graduate student. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	594	Special Topics in Biological Sciences	1 TO 2 hours.	Selected aspects in biological sciences. Credit varies according to the seminar offered. May be repeated. Students may register in more than one section per term.
Biological Sciences	BIOS	595	Departmental Seminar	0 hours.	Weekly seminar by staff and invited speakers. Required of graduate students every semester. Satisfactory/Unsatisfactory grading only. May be repeated.
Biological Sciences	BIOS	597	Project Research	2 TO 8 hours.	Guided research projects on selected topics in specific fields of advanced modern biology. Not to be used for thesis research. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	598	Master's Thesis Research	0 TO 16 hours.	Independent research in specialized projects under the direction of a faculty member with appropriate graduate standing, leading to completion of master's thesis.

					Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Biological Sciences	BIOS	599	Doctoral Thesis Research	0 TO 16 hours.	Independent research on specialized topics under the direction of a faculty member with appropriate graduate standing, leading to completion of Ph.D. thesis. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Biomedical and Health Information Sciences - BHIS

Biomedical and Health Information Sciences	BHIS	405	Medical Sciences and Human Pathophysiology	3 hours.	Introduction of fundamental concepts in pathophysiology. Specific disorders of major organ systems including etiology, manifestations, diagnostic tests, treatment modalities, pharmacotherapy and complications. Extensive computer use required. Meets eight weeks of the semester. Taught fully or partially online. Students must have an active UIC NetID with valid password and access to a computer and the Internet.
Biomedical and Health Information Sciences	BHIS	406	Medical Terminology for Health Information Management	2 hours.	An Introduction to medical terminology and pharmacology, necessary to understanding the use of clinical vocabularies and classification systems in health information systems. Extensive computer use required. Meets eight weeks of the semester. Taught fully online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Restricted to students in the Department of Biomedical and Health Information Sciences or consent of the Instructor.
Biomedical and Health Information Sciences	BHIS	410	Health Data Structures and Management	3 hours.	Data structures in clinical information systems, including database design and management, networking and security. Emphasis on "intrapreneurial" skills required to solve organizational information management problems. Prerequisite(s): BHIS 460 and BHIS 461 and BHIS 480.
Biomedical and Health Information Sciences	BHIS	433	Principles of Evidence-Based Health Care	2 hours.	Qualitative and quantitative assessment of human subject clinical research: locating, evaluating, comparing scientific papers as bases for health care education and practice. Same as MHPE 433. Prerequisite(s): Graduate or professional standing and approval of the school.
Biomedical and Health Information Sciences	BHIS	437	Health Care Data	3 hours.	Review of data types in a health care information system. How data is transformed into information and then again transformed into knowledge through integrated computer systems. Taught online only. A UIC netid is required. Prerequisite(s): Graduate standing and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	460	Introduction to Health Informatics	1 hours.	Introduction to information technology and systems in a healthcare setting. Meets eight weeks of the semester. Taught online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): Credit or concurrent registration in HIM 410 or equivalent experience. Students should demonstrate basic computing skills including knowledge of an office productivity suite (MS Office or other), electronic mail, and Internet browsers. Recommended background: IDS 200 or the equivalent.
Biomedical and Health Information Sciences	BHIS	461	Information Systems for Health Information Management	2 hours.	Advanced topics in information technology and systems in a health care setting; collection, analysis and management of health care data; special issues related to the role of health information administrators. Extensive computer use required. Prerequisite(s): IDS 200 and credit or concurrent registration in BHIS 460.
Biomedical and Health Information Sciences	BHIS	480	Management and Business Practices	3 hours.	Principles of management with emphasis on business functions, procedures, and organizational structure as applied to various health care settings including private and institutional practice. Prerequisite(s): Advanced undergraduate or graduate standing in the Department of Biomedical and Health Information Sciences or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	499	Information Sources in Biomedical & Health Information Sciences	1 hours.	Prepares students to locate, interpret and evaluate pertinent research information sources. Meets eight weeks of the semester. Extensive computer use required. Taught fully online. Students must have an active UIC netid with valid password and access to a computer and the internet. Prerequisite(s): Junior standing or above required; or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	500	Strategic Inquiry in Biomedical and Health Information Sciences	3 hours.	An overview of research methods appropriate for BHIS, in order to better enable students to make research method decisions appropriate for their self-selected research project topics. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	503	Communication Skills in Health Informatics	3 hours.	An application course in which students assess and practice effective written and oral methods of communication skills necessary for health informatics professionals. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	504	Methods in Qualitative Inquiry	3 hours.	Qualitative research methods to account for systematic description of environments where quantitative methods are not sufficient. Prerequisite(s): BHIS 500 and BHIS 510 or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	505	Ethics and Legal Issues in Health Informatics	3 hours.	Examination of the legal and ethical issues involved in computerized health information systems. Taught online only. A UIC netid is required. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	508	Q Research Methodology ? Qualitative Research	3 hours.	An in depth study of the basic principles and application of Q methodology as a research and analytical tool. Course information: This is an online course. Prerequisite(s): Consent of the instructor. Recommended Background: BHIS students must have successfully completed BHIS 499.
Biomedical and Health Information	BHIS	509	Informatics for the Clinical Investigator	3 hours.	This course provides the foundation of requisite knowledge of computer and healthcare information sciences for the clinical investigator. Extensive computer use required. Taught only online. A UIC netid is required. Prerequisite(s): Consent of the instructor.

Sciences					
Biomedical and Health Information Sciences	BHIS	510	Health Care Information Systems	4 hours.	Examination, through case studies, group and class discussions, and problem-based learning, of the effective utilization of information technology applications currently in place and on the horizon in health care organizations. Taught online only. A UIC netid is required. Prerequisite(s): Graduate standing and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	511	Application of Health Care Information Systems	2 hours.	Knowledge and experience with a variety of healthcare applications utilizing current information technology and systems implemented in healthcare provider organizations. This is an online course. Prerequisite(s): BHIS 510 or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	515	Management of Health Care Communication Systems	4 hours.	Examination and management of data communications in and between health care facilities including examination of issues, standards, technologies, and system configurations. Taught online only. A UIC netid is required. Prerequisite(s): BHIS 510; and graduate standing and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	517	Health Care Information Security	3 TO 4 hours.	Health information security and methods to achieve it; stresses risk assessment and pre-emptive action; outlines important role of security policies and procedures; surveys security technology with focus on non-technical security approaches. Taught only online. A UIC netid is required. Prerequisite(s): BHIS 437 and BHIS 510 or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	520	Health Information Systems Analysis and Design	4 hours.	A project course applying systems analysis and design theory to health care systems evaluation, modeling and implementation. Taught online only. A UIC netid is required. Prerequisite(s): BHIS 510; and graduate standing and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	525	Social and Organizational Issues in Health Informatics	4 hours.	Examines the impact of information systems on the health care organization and applies theory through case study analysis. Taught only online. A UIC netid is required. Prerequisite(s): BHIS 510; and BHIS 515 or BHIS 520 or BHIS 530; or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	527	Knowledge Management in Healthcare Organizations	3 hours.	An examination, through readings, case studies, research publications, and discussion, of the current issues, concepts, and technologies of Knowledge Management in Healthcare Organizations. Extensive computer use required. May be offered online, using synchronous and asynchronous discussion, in conjunction with seminar format. Prerequisite(s): Grade of B or better in BHIS 510; and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	528	Consumer Health Informatics	3 hours.	Examines the developing area of consumer health informatics from both theoretical and practical knowledge management perspectives through class discussions. Prerequisite(s): BHIS 510 and BHIS 527 or consent of the instructor. Recommended background: BHIS 505.
Biomedical and Health Information Sciences	BHIS	530	Topics in Health Informatics	4 hours.	Current theories and methods in health informatics. Taught online only. A UIC netid is required. Prerequisite(s): BHIS 510; and BHIS 515 or BHIS 520 or BHIS 525; and graduate standing and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	535	Group Dynamics for HI Professionals	2 hours.	Team and negotiation skills as well as developing project management competencies unique to the health informatics profession. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	537	Health Care I.T. Vendor Management	3 hours.	Examines the environment and activities necessary to plan, select, contract, and implement systems from suppliers in the healthcare I.T. industry. Prerequisite(s): BHIS 510 or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	538	Health Care I.T. Administration	3 hours.	Examines organizational and management issues in healthcare I.T. Prerequisite(s): BHIS 510 and BHIS 511 and BHIS 537 or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	546	Leadership Development in Health Informatics	3 hours.	Students will analyze, evaluate and practice the competencies necessary for leadership unique to the health informatics profession. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	580	Practicum in Health Informatics	3 hours.	Field experience under supervision of a professional expert in a health informatics setting that is consistent with the student's area of study and career goals. May be repeated. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	593	Health Informatics Capstone Experience	1 hours.	Students demonstrate a mastery of health informatics knowledge concepts and skills, including theoretical synthesis, integration with practice, and critical evaluation. Satisfactory/Unsatisfactory grading only. Extensive computer use required. Meets eight weeks of the semester. Capstone Experience may be completed face-to-face or on-line. Students wishing to complete the course face-to-face must inform the instructor by the end of the first week of class.
Biomedical and Health Information	BHIS	594	Special Topics in Biomedical and Health Information	1 TO 3 hours.	An in-depth study of a health informatics topic of importance selected by the faculty. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Sciences			Sciences		
Biomedical and Health Information Sciences	BHIS	595	Seminar in Biomedical and Health Information Sciences	1 hours.	Provides students with an opportunity to present preliminary research for critique by peers and faculty. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): BHIS 499 and BHIS 500 or consent of the instructor.
Biomedical and Health Information Sciences	BHIS	596	Independent Study	1 TO 4 hours.	For graduate students who wish to pursue independent study not related to their project/thesis research. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biomedical and Health Information Sciences	BHIS	597	Project Research in Biomedical and Health Information Sciences	0 TO 5 hours.	Independent investigation that draws upon the professional experience and knowledge synthesis of the student. Students investigate a topic/problem in their field, write an article and deliver an oral presentation. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): BHIS 499, 500 and 595; and consent of the instructor.
Biomedical and Health Information Sciences	BHIS	598	Thesis Research in Biomedical and Health Information Sciences	0 TO 16 hours.	Independent research in one area of health informatics directed by a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): BHIS 499 and BHIS 500 and BHIS 595 and consent of the instructor.

Biomedical Visualization - BVIS

Biomedical Visualization	BVIS	502	Clinical Sciences for Biomedical Visualization	2 hours.	The application of neuroanatomy, genetics, immunology, imaging, and pharmacology to Biomedical Visualization. An introduction to visual information processing, visual perception, and related technology. Previously listed as BVIS 400.
Biomedical Visualization	BVIS	510	Anatomical Visualization	3 hours.	Graphic manipulation and representation of human morphology and gross anatomy. Graphic construction skills, visual standards and conventions, data collection methods, and personal sketch style development. Previously listed as BVIS 405.
Biomedical Visualization	BVIS	515	Advanced Graphic Design	3 hours.	Application of graphic design techniques to explore unique design solutions and graphically symbolize abstract concepts. Prerequisite(s): BVIS 552.
Biomedical Visualization	BVIS	518	Computer Applications	2 hours.	Using the Internet as a communication tool with emphasis on the World Wide Web: FTP, Telnet, HTML authoring, image processing, navigation and interface design. Previously listed as BVIS 415.
Biomedical Visualization	BVIS	520	Advanced Imaging Applications	3 hours.	Instruction in advanced line imaging and visualization for patient education, editorial and product, and diagnostic image interpretation. Prerequisite(s): BVIS 522 and BVIS 540.
Biomedical Visualization	BVIS	522	Illustration Techniques	3 hours.	Introduction to line, continuous tone and color rendering techniques. Digital image creation and manipulation, color theory and design, print and electronic publication issues. Previously listed as BVIS 420. Prerequisite(s): BVIS 510 Anatomical Visualization.
Biomedical Visualization	BVIS	525	Animation and Multimedia	4 hours.	Production experiences in selected biomedical communications specialties such as electronic print media, multimedia, animation, and web site design. Prerequisite(s): BVIS 542.
Biomedical Visualization	BVIS	528	Surgical Orientation	1 hours.	Survey of surgical specialties, including an historical survey and relationship to visual communication. Instruments, aseptic technique, incisions, suturing, principles of wound healing, imaging modalities, and surgical terminology. Previously listed as BVIS 430. Prerequisite(s): BVIS 510.
Biomedical Visualization	BVIS	530	Surgical Illustration	4 hours.	Students attend surgery, research surgical procedures and prepare illustrations for educational and commercial use. Students integrate knowledge of instructional design, anatomy, graphic design, and illustration techniques. Prerequisite(s): ANAT 441 and BVIS 522 and BVIS 528 and BVIS 535 and BVIS 552.
Biomedical Visualization	BVIS	535	Instructional Design	2 hours.	Instructional design process for print, web and multimedia development in the health sciences. Emphasis on theory in communication, learning, and the instructional design process. Previously listed as BVIS 440.
Biomedical Visualization	BVIS	540	Computer Visualization	4 hours.	Construction of 3-dimensional computer models of biological and anatomical structures using software modelers, 3-D input devices and medical scans and data. Prerequisite(s): BVIS 518.
Biomedical Visualization	BVIS	542	Computer Animation	4 hours.	Investigates principles of motion using computer animation techniques to solve contemporary problems in medical education and communication where motion can effectively be used. Involves production from concept to final presentation. Prerequisite(s): BVIS 518 and BVIS 540.
Biomedical Visualization	BVIS	543	Computer Animation II	4 hours.	Builds on concepts introduced in BVIS 542 Computer Animation. Further investigation of motion using computer animation techniques to solve contemporary problems in medical education and communication where motion can effectively be used. Prerequisite(s): BVIS 542.
Biomedical Visualization	BVIS	545	Computer-based Multimedia	4 hours.	An introduction to the use of desktop multimedia development systems. Software options for creating, manipulating, animating and combining graphics, text, video and sound for presentation and electronic publication. Prerequisite(s): BVIS 518 and BVIS 535.
Biomedical Visualization	BVIS	546	Virtual Reality and Stereography in Biomedical Visualization	2 hours.	Introduction to 3D perception; digital 3D model creation; 3D presentation methods; computer configuration for 3D display; virtual reality in medicine.
Biomedical Visualization	BVIS	552	Graphic Design	2 hours.	Fundamentals of graphic design techniques and imagery production as applied to health science print media. Previously listed as BVIS 450.
Biomedical Visualization	BVIS	554	Techniques and Technology in Anaplastology	2 hours.	Hands-on laboratory experience with prosthetic materials, design techniques and technology. Emphasis on digital technology and technique selection; health and safety issues related to laboratory equipment and clinical procedures. Prerequisite(s): ANAT 441.
Biomedical Visualization	BVIS	555	Clinical Anaplastology	4 hours.	Clinical course applying knowledge, techniques and materials in prosthetic rehabilitation including osseointegration. Provision of facial/somato prosthetic services in a clinical setting requiring direct interaction with patients with disfigurements. Prerequisite(s): ANAT 441 and and BVIS 554 or consent of the instructor.
Biomedical Visualization	BVIS	575	Business Practices	2 hours.	Business procedures and organizational structures associated with the role of biomedical visualization professionals in institutional, freelance, and small business settings. Topics include business forms and procedures to legal and ethical issues. Previously listed as BVIS 480.
Biomedical Visualization	BVIS	580	Practicum in Biomedical Visualization	1 TO 12 hours.	Field experience under supervision of a professional expert in a biomedical communication setting that is consistent with student's area of concentration and career goals. May be repeated. Prerequisite(s): Consent of the instructor.
Biomedical Visualization	BVIS	594	Special Topics in Biomedical	1 TO 4 hours.	An in depth study of a biomedical visualization topic of importance selected by the faculty. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the

			Visualization		instructor.
Biomedical Visualization	BVIS	595	Seminar in Biomedical Visualization	1 hours.	Topics of current interest in biomedical visualization. Includes discussion of relevant journal articles and important new developments in the field. Satisfactory/Unsatisfactory grading only. May be repeated.
Biomedical Visualization	BVIS	596	Independent Study	1 TO 4 hours.	For graduate students who wish to pursue independent study of special problems in the student's area of interest not related to their project/thesis research. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing and consent of the instructor.
Biomedical Visualization	BVIS	597	Project Research	0 TO 4 hours.	Independent investigation that draws upon the professional experience and knowledge synthesis of the student. Students investigate a topic/problem in their field, document a visualization project or write a paper, and deliver an oral presentation. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): BHIS 499, BHIS 500, and BHIS 595 and consent of the instructor.
Biomedical Visualization	BVIS	598	Research in Biomedical Visualization	0 TO 16 hours.	Independent research in biomedical visualization directed by a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): BHIS 499, BHIS 500, BHIS 595 and consent of instructor.

Biopharmaceutical Sciences - BPS

Biopharmaceutical Sciences	BPS	421	Advanced Dosage Form Design [Compounding]	1 hours.	Students attend five recitations and ten labs where they make twenty new dosage formulations. Several dosage formulations are of veterinary products used to treat diseases in dogs, cats, horses, cattle and other large animals. Course information: Prerequisite(s): PHAR 321 and PHAR 322.
Biopharmaceutical Sciences	BPS	430	Principles of Toxicology	2 hours.	Examines the toxic effects of drugs and chemicals on organ systems. Lectures emphasize basic principles, effects on specific organ systems, major classes of toxic chemicals, and specialized topics such as forensic and industrial toxicology. Same as PCOL 430. Credit is not given for BPS 430 if student has credit for EOHS 457.
Biopharmaceutical Sciences	BPS	480	Application of Science to the Law	4 hours.	Issues affecting the development, accessibility and admissibility of forensic science services by the criminal justice system; problems which may compromise the quality, fairness and effectiveness of scientific inquiries. Same as CLJ 480. Prerequisite(s): CLJ 210 and CLJ 260; or graduate standing.
Biopharmaceutical Sciences	BPS	494	Special Topics of Current Interest in Biopharmaceutical Sciences	1 TO 3 hours.	Courses offered by faculty or a visiting Lecturer on a current topic of selected interest. Topics are available on an experimental basis for one offering only. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor; good academic standing as defined by UIC policies.
Biopharmaceutical Sciences	BPS	501	Biopharmaceutical Sciences I	4 hours.	First part of the fundamental didactic core courses in biopharmaceutical sciences including fundamental principles of pharmaceutics, pharmacokinetics, scientific ethics and research design. Prerequisite(s): Graduate standing; or consent of the instructor.
Biopharmaceutical Sciences	BPS	502	Biopharmaceutical Sciences II	4 hours.	Second part of fundamental didactic core courses in biopharmaceutical sciences; fundamental principles of cell and molecular biology and pharmacogenomics, pharmacodynamics including toxicology, research communication and regulatory processes. Prerequisite(s): BPS 501; and graduate standing in the biopharmaceutical sciences program; or approval of the department.
Biopharmaceutical Sciences	BPS	506	Industrial Experience	4 TO 10 hours.	Recommended to graduate students with no industrial experience. Students spend time working in the pharmaceutical, imaging or cosmetic industry under academic supervision to obtain practical experience. Satisfactory/Unsatisfactory grading only.
Biopharmaceutical Sciences	BPS	507	Drug Discovery, Design and Development	3 hours.	Overview of drug development process from target identification and screening through clinical trials and FDA evaluation. Same as MDCH 507 and PMPG 507.
Biopharmaceutical Sciences	BPS	510	Principles of Interfacial Phenomena	3 hours.	Quantitative and theoretical principles of physical and chemical sciences as applied to pharmacy. Thermodynamics, kinetics, colloid and surface chemistry in evaluation of pharmaceutical formulations. Prerequisite(s): MATH 480.
Biopharmaceutical Sciences	BPS	515	Dissolution and Bioavailability of Dosage Forms	2 hours.	Theories and testing of the release of drug from solid dosage forms including the effect of dissolution rate on bioavailability. Prerequisite(s): PHAR 323; and approval of the department.
Biopharmaceutical Sciences	BPS	518	Controlled Drug Delivery	3 hours.	Controlled drug delivery systems utilizing polymers, synthesis of different types of devices, and the delivery expected from these devices, and mathematical modeling of delivery systems. Same as BIOE 518. Prerequisite(s): MATH 220 or approval of the department.
Biopharmaceutical Sciences	BPS	519	Percutaneous Drug Delivery	2 hours.	Modern methods of drug delivery covering the use of enhancers, prodrugs, iontophoresis and ultrasound are presented. Toxicity testing, regulatory issues for successful marketing and production issues. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	520	Lipid Based Drug Delivery Systems	2 hours.	The preparation, characterization, stability, pharmaceutical cosmetic and diagnostic applications of lipid based drug delivery systems including liposomes, micelles and emulsions prepared with phospholipids. Prerequisite(s): PHAR 323; and approval of the department.
Biopharmaceutical Sciences	BPS	522	Principles of Polymeric Science and Engineering	3 hours.	Intermediate polymer science, thermodynamics of polymer solutions, phase separations, MW determination, crystallization, elasticity, kinetics and processing. Same as BIOE 522. Prerequisite(s): MATH 220 or consent of the instructor.
Biopharmaceutical Sciences	BPS	539	Biopharmaceutical Sciences Research Rotation	3 hours.	Research rotation course in which first year students from the BPS program will undertake projects in laboratories affiliated with this program. May be repeated to a maximum of 9 hours. Animals used in instruction. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	542	Pharmacodynamics of Substance Abuse	2 hours.	Considers the mechanisms of action, responses, pharmacokinetics and dependence factors of substance abuse. Emphasis will be placed on research strategies in studying the biological aspects of drug abuse. Prerequisite(s): Consent of the instructor and a course in basic pharmacology.
Biopharmaceutical Sciences	BPS	545	Advanced Pharmacokinetics	3 hours.	Kinetics of absorption, distribution, metabolism and excretion of drugs factors affecting these kinetics and their relationship to pharmacodynamics. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	553	Cancer Biology and Therapeutics	2 hours.	Fundamentals of cancer biology with emphasis on biological, hormonal and chemotherapeutic drug therapies currently used and in development. Specific treatment approaches to breast, ovarian, prostate and colon cancers will be explored. Same as MDCH 553 and PMPG 553. Prerequisite(s): Consent of the instructor. Recommended background: Molecular and Cellular Biology.

Biopharmaceutical Sciences	BPS	555	Principles of Pharmacogenomics	2 hours.	Concept and application of pharmacogenomics in disease diagnosis, prevention, and treatment. Prerequisite(s): BPS 502 or consent of the instructor.
Biopharmaceutical Sciences	BPS	570	Foundations of Forensic Toxicology	2 hours.	Survey of forensic toxicology, with emphasis on analytical and interpretive aspects; unique characteristics, underlying philosophies, ethics; analytical methods, nontraditional matrices, interpreting the significance of results. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	573	Drug Identification Chemistry	4 hours.	In-depth treatment of classes of commonly encountered drugs of abuse and the analytical methods used in their screening, identification and quantitation. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	574	Forensic Toxicology	4 hours.	In-depth treatment of techniques used in forensic toxicology, including specimen preparation, drug or toxin isolation, and analytical methods for screening, identification and quantitation; interpretation, reporting and testifying as to results. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	580	Forensic Science: Survey and Foundations	2 hours.	Survey course for forensic sciences with emphasis on criminalistics; unique characteristics, underlying philosophies; nature, analytical methods, significance of results with chemical, biological, trace, pattern evidence. Same as CLJ 580. Prerequisite(s): Approval of the department.
Biopharmaceutical Sciences	BPS	581	Forensic Analysis of Biological Evidence	4 hours.	Forensic blood and physiological fluid identification; DNA typing of biological evidence; report writing; expert testimony. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	582	Forensic Chemistry and Trace Evidence Analysis	4 hours.	Trace evidence: hairs, fibers, glass, soil, paint and miscellaneous; nature, chemical, instrumental, microscopical methods of analysis; interpretation and significance of trace similaries; expert testimony. Prerequisite(s): Consent of the director of graduate studies.
Biopharmaceutical Sciences	BPS	583	Physical Pattern Evidence Analysis	4 hours.	Pattern evidence: individualization, reconstruction; fingerprint classification; questioned documents; handwriting comparison; firearms and toolmarks comparisons; scene patterns and reconstruction will be studied indepth. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	584	Forensic Drug Analysis and Toxicology	4 hours.	Analysis of commonly abused drugs in their solid-dosage form and in biological media, with emphasis on modern instrumental methods and interpretation of results. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	585	Ethical, Quality, Practice, and Legal Issues in Forensic Science	3 hours.	A topical presentation-discussion of ethical, quality control, admissibility and practice topics emanating from the law-science interface integral to forensic sciences.
Biopharmaceutical Sciences	BPS	586	Topics in Specialty Forensic Examinations	1 TO 4 hours.	Topics may vary but will revolve around specialty forensic examinations, covering specific evidentiary classes (e.g. drug identification, DNA typing, fingerprints), including forensic laboratory methods, approaches and data interpretation. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): BPS 581 or BPS 582 or BPS 583 or BPS 584; and consent of the instructor. Students must have credit in the forensic science program core course that covers the specific topic.
Biopharmaceutical Sciences	BPS	587	Forensic Science Seminar	1 hours.	Weekly seminar series on forensic science research and topics, especially those outside the core requirements. Presentations by students, faculty, and guests. Satisfactory/Unsatisfactory grading only. May be repeated. Prequisite(s): Graduate or professional standing.
Biopharmaceutical Sciences	BPS	588	Expert Witness Testimony and Courtroom Demeanor	3 hours.	Trials, hearings, grand jury; expert versus lay witness; personal and behavioral characteristics on the stand; results, reports and courtroom testimony; simulated trial testimony. Prerequisite(s): Approval of the department.
Biopharmaceutical Sciences	BPS	589	Special Topics in Forensic Science	3 hours.	Content may vary but will revolve around the philosophic, moral, and managerial problems associated with criminalistics practice. Topics may include evidence collection, analysis, reporting, and testimony to non-criminalistics fields. Same as CLJ 589. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	590	Forensic Science Residency	1 TO 8 hours.	In-depth training for casework analysis in a specific forensic discipline (e.g. drug identification, DNA typing, fingerprints) in an approved forensic science laboratory. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 24 hours. Prerequisite(s): BPS 581 or BPS 582 or BPS 583 or BPS 584; and consent of the instructor. Students must have credit in the forensic science program core course that covers the specific topic.
Biopharmaceutical Sciences	BPS	591	Topics in Forensic Microscopy	1 TO 4 hours.	Topic may vary but will revolve around microscopical characterization of various materials, with emphasis on forensic laboratory methods and approaches, and interpretation of materials comparisons as evidence. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): BPS 582 and consent of the instructor.
Biopharmaceutical Sciences	BPS	592	Forensic Science Internship	2 TO 4 hours.	Placement in a forensic science or toxicology laboratory or setting, under the supervision of a faculty member, with an accepted research project or paper required. May be repeated to a maximum of 4 hours. Students may register in more than one section per term. Prerequisite(s): BPS 580; and consent of the instructor and a minimum of 15 hours of credit earned in the M.S. in Forensic Science program.
Biopharmaceutical Sciences	BPS	593	Research in Biopharmaceutical Sciences	0 TO 16 hours.	Research in biopharmaceutical sciences with the guidance of a faculty mentor. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department.
Biopharmaceutical	BPS	594	Special Topics in	1 TO 4 hours.	Content varies. Special topics in biopharmaceutical sciences not covered in regular core or

Sciences			Biopharmaceutical Sciences		elective offerings. May be repeated to a maximum of 4 hours if topics vary. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	595	Departmental Seminar	1 TO 2 hours.	Weekly seminar series on research and experimental techniques in biopharmaceutical sciences. Also consists of journal club at which students will present an article once a year. Satisfactory/Unsatisfactory grading only. May be repeated. Weekly seminar and journal club meet separately from one another. Prerequisite(s): Approval of the department.
Biopharmaceutical Sciences	BPS	596	Independent Study in Forensic Science	1 TO 8 hours.	Supervised projects may consist of extensive reading or laboratory work, or both, on topics not covered in regular course offerings. Research undertaken for this course may not duplicate that being done for BPS 597 or BPS 598. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	597	Forensic Science Project Research	3 hours.	Supervised research in forensic science; a research project to be designed and completed within one semester. Satisfactory/Unsatisfactory grading only. Prerequisite(s): BPS 580; and at least the core course in the M.S. in Forensic Science program covering the subject area in which the research is to be conducted and consent of the instructor.
Biopharmaceutical Sciences	BPS	598	M.S. Thesis Research	0 TO 16 hours.	For students doing M.S. thesis research or thesis writing. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 10 hours. A minimum of 6 hours is required. Prerequisite(s): Consent of the instructor.
Biopharmaceutical Sciences	BPS	599	Dissertation Research	0 TO 16 hours.	Ph.D. thesis research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Biostatistics - BSTT

Biostatistics	BSTT	400	Biostatistics I	4 hours.	Descriptive statistics, basic probability concepts, one- and two-sample statistical inference, analysis of variance, and simple linear regression. Introduction to statistical data analysis software. Enrollment restricted to public health students and healthcare administration students; other graduate, professional and advanced undergraduate students admitted by consent as space permits. To obtain consent, see the SPH registrar.
Biostatistics	BSTT	401	Biostatistics II	4 hours.	Simple and multiple linear regression, stepwise regression, multifactor analysis of variance and covariance, non-parametric methods, logistic regression, analysis of categorical data; extensive use of computer software. Prerequisite(s): BSTT 400.
Biostatistics	BSTT	494	Introductory Special Topics in Biostatistics	1 TO 4 hours.	Special topics in biostatistics. Content varies. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biostatistics	BSTT	505	Logistic Regression and Survival Analysis	2 hours.	Interpretation of logistic regression and survival analysis models. Running logistic and proportional hazards regression models and constructing life-tables using SAS. Previously listed as BSTT 402. Prerequisite(s): BSTT 400 and BSTT 401.
Biostatistics	BSTT	506	Design of Clinical Trials	3 hours.	Rationale for clinical trials, blinding, ethical issues, methods of randomization, crossover trials, power and sample size calculations, data management, protocol deviation, data analysis, interim analysis. Previously listed as BSTT 430. Prerequisite(s): BSTT 400 and BSTT 401.
Biostatistics	BSTT	507	Sampling and Estimation Methods Applied to Public Health	3 hours.	The purpose of this course is to provide a comprehensive overview of current methods and issues in survey sample design and associated estimation procedures. Previously listed as BSTT 440. Credit is not given for BSTT 440 if the student has credit in STAT 431. Restriction applies only to certification for students pursuing the Interdepartmental Graduate Concentration in Survey Methodology. Prerequisite(s): BSTT 401 or BSTT 502 or consent of the instructor.
Biostatistics	BSTT	521	Applied Multivariate Analysis	3 hours.	Analysis of vector of responses; MANOVA, data reduction methods; introduction to cluster analysis, discriminant analysis, and structural equation models. Prerequisite(s): BSTT 537 and consent of the instructor.
Biostatistics	BSTT	523	Biostatistics Methods I	4 hours.	Foundations for and introduction to statistical inference, including one- and two-sample problems; regression analysis, including multiple regression and indicator variables. Previously listed as BSTT 502. Prerequisite(s): College calculus, including multivariable calculus, concurrent registration in BSTT 524, and consent of the instructor.
Biostatistics	BSTT	524	Biostatistics Laboratory	2 hours.	Use of spreadsheets for statistical investigations; use of statistical software; matrix theory, including methods relevant in biostatistical analysis. Previously listed as BSTT 503. Prerequisite(s): Concurrent registration in BSTT 523 and consent of the instructor.
Biostatistics	BSTT	525	Biostatistics Methods II	4 hours.	Analysis of variance and multiple comparisons; model building and diagnostics; generalized linear models; logistic and Poisson regression; introduction to repeated measures and mixed models. Previously listed as BSTT 504. Prerequisite(s): Grade of B or better in BSTT 523 and Grade of B or better in BSTT 524, or consent of the instructor.
Biostatistics	BSTT	535	Categorical Data Analysis	3 hours.	Contingency tables and their tests, measures of association, stratified analysis, logistic regression, generalized linear model, Poisson regression, log-linear model, matched data, marginal homogeneity, ordinal data. Previously listed as BSTT 511. Prerequisite(s): Grade of B or better in BSTT 525; and STAT 411, or consent of the instructor.
Biostatistics	BSTT	536	Survival Analysis	3 hours.	Concepts of lifetime or survival distributions, especially with censored data; nonparametric estimation of the survival function; rank tests; proportional hazards regression models; parametric models. Previously listed as BSTT 512. Prerequisite(s): Grade of B or better in BSTT 525 and Grade of B or better in STAT 411, or consent of the instructor.
Biostatistics	BSTT	537	Longitudinal Data Analysis	4 hours.	Application and theory of models for longitudinal data analysis for both continuous and categorical response data, including use of statistical software for these methods. Previously listed as BSTT 513. Prerequisite(s): Grade of B or better in STAT 411 and Grade of B or better in BSTT 525, or consent of the instructor.
Biostatistics	BSTT	538	Biostatistical Consulting	2 hours.	Discussion of techniques required for successful biostatistical consultation; effective communication, problem formulation, data analysis, oral and written reports, supervised consulting experience. Previously listed as BSTT 514. Prerequisite(s): Grade of B or better in BSTT 525 and consent of the instructor. Restricted to students enrolled in the biostatistics major.
Biostatistics	BSTT	550	Biostatistical Investigations	4 hours.	Analysis of several large data sets that will require integration of numerous biostatistical tools; written summarization and discussion of results. Previously listed as BSTT 522. Prerequisite(s): Grade of B or better in BSTT 535 and Grade of B or better in BSTT 536 and Grade of B or better in BSTT 537 and Grade of B or better in BSTT 538 and Grade of B or better or concurrent registration in BSTT 521.
Biostatistics	BSTT	560	Large Sample Theory	2 hours.	Deriving and applying large sample statistical theories. The primary focus will be in limit theorums and their applications in biostatistical problems. Meets eight weeks of the semester. Previously listed as BSTT 534. Prerequisite(s): Open only to PhD degree students; or consent of the instructor. Adequate training at the level of intermediate mathematical statistics. Masters degree in biostatistics or mathematics.
Biostatistics	BSTT	561	Advanced	3 hours.	An in-depth consideration of some important ideas of statistical inference including large-sample

			Statistical Inference		theory, estimation and testing. Specific topics to be covered include asymptotic theory, parameter estimation methods and hypothesis testing. Some computer use in class. Previously listed as BSTT 531. Prerequisite(s): Open only to Ph.D. degree students; and consent of the instructor. Recommended background: MS degree in Biostatistics or the equivalent.
Biostatistics	BSTT	562	Linear Models	4 hours.	Generalized inverse matrices; distributions for quadratic forms; estimability and testable hypotheses; constrained linear model; applications to regression, ANOVA, ANCOVA models; variance component models. Previously listed as BSTT 533. Prerequisite(s): Open only to Ph.D. degree students; or consent of the instructor. Recommended background: MS degree in Biostatistics or the equivalent.
Biostatistics	BSTT	563	Generalized Linear Models	4 hours.	Teaches students the components of generalized linear models and their extensions. Previously listed as BSTT 541. Prerequisite(s): BSTT 561 and concurrent registration in or prior completion of BSTT 560. Open only to PhD degree students; or consent of the instructor. Adequate training at level of intermediate mathematical statistics. Masters degree in biostatistics, mathematical statistics or methematics.
Biostatistics	BSTT	564	Missing Data	4 hours.	Students will learn the statistical methods used for analyzing data with missing values. Previously listed as BSTT 542. Prerequisite(s): BSTT 561 and concurrent registration in or prior completion of BSTT 560. Open only to PhD degree students; or consent of the instructor. Adequate training at level of intermediate mathematical statistics. Masters degree in biostatistics, mathematical statistics or methematics.
Biostatistics	BSTT	565	Computational Statistics	4 hours.	Developing a broad and thorough working knowledge of modern statistical computing and computational statistics on a practical, conceptual, philosophical and mathematical level. Previously listed as BSTT 543. Extensive computer use required. Prerequisite(s): Concurrent registration in or prior completion of BSTT 560. Open only to Ph.D. degree students; or consent of the instructor. Adequate training at level of intermediate mathematical statistics. Masters degree in biostatistics, mathematical statistics or mathematics.
Biostatistics	BSTT	566	Bayesian Methods	4 hours.	Developing a broad and thorough working knowledge of Bayesian applications on a practical, conceptual, philosophical and mathematical level. Previously listed as BSTT 544. Prerequisite(s): Concurrent registration in or prior completion of BSTT 560. Open only to Ph.D. degree students; or consent of the instructor. Adequate training at level of intermediate mathematical statistics. Masters degree in biostatistics, mathematical statistics or mathematics.
Biostatistics	BSTT	567	Advanced Survival Analysis	4 hours.	Methods of analysis for multivariate survival data, including transition models and shared frailty models. Theory behind existing methodology is covered as well as implementation. Prerequisite(s): Grade of B or better or concurrent registration in BSTT 536; and consent of the instructor. Recommended background: Intended for students in the Biostatistics PhD program.
Biostatistics	BSTT	568	Programming and Simulation in R	2 hours.	Applications in R on a practical, conceptual, philosophical and mathematical level. The focus is on simulation and computation, not on data analysis. Extensive computer use required. Prerequisite(s): BSTT 400; or both BSTT 523 and BSTT 524; and graduate or professional standing; or consent of the instructor.
Biostatistics	BSTT	594	Special Topics in Biostatistics	1 TO 4 hours.	Advanced special topics. Content varies. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Biostatistics	BSTT	595	Biostatistics Research Seminar	1 hours.	Current developments in theory and application of biostatistics and epidemiology with presentations by faculty and visiting scientists. Satisfactory/Unsatisfactory grading only. May be repeated.

Business Administration - BA

Business Administration	BA	490	International Student Exchange Program	0 TO 18 hours.	The Student Exchange Program enables the reciprocal exchange of students between UIC and colleges or universities in other countries. There are a variety of programs tailored to meet the needs of both graduate and undergraduate students. May be repeated for a maximum of 36 hours per academic year or for a total of 48 hours, all of which must be earned within one calendar year. Determination of the number of credits to be granted is part of the proposal approval process. Students from other UIC Colleges and Schools are eligible for the program. For more information, visit the website at http://www.uic.edu/depts/oia/resources-student/studentexchange.html. Prerequisite(s): Junior standing or above and approval of the student's major department, the CBA College Office and the Office of International Affairs.
Business Administration	BA	495	Business Strategy	3 hours.	Strategic management and business policy formulation and implementation. Students will utilize knowledge from all functional areas of business to formulate business strategy and implementation plans through case analysis (may include simulation). Extensive computer use required. Prerequisite(s): ACTG 210 and ACTG 211 and BA 200 and ECON 218 and IDS 200 and IDS 270; and IDS 355 and FIN 300 and MGMT 340 and MGMT 350 and MKTG 360; and senior standing or above.
Business Administration	BA	589	Corporate Business Internship Program	0 TO 3 hours.	Corporate business internship provides graduate students an opportunity to gain practical work experience in their field of study and to test their career choice. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. No graduation credit for students in the following: MS in Accounting or M.S. in Management Information Systems. Prerequisite(s): Consent of the director of the Business Career Center. Approval by the director of graduate studies prior to registration is required for students in the MS in accounting and MS in management information systems programs.
Business Administration	BA	594	Special Topics in Business Administration	1 TO 4 hours.	An intensive study of a selected topic in business administration. Topics vary by section and by term. May be repeated to a maximum of 16 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the graduate business program advisor.

Campus Courses - CC

CC	400	Urbana Registration	0 TO 16 hours.	Special course created to represent Urbana registration for upper division undergraduate and graduate students pursuing a degree on the Chicago campus. Facilitates proper UIC assessment, application of financial aid awards, and registration. Satisfactory/Unsatisfatory grading only. May be repeated. No graduation credit.
CC	401	Springfield Registration	0 TO 16 hours.	Special course created to represent Springfield registration for upper division undergraduate and graduate students pursuing a degree on the Chicago campus. Facilitates proper UIC assessment, application of financial aid awards, and registration. Satisfactory/Unsatisfactory grading only. May be repeated. No graduation credit.

Central and Eastern European Studies - CEES

Central and Eastern European Studies	CEES	400	A Survey of Central and Eastern Europe	3 OR 4 hours.	An interdisciplinary historical and cultural overview of Central and Eastern Europe. 3 undergraduate hours. 4 graduate hours.
Central and Eastern European Studies	CEES	406	History of European Standard Languages	3 OR 4 hours.	The phenomenon of the "standard language" in Western and Eastern Europe. Same as LING 406. 3 undergraduate hours. 4 graduate hours. Taught in English. Previously listed as CEES 405. In cases where students speak languages other than English, they might receive tasks to research literature in that language (and on that language) and to present their research results. Prerequisite(s): Junior standing or above; and consent of the instructor.
Central and Eastern European Studies	CEES	411	The City as Cultural Focus	3 OR 4 hours.	Interdisciplinary study of urban culture with focus on German-speaking countries. Same as GER 411. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Taught in English. No knowledge of German required. Students who intend to use GER 411 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): For majors and minors in the Department of Germanic Studies only: GER 212 or the equivalent or consent of the instructor.
Central and Eastern European Studies	CEES	418	Topics in German History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 418. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history, or consent of the instructor.
Central and Eastern European Studies	CEES	430	Classical German Philosophy	3 OR 4 hours.	Introduction to German philosophy and intellectual history through the critical analysis of major authors and texts. Same as GER 430. 3 undergraduate hours. 4 graduate hours. Taught in English. Area: literature/culture. Prerequisite(s): One 300-level course in Germanic Studies or consent of the instructor.
Central and Eastern European Studies	CEES	433	Topics in Eastern European History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 433. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history or consent of the instructor.
Central and Eastern European Studies	CEES	435	Topics in Russian History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 435. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history or consent of the instructor.
Central and Eastern European Studies	CEES	438	The Faust Legend	3 OR 4 hours.	Discusses Goethe's Faust within the context of European and non-European literatures. Traces the origins, significance, and interpretation of the Faust figure. Same as GER 438. 3 undergraduate hours. 4 graduate hours. Taught in English. Area: literature/culture.
Central and Eastern European Studies	CEES	439	Gender and Cultural Production	3 OR 4 hours.	Issues of gender representation and gender politics examined through the use of theoretical texts or through the study of women authors. Same as GER 439 and GWS 439. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Taught in English. Students who intend to use GER 439 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.
Central and Eastern European Studies	CEES	515	Film and Media Culture	4 hours.	Explores the theory and history of film and other visual media. Emphasis will be given to the status of media texts in their cultural contexts, as well as to their function as components of modern social institutions. Same as GER 515. Taught in English. Students will be asked to watch films outside of class.
Central and Eastern European Studies	CEES	532	Seminar in Russian History	4 hours.	Research in topics. Same as HIST 532. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Chemical Engineering - CHE

Chemical Engineering	CHE	410	Transport Phenomena	3 OR 4 hours.	Continuum theory of momentum, energy, and mass transfer. Viscous behavior of fluids. Laminar and turbulent flow. Thermal conduction and convection, diffusion and coupled operations. Same as MENG 410. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 312 or consent of the instructor.
Chemical Engineering	CHE	413	Introduction to Flow in Porous Media	3 OR 4 hours.	Theoretical modeling of single-phase and multiphase flow in porous media. Darcy's law and relative permeabilities. Oil production and hydrology. Capillary phenomena. Dispersion and miscible displacement. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 312 or consent of the instructor.
Chemical Engineering	CHE	421	Combustion Engineering	3 OR 4 hours.	Combustion chemistry and thermochemistry. Kinetics and mechanism of combustion; ignition and pollutant formation. Detonation and deflagration; premixed and diffusion flames. Surface reaction and droplet combustion. Applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 301 and CHE 321.
Chemical Engineering	CHE	422	Biochemical Engineering	3 OR 4 hours.	Enzyme-catalyzed and microbially-mediated processes. Free and immobilized enzymes. Batch and continuous cell cultures. Transport phenomena in microbial systems and fermentation processes. Design of biological reactors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Chemical Engineering	CHE	423	Catalytic Reaction Engineering	3 OR 4 hours.	Catalytic reactions which occur under conditions for which heat and mass transfer cannot be neglected are considered. Includes porosimetry, surface area measurements and catalyst deactivation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 321 or consent of the instructor.
Chemical Engineering	CHE	431	Numerical Methods in Chemical Engineering	3 OR 4 hours.	Introduction to the application of numerical methods to the solution of complex and often non-linear mathematical problems in chemical engineering. Includes methods for the solution of problems arising in phase and chemical reaction equilibria, chemical kinetics, and transport. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Graduate or advanced undergradate standing.
Chemical Engineering	CHE	438	Computational Molecular Modeling	3 OR 4 hours.	Provide students with a fundamental understanding of the methods, capabilities and limitations of molecular simulations. Same as MENG 412. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CHE 301. Recommended background: Engineering/Science.
Chemical Engineering	CHE	440	Non-Newtonian Fluids	3 OR 4 hours.	Fluid mechanics and transport processes involving non-Newtonian fluids. Purely viscous and viscoelastic behavior. Viscometric functions and rheometry. Heat and mass transfer in non-Newtonian fluids. Same as MENG 411. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 410 or MENG 410 or consent of the instructor.
Chemical Engineering	CHE	441	Computer Applications in Chemical Engineering	3 OR 4 hours.	Nonnumerical applications of computers: artificial intelligence and expert systems for chemical engineering design and online diagnosis; data acquisition and control for digital process control; process design calculations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing in chemical engineering.
Chemical Engineering	CHE	445	Mathematical Methods In Chemical Engineering	3 OR 4 hours.	Advanced mathematical techniques in chemical engineering. Includes infinite series in thermodynamic perturbation theory; Laplace transforms in process control; chemical diffusion transport theories and differential equations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 220 or the equivalent.
Chemical Engineering	CHE	450	Air Pollution Engineering	4 hours.	Environmental aspects of combustion processes, pollutant formation. Control of pollutants and particulates. Air quality control. Fundamentals of combustion. Same as ME 450. Prerequisite(s): ME 321 or consent of the instructor.
Chemical Engineering	CHE	456	Fundamentals and Design of Microelectronics Processes	3 OR 4 hours.	Design and practical aspects of the most advanced state of micro- and nano-electronics processing with emphasis on thin film deposition, substrate passivation, lithography and etching with thermodynamics, kinetics, reactor design, and optimization. Same as MENG 413. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Graduate standing or consent of the instructor. Recommended background: Engineering/Science.
Chemical Engineering	CHE	494	Selected Topics in Chemical Engineering	1 TO 4 hours.	Systematic study of selected topics in chemical engineering theory and practice. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Chemical Engineering	CHE	499	Professional Development Seminar	0 hours.	Students are provided general information about their roles as UIC Chemical Engineering alumni in society and the role of the University in their future careers. Students provide evaluations of their educational experience in the Chemical Engineering Department. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to seniors; and approval of the department. Must be taken in the student's last semester of study.
Chemical Engineering	CHE	501	Advanced Thermodynamics	4 hours.	Laws of thermodynamics. General conditions for equilibrium and stability. Thermodynamic potentials. Phase transition and critical phenomena. Principle of irreversible thermodynamics, Onsager's fundamental theorem and engineering appications. Prerequisite(s): MATH 220 or the equivalent.
Chemical Engineering	CHE	502	Fluid Phase Equilibria	4 hours.	Application molecular theories of fluids to phase equilibrium systems. Intermolecular potentials, partition functions, correlation functions, chemical potentials, fugacity and activity coefficient

					and their relationships. Prerequisite(s): CHE 301 or equivalent.
Chemical Engineering	CHE	503	Thermodynamics of Multicomponent Mixtures	4 hours.	Thermodynamic theories of mixtures. Molecular principles of various solution theories. Conformal solutions, lattice theories, group contribution function theories, and perturbation and variational theories. Prerequisite(s): CHE 502 or the equivalent.
Chemical Engineering	CHE	505	Advanced Statistical Thermodynamics	4 hours.	Development of the principles of statistical mechanics. Calculation of partition functions and properties for the ideal gas including polyatomic gases. Ensemble concepts and interacting subsystems. Applications. Prerequisite(s): CHE 502.
Chemical Engineering	CHE	510	Separation Processes	4 hours.	Advanced coverage of equilibrium stage separation. Multi-component separation and distillation; unsteady state adsorption processes. Separation efficiencies and energy requirements. Prerequisite(s): CHE 410.
Chemical Engineering	CHE	511	Advanced Mass Transfer	4 hours.	Analysis of diffusion and mass transport in chemical engineering systems. Unsteady state diffusion convective diffusion, mass transfer coefficient dispersion and the study of diffusion and reaction and simultaneous mass transport. Prerequisite(s): CHE 410.
Chemical Engineering	CHE	512	Microhydrodynamics, Diffusion and Membrane Transport	4 hours.	Theoretical and numerical fluid mechanics of microstructure: potential flow and virtual mass, quasistatic versus transient Stokes flow, integral theorems, multipole expansions, singularity solutions, fluctuations, and current applications. Same as MENG 512. Prerequisite(s): CHE 410 or MENG 410 and CHE 445 or consent of the instructor.
Chemical Engineering	CHE	514	Biotransport	4 hours.	Diffusion and flow in living systems. Blood rheology and flow. Microcirculation, oxygen transport, diffusive transport across membranes. Membrane structure; water, and ion flows, active transport. Same as BIOE 514. Prerequisite(s): CHE 410 or consent of the instructor.
Chemical Engineering	CHE	524	Characterization Techniques in Catalysis	4 hours.	The most common crystallographic, spectroscopic, and physicochemical techniques for characterization of bulk solids, solid surfaces, and gas-solid interactions are surveyed. Prerequisite(s): Consent of the instructor.
Chemical Engineering	CHE	527	Advanced Chemical Reaction Engineering	4 hours.	Multiplicities in chemically reacting systems nonideal reactors: Effects of residence time distribution and mixing history. Heterogeneous noncatalytic reactions: gas-liquid, liquid-liquid, and solid-fluid systems. Heterogeneous catalytic reactions. Prerequisite(s): CHE 321.
Chemical Engineering	CHE	530	Gas Kinetics	4 hours.	Modern theory and experimental methods in the rates of gas reactions. Review of phenomenological kinetics, collision theory, energy transfer, unimolecular reactions, transition state and RRKM theory. Modern applications. Prerequisite(s): CHE 505.
Chemical Engineering	CHE	592	Specialized Problems	4 TO 8 hours.	Specialized problems under faculty supervision. Prerequisite(s): Consent of the instuctor.
Chemical Engineering	CHE	594	Advanced Topics in Chemical Engineering	1 TO 4 hours.	Systematic study of advanced topics in chemical engineering theory and practice. Subjects vary from year to year. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Chemical Engineering	CHE	595	Seminar in Chemical Engineering Research	1 hours.	Advances in Chemical Engineering Research will be discussed in a seminar setting. Students will be expected to make presentations in areas of: catalysis, thermodynamics, transport phenomena and kinetics. Prerequisite(s): Graduate standing in chemical engineering.
Chemical Engineering	CHE	597	Project Research	0 TO 4 hours.	A research design or reading project approved by the committee appointed by the director of graduate studies. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor. Recommended background: Completed required classes in curriculum.
Chemical Engineering	CHE	598	M.S. Thesis Preparation	0 TO 16 hours.	Individual research in specialized problems under faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Chemical Engineering	CHE	599	Ph.D. Thesis Preparation	0 TO 16 hours.	Individual research in specialized problems under faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Chemistry - CHEM

Chemistry	CHEM	402	Chemical Information Systems	2 hours.	Introduction to chemical information, including the use of databases for searching chemical information and the use of molecular modeling and related computational systems to determine calculated properties of chemical substances. Previously listed as CHEM 302. Prerequisite(s): Grade of C or better in CHEM 234 or consent of the instructor.
Chemistry	CHEM	414	Advanced Inorganic Chemistry	2 OR 3 hours.	Introduction to the principles of inorganic chemistry. Structural and descriptive chemistry of the main-group elements. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Grade of C or better in CHEM 314; and Grade of C or better in CHEM 340 or Grade of C or better in CHEM 342; or consent of the instructor.
Chemistry	CHEM	415	Inorganic Chemistry Laboratory	0 TO 4 hours.	Advanced inorganic chemistry laboratory. Preparative methods, Schlenk techniques, dry box, Fourier-transform infra-red and UV-visible spectroscopy, crystal growth. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CHEM 314.
Chemistry	CHEM	416	Inorganic Chemistry II	3 OR 4 hours.	Structural and descriptive chemistry of the transition elements. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHEM 414.
Chemistry	CHEM	421	Instrumental Analysis	4 hours.	A survey of contemporary instrumentation for chemical analysis. Emphasis on fundamentals of instrumental methods with actual experience on typical equipment. Includes two weekly three-hour laboratories. Prerequisite(s): Grade of C or better in CHEM 222; and Grade of C or better in CHEM 340 or Grade of C or better in CHEM 342.
Chemistry	CHEM	432	Advanced Organic Chemistry	2 OR 3 hours.	Rigorous treatment of the principles upon which modern organic chemistry is developed. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Grade of C or better in CHEM 333; and Grade of C or better in CHEM 340 or Grade of C or better in CHEM 342.
Chemistry	CHEM	444	Advanced Physical Chemistry	2 OR 3 hours.	Application of quantum mechanics to molecular spectroscopy, statistical mechanics and activated complex theory. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Grade of C or better in CHEM 346.
Chemistry	CHEM	448	Statistical Thermodynamics	3 OR 4 hours.	Introduction to statistical mechanics, partition functions, chemical equilibrium, ensembles, fluctuations, real gases, Einstein and Debye models of solids, magnetic materials, electrolytes, introduction to liquids. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHEM 346.
Chemistry	CHEM	452	Biochemistry I	4 hours.	Chemistry of proteins, nucleic acids, carbohydrates and lipids. Same as BIOS 452. Prerequisite(s): Credit or concurrent registration in CHEM 234.
Chemistry	CHEM	454	Biochemistry II	4 hours.	Continues Chemistry 452. Carbohydrate and lipid metabolism, electron transport. Metabolism of amino acids, nucleic acids, proteins. Biosynthesis of macromolecules and regulation of macromolecular synthesis. Same as BIOS 454. Prerequisite(s): BIOS 452 or CHEM 452.
Chemistry	CHEM	455	Biochemistry Laboratory	3 hours.	Introduction to modern biochemistry & molecular biology research. Includes recombinant DNA techniques, protein purification, site-directed mutagenesis, polymerase chain reaction, enzyme kinetics, protein structure data analysis & molecular graphics. Prerequisite(s): CHEM 222 and CHEM 452.
Chemistry	CHEM	456	Natural Products	3 OR 4 hours.	Biogenetic approach to secondary metabolites. General principles and selected studies of phenolic compounds, terpenes, alkaloids, and other interesting natural products. Same as BIOS 416. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One year of organic chemistry.
Chemistry	CHEM	458	Biotechnology and Drug Discovery	3 OR 4 hours.	Molecular and gene therapy, using small molecules including antisense, aptamers, and proteins. Structure-based drug design. Structural bioinformatics and drug discovery program. High-throughput screening. Combinatorial chemistry technology. Same as BIOS 458. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOS 352 or CHEM 352; or Credit or concurrent registration in BIOS 452 or Credit or concurrent registration in CHEM 452; or consent of the instructor.
Chemistry	CHEM	470	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Chemistry	CHEM	471	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in CHEM 470, and approval of the department.
Chemistry	CHEM	472	Teaching Methods in Chemistry	2 OR 3 hours.	A course in the methods of teaching high school chemistry, including the integration of technology. 2 undergraduate hours. 3 graduate hours. Extensive computer use required. Prerequisite(s): 24 semester hours of undergraduate chemistry, including two semesters of laboratory chemistry. Recommended background: ED 210.
Chemistry	CHEM	474	Teaching Chemistry in High Schools	1 hours.	Modern ways to help beginning learners construct in their own minds an understanding of scientific concepts and scientific method. Emphasis on the concepts of chemistry. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department.
Chemistry	CHEM	488	Cooperative	1 hours.	Off-campus participation in a governmental or industrial training program. Credit is contingent on

			Chemistry Practice		the submission of a final report. Satisfactory/Unsatisfactory grading only. May be repeated. A maximum of 6 hours of CHEM 488, CHEM 492 and CHEM 499 combined may be credited toward departmental undergraduate degree course requirements. Prerequisite(s): Concurrent registration in LAS 289 or consent of the instructor.
Chemistry	CHEM	492	Independent Study	1 TO 2 hours.	Individual study under supervision of a faculty member in areas not covered in standard courses. Credit is contingent on the submission of a final report. Satisfactory/Unsatisfactory grading only. May be repeated. A maximum of 6 hours of CHEM 488, CHEM 492 and CHEM 499 combined may be credited toward departmental undergraduate degree course requirements. Prerequisite(s): 2.50 grade point average in science courses and consent of the instructor.
Chemistry	CHEM	494	Special Topics in Chemistry	1 TO 4 hours.	Course content is announced prior to each term in which the course is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Chemistry	CHEM	499	Supervised Research	3 hours.	Individual research performed under supervision of a faculty member. Credit is contingent on the submission of a final report. Research experience is strongly encouraged for career students. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. A maximum of 6 hours of CHEM 488, CHEM 492 and CHEM 499 combined may be credited toward departmental undergraduate degree course requirements. Prerequisite(s): Junior standing or above, approval of the department, consent of the instructor and a grade point average of 2.50 in science courses; or graduate standing. Recommended background: Credit in CHEM 333 or CHEM 314.
Chemistry	CHEM	500	Faculty Research	1 hours.	Mandatory for first-year students. Faculty present their research interests to new graduate students. Satisfactory/Unsatisfactory grading only.
Chemistry	CHEM	510	Literature Seminar in Inorganic Chemistry	1 hours.	Discussion of inorganic research from the current literature. Emphasis on student presentations. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing or consent of the instructor.
Chemistry	CHEM	514	Advanced Inorganic Chemistry I	4 hours.	The synthesis, structure, and bonding of selected main group and transition metal species. Describes materials science applications of these compounds. Prerequisite(s): CHEM 416 or the equivalent.
Chemistry	CHEM	516	Advanced Inorganic Chemistry II	4 hours.	Structural and descriptive chemistry of the transition elements; spectroscopy and magnetism Prerequisite(s): CHEM 416 or the equivalent.
Chemistry	CHEM	517	Organometallic Chemistry	4 hours.	The fundamental and basic principles of the structure and reactivity of transition metal complexes towards organic molecules. Prerequisite(s): CHEM 432 or the equivalent, and credit or concurrent registration in CHEM 532.
Chemistry	CHEM	518	Advanced Inorganic Chemistry III	4 hours.	Synthesis, structure, bonding, and properties of solid state materials. Prerequisite(s): CHEM 416 or the equivalent or consent of the instructor.
Chemistry	CHEM	519	Special Topics in Inorganic Chemistry	3 TO 4 hours.	Lectures on topics not represented in regularly scheduled courses. May be repeated. Prerequisite(s): Graduate standing or consent of instructor.
Chemistry	CHEM	520	Literature Seminar in Analytical Chemistry	1 hours.	Discussion of analytical chemical research from the current literature. Emphasis upon student presentations. Satisfactory/Unsatisfactory grading only.
Chemistry	CHEM	522	Techniques in Mass Spectrometry and Surface Analysis	4 hours.	Various methods in mass spectrometry. Non-optical applied surface analysis including x-ray photoelectron spectroscopy, Auger spectroscopy, and scanning probe microscopy. Instrumentation, applications and data analysis. Prerequisite(s): CHEM 421 or the equivalent.
Chemistry	CHEM	524	Optical Spectroscopies in Analytical Chemistry	4 hours.	Theory and experimental methods in infrared, ultraviolet and visible spectroscopies, both absorption and emission. Prerequisite(s): CHEM 346 and CHEM 421; or consent of the instructor.
Chemistry	CHEM	526	NMR Spectroscopy in Analytical Chemistry	4 hours.	Principles governing one- and multi-dimensional nuclear magnetic resonance (NMR) spectroscopy; applications of NMR to chemical analysis. Prerequisite(s): CHEM 346 and CHEM 421; or the equivalent or consent of the instructor.
Chemistry	CHEM	528	Chemical Separations	4 hours.	Fundamentals and recent advances in techniques and technologies for the separation of chemical substances, including both chromotographic and electrophoretic methods. Special emphasis on trace and microscale methods. Prerequisite(s): CHEM 421; or approval of the department.
Chemistry	CHEM	529	Special Topics in Analytical Chemistry	3 TO 4 hours.	Lectures and readings in areas not normally treated in standard courses. Discussion of topics of current interest in analytical chemistry. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Chemistry	CHEM	530	Literature Seminar in Organic Chemistry	1 hours.	Discussion of organic chemical research from the current literature. Emphasis upon student presentations. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Chemistry	CHEM	531	Spectroscopic Organic Structure Determination	4 hours.	Discussion of principles and modern practice in the elucidation of the structures of organic molecules using NMR, IR, UV, and mass spectrometry. With practical examples. Prerequisite(s): CHEM 234 or the equivalent.
Chemistry	CHEM	532	Advanced Organic Chemistry I	4 hours.	Introduction to advanced organic chemistry, drawing molecules and mechanisms, FMO theory, stereochemistry, conformational analysis, stereoelectronic effects, selected functional group interconversions. Some computer use will be required. Prerequisite(s): CHEM 432 or the

					equivalent.
Chemistry	CHEM	533	Advanced Organic Chemistry II	4 hours.	Continues CHEM 532. Chemical literature, chemical bonding, pericyclic reactions, physical organic chemistry, reactive intermediates, organic reaction mechanisms with an emphasis on physical principles. Prerequisite(s): CHEM 532 or the equivalent.
Chemistry	CHEM	534	Advanced Organic Chemistry III	4 hours.	Continues CHEM 533. The major reactions in organic chemistry and their uses in organic synthesis. Prerequisite(s): CHEM 533 or the equivalent.
Chemistry	CHEM	535	Advanced Synthetic Chemistry	4 hours.	Topics include: control of stereochemistry (cyclic + acyclic), synthesis of complex natural and unnatural products (such as alkaloids, terpenes) and new methodologies. Prerequisite(s): CHEM 533.
Chemistry	CHEM	536	Physical Organic Chemistry	4 hours.	Theoretical and experimental methods of studying reaction mechanisms, with an emphasis on kinetic methods and linear free energy correlations. Prerequisite(s): CHEM 533 or consent of the instructor.
Chemistry	CHEM	539	Special Topics in Organic Chemistry	3 TO 4 hours.	Discussion of topics of currrent interest. May be repeated. Students may register in more than one section per term. Prerequisite(s): CHEM 533.
Chemistry	CHEM	540	Current Problems in Physical Chemistry	1 hours.	Student seminars presented on varied topics in physical chemistry. Special emphasis on the application of quantum mechanics and statistical mechanics to the solving of problems in molecular structure, dynamics and spectroscopy. Satisfactory/Unsatisfactory grading only.
Chemistry	CHEM	541	Introduction to Surface Chemistry and Catalysis	4 hours.	The physical chemistry of reactions on solid surfaces as they relate to current problems in heterogeneous catalysis. Experimental techniques and methods of data analysis used in modern surface chemistry research. Course information: Prerequisite(s): Grade of C or better in CHEM 342 and Grade of C or better in CHEM 346; or Grade of C or better in CHEM 340 and Grade of C or better in CHEM 344; and consent of the instructor. Recommended Background: CHEM 542.
Chemistry	CHEM	542	Quantum Mechanics	4 hours.	Exact solutions of the Schroedinger equation for simple systems; variational principle and perturbation theory; many-electron atoms and diatomic molecules and their electronic structures; angular momentum. Prerequisite(s): CHEM 346 or the equivalent.
Chemistry	CHEM	543	Molecular Spectroscopy and Group Theory	4 hours.	Group theory and molecular symmetry. Rotations and vibrations of diatomics and polyatomics. Time-dependent quantum mechanics and UV, IR, and NMR spectroscopy. Prerequisite(s): CHEM 542.
Chemistry	CHEM	544	Angular Momentum in Quantum Mechanics	4 hours.	Quantum-mechanical theory of angular momentum. Application to spectroscopy, reaction dynamics, coupling of angular momenta, rotational transformations, graphical methods, Wigner-Eckart theorem, spherical tensors, rotational spectroscopy. Prerequisite(s): CHEM 542 or consent of the instructor.
Chemistry	CHEM	548	Equilibrium and Nonequilibrium Statistical Mechanics	4 hours.	Statistical mechanics of molecular systems focused on fundamental principles, theorems, and applications (ensembles, partition functions, distributions, and thermodynamic functions), extended by broad discussions of elementary transport methods. Course information: Prerequisite(s): One year of undergraduate physical chemistry (342/346 level: thermodynamics, introductory quantum mechanics and statistical mechanics). Recommended background: credit in CHEM 542.
Chemistry	CHEM	549	Special Topics in Physical Chemistry	3 TO 4 hours.	Lectures and readings in areas not normally treated in standard courses. Discussion of topics of current interest in physical chemistry. Prerequisite(s): Consent of the instructor.
Chemistry	CHEM	550	Literature Seminar in Biochemistry	1 hours.	Presentation of student papers on current research topics in biochemistry. Satisfactory/Unsatisfactory grading only.
Chemistry	CHEM	551	Advanced Biochemistry I	4 hours.	Basic and current topics on proteins, including protein structure, protein stability, and protein folding and misfolding, and proteomics. Prerequisite(s): CHEM 454; and CHEM 346 or CHEM 344.
Chemistry	CHEM	552	Chemical Biology	4 hours.	Major trends and recent developments in research at the interface of chemistry and biology. Same as BIOS 552.
Chemistry	CHEM	554	Bioinorganic Chemistry	4 hours.	Structure, function and properties of metal ion coordination centers in metalloproteins, as well as the function of metal ions in enzyme activation and membrane transport. Prerequisite(s): CHEM 415 or CHEM 452.
Chemistry	CHEM	555	Advanced Biochemistry II	4 hours.	The structure of nucleic acids and the role and processing of nucleic acids in various aspects of genetic regulation. Prerequisite(s): CHEM 454.
Chemistry	CHEM	558	Biophysical Chemistry	4 hours.	The role of molecular interactions in determining the structure and function of complex biological systems, and the use of modern experimental techniques to study these interactions and systems. Prerequisite(s): CHEM 452 or consent of the instructor
Chemistry	CHEM	559	Special Topics in Biochemistry	3 TO 4 hours.	Selected topics of current interest in biochemistry. Same as BIOS 559. May be repeated. Students may register in more than one section per term. Prerequisite(s): CHEM 454 or BIOS 454 or consent of the instructor.
Chemistry	CHEM	572	Teaching Methods in Chemistry	3 hours.	Special problems and techniques, including audio-visual methods, lecture demonstrations, the use of computers and the design of experiments. May be repeated. A maximum of 3 hours may be credited toward departmental course requirements for the M.S. or Ph.D. in Chemistry. Prerequisite(s): Approval of the department.
Chemistry	CHEM	590	Current Problems in Chemical Research	2 hours.	In-depth discussion and analysis of selective aspects of contemporary research with particular emphasis on research carried out in the department. Satisfactory/Unsatisfactory grading only.

					May be repeated. Prerequisite(s): Consent of instructor.
Chemistry	CHEM	592	Introduction to Chemical Research Methods	3 TO 6 hours.	Guided research on selected topics in analytical, inorganic, organic, or physical chemistry or biochemistry. Satistactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor. Recommended Background: BA or BS in Chemistry or Biochemistry.
Chemistry	CHEM	598	Master's Thesis Research	0 TO 16 hours.	Master's thesis work under the superision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department.
Chemistry	CHEM	599	Ph.D. Thesis Research	0 TO 16 hours.	Ph.D. thesis work under the superision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department.

Civil and Materials Engineering - CME

Civil and Materials Engineering	CME	400	Advanced Design of Reinforced Concrete Structures	3 OR 4 hours.	Design of reinforced concrete building structures, including design for lateral loads due to wind, structural systems for reinforced concrete buildings, shear walls, and design for seismic forces. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 310 or the equivalent.
Civil and Materials Engineering	CME	401	Advanced Design of Metal Structures	3 OR 4 hours.	Plate girders; unsymmetrical bending; torsion of thin-walled structures; lateral-torsional instability; composite construction. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 301.
Civil and Materials Engineering	CME	402	Geometric Design of Highway Facilities	3 OR 4 hours.	Elements of geometric design. Driver, vehicle and roadway system characteristics. Horizontal and vertical alignment design. Intersection design and operation. Capacity and level of service. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 302.
Civil and Materials Engineering	CME	403	Hydraulic Design	3 OR 4 hours.	Groundwater hydraulics, movement, recharge and well design; migration and drainage; design of dams, spillways and turbines; wave and coastal engineering design. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 311.
Civil and Materials Engineering	CME	405	Foundation Analysis and Design	3 TO 4 hours.	Site characterization; analysis and design of shallow foundations, deep foundations and earth retaining structures; foundations on difficult soils; effects of construction; instrumentation and monitoring. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.
Civil and Materials Engineering	CME	406	Bridge Design	3 OR 4 hours.	Theory and design procedures related to the analysis and design of modern bridges. Using the AASHTO Code, includes concrete and steel structures, construction practices and procedures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 301 and CME 310.
Civil and Materials Engineering	CME	407	Soil and Site Improvement Methods	3 OR 4 hours.	Compaction, preloading, vertical drains, grouting, admixture stabilization, thermal stabilization, soil reinforcement, geosynthetics; construction of embankments on soft clay, embankments on mechanically stabilized earth walls, hydraulic barriers; case studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.
Civil and Materials Engineering	CME	408	Traffic Engineering and Design	3 OR 4 hours.	Highway Traffic control with an emphasis on highway capacity analysis and Traffic Signal Design. Queuing theory, traffic flow theory, corridor management, and Taffic Safety. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Field work required. Prerequisite(s): CME 302 or consent of the instructor.
Civil and Materials Engineering	CME	409	Structural Analysis II	3 OR 4 hours.	Approximate analysis of structures including trusses and multistory frames. Influence lines, cables and arches. Principles of limit analysis for structures and structural elements. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205 or consent of the instructor.
Civil and Materials Engineering	CME	410	Design of Prestressed Concrete Structures	3 OR 4 hours.	Principles of prestressed concrete. Analysis and design of statically determinate prestressed concrete members. Introduction to design and detailing of connections. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 310.
Civil and Materials Engineering	CME	411	Chemistry for Environmental Professionals	3 hours.	Introductory atmospheric chemistry, aspects of air pollution, chemistry related to natural water and water treatment; priority organic pollutants and heavy metals. Same as EOHS 440. Prerequisite(s): One year of college chemistry.
Civil and Materials Engineering	CME	415	Environmental Geotechnology	3 OR 4 hours.	Environmental laws and regulations, sources and types of waste materials, waste materials in geotechnical engineering applications, geotechnical management of municipal, industrial, mine and nuclear wastes. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.
Civil and Materials Engineering	CME	420	Water and Wastewater Analysis Laboratory	0 TO 4 hours.	Laboratory class for environmental engineering. Analysis of water, wastewater and soil for nutrients, pollutants, physical parameters and biological parameters. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 216; or graduate standing.
Civil and Materials Engineering	CME	421	Water Treatment Design	3 OR 4 hours.	Water quality control systems. Physical-chemical unit processes applied to systems designed for treatment of municipal and industrial waters. 3 undergraduate hours. 4 graduate hours. Field trip required at nominal fee. Prerequisite(s): CME 216.
Civil and Materials Engineering	CME	422	Wastewater Treatment Design	3 OR 4 hours.	Processes involved in the biological treatment of wastewater. Aerobic and anaerobic treatment, sludge stabilization, and nutrient removal. 3 undergraduate hours. 4 graduate hours. Field trip required. Prerequisite(s): CME 216 or the equivalent.
Civil and Materials Engineering	CME	423	Management of Solid and Hazardous Wastes	3 hours.	Management of solid and hazardous waste, including radioactive waste: landfills, incineration, recycling, composting, source reduction, groundwater and air pollution impacts, control, regulations, siting, health impacts. Same as EOHS 472, and GEOG 444.
Civil and Materials Engineering	CME	425	Environmental Remediation Engineering	3 OR 4 hours.	Sources of contamination, regulations, site characterization, impact assessment, waste disposal and containment options, waste treatment options, case studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.
Civil and Materials Engineering	CME	427	Engineering Hydrology	3 OR 4 hours.	Processes, techniques and concepts in hydrology of interest to the engineer: precipitation, interception, evaporation, groundwater, unit hydrographs, flood routing, and statistics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 215.
Civil and Materials Engineering	CME	430	Theory of Elasticity I	3 OR 4 hours.	The boundary value problems of linear elasticity. Uniqueness of solution. Reduction to two dimensions: the plane problems, torsion, bending. Polar coordinates and general orthogonal coordinates. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 204 and MATH 481 or the equivalents.
Civil and	CME	431	Introduction to	3 OR 4 hours.	Vectors and tensors, stress, principal stresses and principal axes, deformation, compatability

Materials Engineering			Continuum Mechanics		conditions, constitutive equations, isotropy and mechanical properties of fluids and solids. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 203 and CME 211; or CME 203 and ME 211.
Civil and Materials Engineering	CME	432	Energy Methods in Mechanics	3 OR 4 hours.	Variational theorems of elasticity. Applications to establish approximate systems and their solution. Beams (including shear deformation.) Introduction to instability theory. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205.
Civil and Materials Engineering	CME	433	Fracture Mechanics and Failure Analysis I	3 OR 4 hours.	Classical theory of strength of materials. Fracture mechanisms maps. Continuum damage mechanics. Introduction to fracture mechanics. Singular problems of elasticity. Stress intensity. Energy release rates. Irwin-Orowan, Barenblatt-Dugdale theories. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 430.
Civil and Materials Engineering	CME	434	Finite Element Analysis I	3 OR 4 hours.	Establishment of basic finite element, matrix relations for one-dimensional heat conduction problems: Truss, beam and frame structural systems. Solution methods of the resulting equations. Introduction to two-dimensional analysis. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205 or ME 401 and CS 108.
Civil and Materials Engineering	CME	435	Theory of Vibrations I	3 OR 4 hours.	Analytical and numerical treatment of linear, discrete systems. Nonlinear discrete systems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 200 or the equivalent and MATH 220.
Civil and Materials Engineering	CME	450	Probability and Reliability in Structural Design	3 OR 4 hours.	Maximum uncertainty principle and probability distributions of random variables. Distributions of extremes and their applications. Statistics of failure. The weakest link theory. Time to failure. Structural reliability. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	453	Experimental Stress Analysis	0 TO 4 hours.	Structural similitude and dimensional analysis. Strain measurement techniques. Introduction to photoelasticity. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 430.
Civil and Materials Engineering	CME	454	Structural Analysis and Design of Tall Buildings	3 OR 4 hours.	State-of-the-art introduction to structural analysis and design of tall buildings. Load impact on different structural systems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 401 or CME 409 or the equivalent, or consent of the instructor. Recommended background: Major structural analysis and design courses.
Civil and Materials Engineering	CME	460	Crystallography and X-Ray Diffraction	4 hours.	Fundamentals of crystallography. Theory of x-ray diffraction, experimental methods and applications. Prerequisite(s): CME 260.
Civil and Materials Engineering	CME	470	Physical and Mechanical Properties of Materials	4 hours.	Basic metallurgical phenomena; kinetics and phase stability; diffusion and transformation rates. Mechanical properties of materials; creep; fatigue and fracture. Prerequisite(s): CME 260.
Civil and Materials Engineering	CME	471	Thermodynamics of Materials	0 TO 4 hours.	Application of chemical and thermodynamic principles to processing and characterization of materials. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 260.
Civil and Materials Engineering	CME	480	Welding Metallurgy	4 hours.	Metallurgy of metals joining processes. Selection of processes and design of products manufactured by joining processes. Prerequisite(s): CME 260.
Civil and Materials Engineering	CME	493	Seminar	1 TO 3 hours.	Topics of mutual interest to a faculty and a group of students. Offered as announced in the Timetable.
Civil and Materials Engineering	CME	494	Special Topics in Civil Engineering, Mechanics, and Materials	1 TO 4 hours.	Subject matter varies from section to section and from semester to semester, depending on the specialities of the instructor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	496	Special Problems	1 TO 4 hours.	Special problems or reading by special arrangement with a faculty member. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	500	Design of Concrete Plate and Shell Structures	4 hours.	Practical design of reinforced concrete slabs, walls, and shells of single and double curvatures. Includes barrel roofs, domes, and storage tanks. Prerequisite(s): CME 310.
Civil and Materials Engineering	CME	501	Urban Transportation	4 hours.	Transportation technology, and its relation to travel and location phenomena in large urban areas, as a basis for planning, operating and design of multimodal transportation systems. Prerequisite(s): Grade of C or better or concurrent registration in CME 302; and MATH 210 and ECON 120. Recommended background: For transportation and urban planning majors.
Civil and Materials Engineering	CME	502	Bridge Design II	4 hours.	Theory and design procedures related to the analysis and design of modern bridges, using AASHTO code. Includes concrete and steel structures, construction practices and procedures. Prerequisite(s): CME 406.
Civil and Materials Engineering	CME	503	Advanced Transportation Demand Analysis	4 hours.	Advanced quantitative analysis and modeling of transportation demand for planning purposes. Disaggregate choice models, traveler behavior and values, activity-based and microsimulation approach to demand modeling. Extensive computer use required. Prerequisite(s): CME 508.

Civil and Materials Engineering	CME	505	Advanced Soil Mechanics	4 hours.	Soil structure, stresses in soil mass, fluid flow, consolidation, drained and undrained shear strength, stressstrain relations, laboratory determination of strength and compressibility of soils. Prerequisite(s): CME 315.
Civil and Materials Engineering	CME	506	Physical/Chemical Principles in Environmental Systems	4 hours.	Physical and chemical principles in natural and engineered environmental systems. Environmental process equilibria and rates. Reactor design and mass transfer in environmental systems. Multiphase environmental processes. Prerequisite(s): CME 216.
Civil and Materials Engineering	CME	507	Sustainable Transportation Systems	4 hours.	Transportation network analysis, mobile source emission modeling and life-cycle based transportation energy modeling. Prerequisite(s): Credit or concurrent registration in CME 501; and credit or concurrent registration in CME 508. Recommended Background: Transportation engineering, urban planning, and environmental engineering.
Civil and Materials Engineering	CME	508	Urban Travel Forecasting	4 hours.	Theory and method of forecasting travelers' choices of route, mode, destination, departure time, trip frequency and origin location in congested urban transportation networks. Prerequisite(s): CME 302 and MATH 210 and ECON 120.
Civil and Materials Engineering	CME	509	Transportation Networks	4 hours.	Application of constrained optimization methods to the analysis, planning and design of urban transportation networks. Prerequisite(s): CME 501 and ECON 501 and MATH 484 and CME 508.
Civil and Materials Engineering	CME	510	Advanced Design of Prestressed Concrete Structures	4 hours.	Analysis and design of indeterminate prestressed concrete members. Composite beams, torsion, deflections and design and detailing of connections, special topics such as anchorage zone design. Prerequisite(s): CME 410.
Civil and Materials Engineering	CME	516	Design of Landfills and Impoundments	4 hours.	Regulatory overview, site selection, waste characterization, design and construction of landfill and impoundment components, operations, performance monitoring, closure plans, long-term impacts and monitoring, economic analysis. Prerequisite(s): CME 315.
Civil and Materials Engineering	CME	518	Pollution Prevention Engineering	4 hours.	Pollution prevention concepts, planning and economics. Improved manufacturing operations and life cycle assessment. Design for the environment, resource conservation and sustainable development. Prerequisite(s): CME 216.
Civil and Materials Engineering	CME	520	Earthquake Engineering of Concrete Structures	4 hours.	Earthquake phenomena; response spectrum and design spectrum concepts; dynamic response of structures to earthquakes, methods of analysis; code approach to earthquake resistant design; alternative approaches. Prerequisite(s): CME 310.
Civil and Materials Engineering	CME	521	Environmental Microbiology	4 hours.	Microbial cell structure and function, applications of molecular biology in microbial ecology, biogeochemical cycles. Prerequisite(s): Credit or concurrent registration in CME 422; or consent of the instructor. Recommended background: A basic understanding of biology.
Civil and Materials Engineering	CME	523	Environmental Organic Chemistry	4 hours.	Properties and behavior of environmental organic pollutants. Theory and estimation techniques. Concepts of environmental fate assessment. Applications of fate models. Same as EOHS 543. Prerequisite(s): EOHS 440 or CME 411.
Civil and Materials Engineering	CME	524	Water Chemistry	4 hours.	Chemical equilibria and kinetic principles as applied to processes occurring in natural and engineered water systems. Same as EOHS 542. Prerequisite(s): EOHS 440 or CME 411.
Civil and Materials Engineering	CME	525	Applied Environmental Biotechnology	4 hours.	Advanced biological treatment processes for environmental restoration. Stoichiometry of biological reactions, kinetics, bioremediation, biochemical pathways for pollutant biodegradation, biological nutrient removal. Prerequisite(s): Credit or concurrent registration in CME 521; or consent of the instructor.
Civil and Materials Engineering	CME	526	Air Quality Management II	2 hours.	Air quality management: Integration of diverse aspects. Data interpretation; standards setting; policy implementation; equipment design; hazardous spill modeling; indoor air pollution; case studies. Same as EOHS 532. Prerequisite(s): EOHS 431 or CME 419.
Civil and Materials Engineering	CME	530	Theory of Elasticity II	4 hours.	Review of complex variable theory. Complex variable formulation of plane problems. Singularities and crack problems. Prerequisite(s): CME 430.
Civil and Materials Engineering	CME	531	Nonlinear Continuum Mechanics	4 hours.	Matrices and general tensors, isotropic tensor functions, representation theorem, kinematics, polar decompositions, Cauchy-Green tensors, Cauchy stress, Piola-Kirchoff stresses, constitutive laws, frame indifference, hyperelastic materials and universal solutions. Prerequisite(s): CME 430 or CME 431.
Civil and Materials Engineering	CME	533	Fracture Mechanics and Failure Analysis II	4 hours.	Thermodynamics of irreversible processes. Damage parameter. Eshelby tensor. Crack-damage interaction. Dynamic crack growth. Quasistatic crack propagation. Crack layer theory. Crack driving forces. Fractographic analysis. Prerequisite(s): CME 433.
Civil and Materials Engineering	CME	534	Finite Element Analysis II	4 hours.	Application of the finite element method to the analysis of complex continuum and structural linear systems. Introduction to error analysis and convergence of the finite element solutions. Same as ME 534. Prerequisite(s): CME 434.
Civil and Materials Engineering	CME	535	Theory of Vibrations II	4 hours.	Harmonic vibrations; vibrations of a string; vibrations of a beam; vibrations of a membrane; periodic systems; floquet waves; nonlinear vibrations. Same as ME 535. Prerequisite(s): CME 435 or ME 408 or the equivalent.
Civil and Materials Engineering	CME	536	Nondestructive Testing of Concrete	4 hours.	Strength and durability of concrete structures by nondestructive evaluation of the material through acoustic, magnetic, thermal, electrical, optical phenomena; nondestructive methodologies for evaluation of concrete structures. Prerequisite(s): CME 310.

Civil and Materials Engineering	CME	537	Plasticity I	4 hours.	Basic postulates of plasticity. Yield condition and associated flow rules. Isotropic and kinematic hardening rules. Bounding problems. Finite element applications. Slip line theory.
Civil and Materials Engineering	CME	539	Elastic Stability	4 hours.	Elastic stability of columns, beams, and frames. Limitations of elastic theory, plastic buckling. Eigenproblems and their numerical solution. Elastic stability analysis by the finite element method. Prerequisite(s): CME 432.
Civil and Materials Engineering	CME	540	Interdisciplinary Approaches to the Study of Integrated Human/Natural Landscapes	3 hours.	Examination of ecological, biogeochemical and evolutionary principles; techniques and philosophies of ecological remediation, restoration and conservation; environmental regulation and policy; sustainability in theory and practice. Same as EAES 540 and BIOS 540. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	541	Mechanics of Composite Materials	4 hours.	Anisotropic elastic materials; stress analysis for isotropic materials; Stroh formalism for anisotropic materials; singularities at free-edges; stress analysis in composites; wave propagation in composites. Prerequisite(s): CME 430 or equivalent.
Civil and Materials Engineering	CME	544	Structural Dynamics	4 hours.	Formulation and solution methods for time dependent systems. Pertinent numerical techniques and their application to seismic analysis, blast loading and heat transfer problems. Prerequisite(s): CME 434.
Civil and Materials Engineering	CME	546	Research Methods for Landscape Ecological and Anthropogenic Processes	4 hours.	Students will develop the skills to choose and utilize relevant methods and tools used in the study and management of altered natural landscapes to achieve research and management objectives through hands-on interdisciplinary laboratory modules. Same as BIOS 546 and EAES 546. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	547	Field Experiences in Landscape Ecological and Anthropogenic Processes	4 hours.	Evaluation of the issues and needs of various landscape restorations and related urban-impacted sites in the Chicago metropolitan area based upon selected readings, site visits and presentations and discussions with the site manager/coordinators. Same as BIOS 547 and EAES 547. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	548	Capstone Project in Landscape, Ecological and Anthropogenic Processes	4 hours.	Interdisciplinary capstone project course that explores a "real-world" environmental issue selected by the students and approved by the faculty. Students will conduct research and analysis collaboratively and develop solutions and recommendations. Same as CME 548 and EAES 548. Prerequisite(s): Grade of B or better in BIOS 540 or Grade of B or better in CME 540 or Grade of B or better in EAES 540 or Grade of B or better in UPP 555; and Grade of B or better in BIOS 546 or Grade of B or better in CME 546 or Grade of B or better in EAES 546 or Grade of B or better in UPP 555; and Grade of B or better in BIOS 547 or Grade of B or better in CME 547 or Grade of B or better in EAES 547 or Grade of B or better in UPP 555.
Civil and Materials Engineering	CME	549	Subsurface Flow and Contaminant Transport Modeling	4 hours.	Definitions, basic principles, fluid flow in vadose zone, groundwater flow, contaminant transport in vadose zone, contaminant transport in groundwater, numerical models and field implementation, case studies. Prerequisite(s): CME 415 or consent of the instructor.
Civil and Materials Engineering	CME	550	Dynamics of Floating Offshore Structures	4 hours.	Covers environmental loads and dynamics of floating structures in fluid. Same as ME 550. Prerequisite(s): ME 210 and CME 211 and ME 211 and MATH 220; or consent of the instructor.
Civil and Materials Engineering	CME	554	Nonlinear Finite Element Analysis	4 hours.	Nonlinear elastostatics, consistent linearization, Newton and modified-Newton methods, line search techniques, arc-length methods. Hyperelasticity, B-bar type methods. Finite deformation elastodynamics, semi-discretization, time-stepping algorithms. Prerequisite(s): CME 531 and CME 534; or consent of the instructor.
Civil and Materials Engineering	CME	567	Principles of Computational Transportation Science	4 hours.	Builds on the fundamentals of transportation science and emphasizes its high-level computational aspects. Topics covered include database design and theory, spatial and temporal information systems issues and travel modeling. Same as CS 567 and UPP 567. Prerequisite(s): Grade of B or better or concurrent registration in UPP 560. Open only to Ph.D. students; or consent of the instructor.
Civil and Materials Engineering	CME	568	Kinetics of Reactions and Phase Transformations in Metals	4 hours.	Nucleation and growth kinetics, order of transformation, grain growth recovery, recrystallization, solidification, phase transformation in solids, precipitation hardening, spinodal decomposition and martensitic transformations. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	570	Diffusion Phenomena in Materials	4 hours.	Diffusion mechanisms in crystals; Kirkendall effect; diffusion in ionic solids; diffusion in gases and liquids; diffusion through porous media; kinetics of diffusion controlled processes.
Civil and Materials Engineering	CME	572	Advanced Thermodynamics of Materials	4 hours.	Treatment of multicomponent system thermodynamics with emphasis on metallurgical process applications. Development of relation between structure of metallic solutions, molten salts, and quasi-chemical models.
Civil and Materials Engineering	CME	580	Infrastructure Management	4 hours.	Integrated approach to the management of infrastructure systems: design, construction, operations, maintenance and rehabilitation of facilities. Performance of facilities, approaches to management, and available tools and developing technologies. Same as UPP 569. Prerequisite(s): IE 201 or the equivalent or consent of instructor. Recommended background: Familiarity with computer spreadsheets.
Civil and	CME	581	Vadose Zone	4 hours.	Soil physics and biochemical processes. Flow and contaminants transport in Vadose Zone.

Materials Engineering			Hydrology		Theory of Soil Water Movement. Prerequisite(s): CME 311; and graduate standing; or consent of the instructor.
Civil and Materials Engineering	CME	582	Lake and Watershed Management	4 hours.	Lake and watershed processes influencing water quality, diffuse pollution, integrated management and sustainable development of Lotic and Lentic water resources, watershed restoration. Prerequisite(s): CME 311; and graduate or professional standing; or consent of the instructor.
Civil and Materials Engineering	CME	594	Advanced Special Topics in Civil Engineering, Mechanics and Materials	1 TO 4 hours.	Subject matter varies from section to section and from semester to semester, depending on the specialities of the instructor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing and consent of the instructor.
Civil and Materials Engineering	CME	596	Independent Study	1 TO 4 hours.	Special problems of reading by special arrangement with a faculty member. Prerequisite(s): Consent of the instructor.
Civil and Materials Engineering	CME	598	Master's Thesis Research	0 TO 16 hours.	M.S. thesis work under the supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.
Civil and Materials Engineering	CME	599	Ph.D. Thesis Research	0 TO 16 hours.	Ph.D. thesis work under the supervision of an advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.

Classics - CL

Classics	CL	401	Topics in Greek History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 401. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of history or classics.
Classics	CL	402	Topics in Roman History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 402. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or classics.
Classics	CL	404	Roman Law and the Civil Law Tradition	3 OR 4 hours.	Roman law and its relationship to values and social structure; social analysis through law; continental law tradition. Same as CLJ 404, and HIST 404. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 200 or CL 203 or HIST 203 or consent of the instructor.
Classics	CL	405	Herodotus and His World	3 OR 4 hours.	Examines the Histories of Herodotus - both the text and the culture of Classical Greece compared to the Near East and Egypt. Course information: Same as HIST 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Sophomore standing or above.
Classics	CL	498	Special Topics in Classical Civilization	3 OR 4 hours.	Advanced study of topics in classical civilization. Sample topic: Augustus and his image. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. All readings are in English. Prerequisite(s): Two classics courses at the 200-level.
Classics	CL	499	Advanced Independent Study	3 OR 4 hours.	Advanced independent study under faculty direction. Reading and papers on chosen topics for qualified students based on preparation and interest. Students must consult with faculty. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the faculty member and department.

Committee on Institutional Cooperation - CIC

Committee on Institutional Cooperation	CIC	500	Committee on Institutional Cooperation	0 TO 16 hours.	Holding course for UIC doctoral students taking approved coursework at other institutions through the CIC Traveling Scholar Program. May be repeated. Students may register in more than one section per term. Prerequisite(s): Admission to a doctoral program and approval of the Graduate College.

Communication - COMM

Communication	COMM	404	Discourse Analysis	3 OR 4 hours.	Nonverbal aspects of communication; rules of communication; speech acts; conversational coherences; acts and sequences in communication; marital communication patterns. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 304 or COMM 315 or COMM 416 or approval of the department.
Communication	COMM	416	Conflict and Communication	3 OR 4 hours.	Students learn to manage and resolve conflict in business, governmental, and community settings. Practical analysis of interpersonal and group conflict cases. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 312 and COMM 313 and COMM 315; or approval of the department.
Communication	COMM	423	Discourse and Rhetoric	3 OR 4 hours.	Exploration of interconnections between language and social practices with attention to multiple components of discursive situations: senders, receivers, context, code, media, and content. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 101 and COMM 102 and COMM 201; or approval of the department.
Communication	COMM	430	Media, Information and Society	3 OR 4 hours.	News as a distinct form of mass communication, involving social functions and significant questions about facts, truth, knowledge and values. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 103 and COMM 200; or Comm 300; or approval of the department.
Communication	COMM	434	Global Communication Systems	3 OR 4 hours.	Structure and flow of international communication. Media organization systems. International impact of new media and information technology. Impact of U.S. media reporting on foreign affairs. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Approval of the department.
Communication	COMM	454	Cognitive Psychology of Language	3 hours.	Provides students with a survey of methods, theory and research in language and discourse processing. Same as LING 474, and PSCH 454. Prerequisite(s): Graduate standing or consent of the instructor.
Communication	COMM	456	Topics in the History of Communications	3 OR 4 hours.	This course introduces students to major developments in the history of communications, with a focus on the political and cultural dimension of technologies. Same as HIST 456. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor. Recommended background: At least one history course at the 100 level.
Communication	COMM	458	Minorities and Communication	3 OR 4 hours.	Description and analysis of the processes through which ethnic and racial perceptions shape public discourse. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Two communication courses at the 300-level; or approval of the department.
Communication	COMM	460	Visual Communication	3 OR 4 hours.	Exploration of processes through which meaning is derived from verbal and visual roles of media images in the cultural circuit. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Two communication courses at the 300-level; or approval of the department.
Communication	COMM	467	Public Opinion and Political Communication	3 OR 4 hours.	Nature of public opinion and political communication systems. Patterns of opinion distribution and its measurement. Forces shaping public opinion and its impact on public policy. Same as POLS 467. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 200 or the equivalent or consent of the instructor.
Communication	COMM	473	Organizations and Their Publics	3 OR 4 hours.	History of relevant theories and models; problem solving: analyzing goals, identifying publics, setting objectives, designing messages, choosing channels, planning implementation (budgeting, staffing, timetables), evaluating effects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 201 and COMM 306; or approval of the department.
Communication	COMM	474	Internship	1 TO 8 hours.	Students work in an approved professional setting. Individual projects developed through conferences with a faculty member and a field supervisor. May be repeated. Students may register in more than one section per term. A maximum of three hours may be counted toward the undergraduate communication major requirements. May not be counted toward the minimum Master of Arts degree requirements. Prerequisite(s): 12 hours of upper-division courses in communication, with a 3.00 grade point average in those courses; recommendation of two faculty members and approval of the department obtained in the semester prior to internship.
Communication	COMM	490	Seminar in Culture and Communication	3 hours.	Analysis of contrastive cultural paradigms (interethnic, gender, class) to develop student's awareness of own socialization and cultural orientation. Prerequisite(s): COMM 301 plus any other 300-level Communication course, or approval of department.
Communication	COMM	491	Seminar in Media and Communication	3 hours.	Analysis of contemporary or historical issues in mediated communication. Prerequisite(s): COMM 301 plus any other 300-level Communication course, or approval of Department.
Communication	COMM	494	Special Topics in Communication	3 OR 4 hours.	Contemporary trends in the field of communication. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): COMM 200 and COMM 201 and consent of the instructor; or approval of the department.
Communication	COMM	498	Independent Study	1 TO 4 hours.	Individual investigation of special problems (student-initiated or related to faculty research). May be used for special projects, such as interdisciplinary seminars. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. A maximum of 3 hours of credit may be applied toward the Major in Communication. Credit earned may not be applied toward the minimum Master of Arts in Communication degree requirements. Prerequisite(s): Senior standing and approval of the department.
Communication	COMM	500	Introduction to Communication	4 hours.	History of the field, research traditions, communication viewed as social science; forming research questions, reviewing and critiquing literature, formulating hypotheses and rationale,

			Research		conceptually defining variables. Prerequisite(s): Consent of the instructor or graduate standing in communication.
Communication	COMM	501	Operationalizing Communication Research	4 hours.	Levels of measurement; operational definitions; sampling qualitative and quantitative designs; coding and analysis of data; statistics; pilot testing and instrument/design revision; writing research reports. Prerequisite(s): COMM 500.
Communication	COMM	502	Seminar in Media Studies	4 hours.	In-depth, intensive examination of theories, perspectives, and approaches to media studies. Prerequisite(s): COMM 500; or consent of the instructor.
Communication	COMM	503	Seminar in Intercultural Communication	4 hours.	Introduction to basic theoretical concepts and important issues in intercultural communication. Prerequisite(s): COMM 500; or consent of the instructor.
Communication	COMM	504	Communication, Technology, and Society Proseminar	4 hours.	Introduction to philosophy and history of communication technologies. The social impact of communication technology.
Communication	COMM	505	Organizational Communication	4 hours.	Classic and current research. Models that examine organizational communication; assessment of organizational problems and conduct of problem-solving research. Prerequisite(s): COMM 306 and COMM 500; or consent of the instructor.
Communication	COMM	506	Cross-Cultural Communication	4 hours.	Analysis of different theoretical approaches to cross-cultural communication (sociolinguistic, attributional); contrastive analysis of Western and non-Western cultural systems (interactional etiquette, discourse rules). Same as LING 506.
Communication	COMM	508	New Media of Communication	4 hours.	Theories, history and philosophy of the new media of communication. Social diffusion and consequences of new media technologies. Assessment and evaluation of the social impact of new media. Prerequisite(s): COMM 504.
Communication	COMM	525	Approaches to Rhetorical Criticism	4 hours.	Contemporary approaches to rhetorical criticism. Each offering focuses upon the distinctive contributions of specified rhetoricians to the theory and practice of rhetorical criticism. May be repeated to a maximum of 12 hours. Prerequisite(s): COMM 410.
Communication	COMM	534	Mass Communication Theory	4 hours.	Introduction to major theories of mass communication: their social history and substantive claims; distinction between mass mediated and other forms of communication, implications of distinction.
Communication	COMM	567	Topics in Political Communication	4 hours.	Intensive study of selected aspects; organizational communication in public institutions, urban political communication patterns, communication elites. Independent research using a variety of community research techniques. Same as PA 567 and POLS 567. Prerequisite(s): Consent of the instructor.
Communication	COMM	570	Seminar in Philosophy of Technology	4 hours.	Conceptual approaches to technology, with special emphasis on communication technologies. Emphasis on the application of values, beliefs, and thoughts related to the interplay of technology and society. Prerequisite(s): COMM 504.
Communication	COMM	580	Qualitative Methods in Communication	4 hours.	Qualitative methods course analyzing language and culture patterns. Same as LING 582. Prerequisite(s): COMM 501 or consent of the instructor.
Communication	COMM	591	Health Communication	4 hours.	Focusing on interpersonal, organizational and public contexts, seminar participants will review current literature in health communication, and apply selected communication concepts to healthrelated situations. Prerequisite(s): Graduate standing in communication, or enrollment in a health professions school or college, or consent of the instructor.
Communication	COMM	594	Advanced Special Topics in Communication	1 TO 4 hours.	Student may register for more than one section per term. Advanced topics in communication theory and research. Subject matter varies. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Communication	COMM	596	Independent Research	1 TO 4 hours.	Department approved research projects not included in thesis research. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the head of the department.
Communication	COMM	598	Thesis Research	0 TO 16 hours.	Under guidance of an advisor and committee the student develops and conducts a research project addressing a communication problem of a basic or applied nature. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): COMM 501.
Communication	COMM	599	Dissertation Research	0 TO 16 hours.	Under guidance of an advisor and committee, the student conducts research on the topic of the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register for more than one section per term. Prerequisite(s): Consent of the instructor.

Community Health Sciences - CHSC

Community Health Sciences	CHSC	400	Public Health Concepts and Practice	3 hours.	Introduction and overview of public health systems, including the philosophy, purpose, history, organization, functions, tools, activities, and results of public health practice. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	401	Behavioral Sciences in Public Health	3 hours.	Provides grounding in the social and behavioral sciences to analyze public health issues, including individual, community, institutional, and societal factors influencing health and illness. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	405	Leadership in Public Health Practice	3 hours.	Utilizing public health core functions, this course explores leadership style and practice through case studies and techniques which enhance leadership development. Same as HPA 405. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	411	Nutrition for Public Health Professionals	3 hours.	Foundation course to introduce nutrition principles and their application to public health populations and problems. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	419	Public Health Aspects of Sexuality and Women's Health	3 hours.	An overview of human sexuality from a public health perspective with special emphasis on family planning, sexuality and behavioral effects on women's health. Same as GWS 419. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	425	Public Health and Aging	3 hours.	Introduction to public health issues related to aging, including psychosocial and physical dimensions of the aging process and interactions between the elderly and the health care system. Graduate or professional standing; or consent of the instructor.
Community Health Sciences	CHSC	430	Public Health Policy and Advocacy	3 hours.	Frameworks and tools for understanding, developing and analyzing public health policy issues and processes. Credit is not given for CHSC 430 if the student has credit for HPA 430. Prerequisite(s): CHSC 400; and graduate or professional standing; or approval of the department. MPH and Certificate students in Community Health Sciences will have priority in registration.
Community Health Sciences	CHSC	431	Community Assessment in Public Health	3 hours.	An introduction to community assessment in support of community health improvement activities, including: concepts methods and models of community health assessment and improvement. Prerequisite(s): Credit or concurrent registration in CHSC 400; and graduate or professional standing; or approval of the department. MPH and Certificate students in Community Health Sciences will have priority in registration.
Community Health Sciences	CHSC	433	Public Health Planning and Evaluation	3 hours.	Planning, implementation and evaluation of community health programs, including proposal development and evaluation and considerations for community/consumer involvement throughout the process. Prerequisite(s): Credit or concurrent registration in BSTT 400 and Credit or concurrent registration in CHSC 431 and Credit or concurrent registration in CHSC 480; and graduate or professional standing; or approval of the department. MPH and Certificate students in Community Health Sciences will have priority in registration.
Community Health Sciences	CHSC	434	Introduction to Qualitative Methods in Public Health	3 hours.	Introduction to the major methods and techniques used in qualitative research (observation, participant observation, in-depth interviews); includes field and in-class exercises, and introduces computer-assisted qualitative data analysis. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	446	Research Methods in Community Health	3 hours.	Introduction to principles and techniques for scientific investigation of problems in public health research and practice. Prerequisite(s): Credit or concurrent registration in BSTT 400; and graduate or professional standing; or approval of the department. MPH and Certificate students in Community Health Sciences will have priority in registration.
Community Health Sciences	CHSC	447	Survey Planning and Design	3 hours.	Theory and applications of sample survey planning and design for conducting research in health sciences and related fields. Addresses three major topics: survey design and planning, sampling, and data collection procedures. Same as PA 447. Prerequisite(s): Graduate or professional standing and BSTT 400 and CHSC 446; or approval of the department.Recommended background: Credit in CHSC 446 or the equivalent.
Community Health Sciences	CHSC	456	Women's Health: A Primary Health Care Approach	3 hours.	Health promotion and disease prevention in women's health. Includes community experience with community women. Primary health care approaches examined. Same as NUEL 456. Prerequisite(s): Consent of the instructor.
Community Health Sciences	CHSC	464	Survey of Developmental Disabilities	3 hours.	Survey of the developmental disabilities field, including basic definitions, history of DD services, relevant public policies and legislation, service delivery systems, and research. Same as DHD 464. Prerequisite(s): Graduate standing or consent of the instructor.
Community Health Sciences	CHSC	470	Introduction to Rural Health Systems and Policy	3 hours.	Introductory survey course focusing on rural health systems and rural health policy from an interdisciplinary perspective. Prerequisite(s): Credit or concurrent registration in CHSC 400; and Credit or concurrent registration in EPID 403 or Credit or concurrent registration in EPID 400. Recommended Background: Experience or interest in rural public health practice.
Community Health Sciences	CHSC	480	Health Education and Health Promotion	3 hours.	Application of theories of health education and health promotion for individual, group, and community-level behavior change. Prerequisite(s): Credit or concurrent registration in CHSC 401; and graduate or professional standing; or approval of the department. MPH and Certificate students in Community Health Sciences will have priority in registration. Recommended background: For CHSC students, CHSC 401 is recommended as a prerequisite.
Community Health	CHSC	485	Communications, Mass Media and	3 hours.	Examines the development, theoretical basis, and applications of mass media strategies in public health. Prerequisite(s): Graduate or professional standing; or approval of the department.

Sciences			Public Health		
Community Health Sciences	CHSC	494	Special Topics in Community Health Sciences	1 TO 4 hours.	Study of topics in maternal and child health, gerontology, behavioral science of health and illness, international health, community health and public health practice. May be repeated. Students may register in more than one section per term. Topics vary by semester. Prerequisite(s): Consent of the instructor. Restricted to graduate or professional standing, or consent of the instructor.
Community Health Sciences	CHSC	500	Proseminar in Community Health Sciences	3 hours.	Analysis of current key literature from behavioral sciences, maternal and child health, gerontology, general and miscellaneous fields of community health sciences. Prerequisite(s): CHSC 400 and 8 semester hours in student's major field.
Community Health Sciences	CHSC	510	Women's, Children's, and Family Health: Outcomes and Measurement	3 hours.	Introduces key theoretical frameworks, measurement tools, and relevant datasets needed to understand and describe the health status of women, children, and families at the individual and population/community level. Prerequisite(s): Graduate or professional standing; or approval of the department. Recommended background: Enrollment in the Master of Public Health or other graduate program.
Community Health Sciences	CHSC	511	MCH Delivery Systems: Services, Programs, and Policies	3 hours.	Overview of structure, funding, and evidence base for maternal and child health (MCH) service delivery systems at the federal, state and local levels. Prerequisite(s): CHSC 400 and CHSC 510; and graduate or professional standing; or approval of the department. Recommended background: Enrollment in the Master of Public Health or other graduate program.
Community Health Sciences	CHSC	512	Best Practices in Maternal and Child Health Programs	3 hours.	Using a life span approach within an ecological framework, examines best practices in maternal and child health (MCH) in terms of underlying theories, program and policy implementation, evaluation, and advocacy. Prerequisite(s): CHSC 510 and CHSC 511 and CHSC 543; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	514	Nutritional Epidemiology	3 hours.	Examination of nutritional epidemiological techniques used in the design of population-based nutrition research. Students develop research proposals using nutritional assessment, epidemiology and research skills. Prerequisite(s): CHSC 411 and EPID 403; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	518	The Epidemiology of Pediatric Diseases	3 hours.	Provides students with experience in pediatric epi through review of seminal studies and available child health data. Condition-specific lectures include discussions of study design and methodological considerations specific to studying children. Same as EPID 518. Extensive computer use required. Prerequisite(s): EPID 404 and EPID 406 and BSTT 401; and graduate or professional standing; or consent of the instructor. Recommended background:
Community Health Sciences	CHSC	526	Family Perspectives on Disability	3 hours.	Examines trends, theories and research methods, policies, and family centered intervention approaches for families of persons with disabilities. Same as DHD 526. Prerequisite(s): Consent of the instructor.
Community Health Sciences	CHSC	527	Critical Issues in Long Term Care Policy	3 hours.	Examines the policy process and policy implications affecting the organization, financing, delivery, and utilization of long-term care services. Same as HPA 527. Prerequisite(s): Credit or concurrent registration in CHSC 400 and Credit or concurrent registration in CHSC 425; and graduate or professional standing; or consent of the instructor.
Community Health Sciences	CHSC	528	Societal Analysis of Aging, Health and the Life Course	3 hours.	Analysis of health, aging and health care issues from life course perspectives, including the application of concepts, theories and methods from both sociology and public health. Same as SOC 528. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	529	Gerontological Health/Illness Behavior	3 hours.	Overview of perceptions and behaviors of older adults are examined in reference to illness prevention, health promotion and reactions to acute and chronic illness. Prerequisite(s): CHSC 425; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	534	Management and Analysis of Qualitative Data	3 hours.	Emphasizes conceptual and technical skills for organizing and analyzing qualitative (textual) data from focus groups, in-depth interviews and other sources, using specialized text-analysis computer software. Extensive computer use required. Fieldwork required. Prerequisite(s): CHSC 434; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	543	MCH Policy and Advocacy	3 hours.	Examines the social, economic and political dynamics which influence the development and implementation of maternal and child health (MCH) policy and US health policy in general. Prerequisite(s): Credit or concurrent registration in CHSC 510 and Credit or concurrent registration in CHSC 511; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	544	Public Health Aspects of Adolescence and Youth	3 hours.	Overview of critical health and developmental issues impacting adolescents, including youth participation in health initiatives. Crosscutting perspectives of social identity, gender, culture and social class are emphasized. Same as SOCW 546. Prerequisite(s): CHSC 446; and graduate or professional standing; or approval of the department. Recommended background: Research, policy and/or practice and interest in adolescence and in community development and intervention studies; ethnic/minority studies; education; health and social/human service professions.
Community Health Sciences	CHSC	545	Reproductive and Perinatal Health	3 hours.	Examines the epidemiology of key reproductive and perinatal health outcomes and cutting edge research issues. Same as EPID 545. Prerequisite(s): BSTT 400 and EPID 403; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	547	Public Health Approaches to Maternal and Child Nutrition	2 hours.	Advanced seminar course integrating roles and applications of nutrition for maternal and child populations. Prerequisite(s): CHSC 411 or CHSC 510; and graduate or professional standing; or approval of the department.

Community Health Sciences	CHSC	548	Readings in Reproductive and Perinatal Epidemiology	3 hours.	Advanced seminar in reproductive/perinatal epidemiology with particular emphasis on methodological issues. Same as EPID 548. Prerequisite(s): CHSC 510 and EPID 403 and EPID 404; and graduate or professional standing; or approval of the department. Recommended background: Maternal and child health and epidemiology.
Community Health Sciences	CHSC	549	Advanced Applied Methods in MCH Epidemiology	3 hours.	Gives conceptual and technical understanding of statistical and epidemiological methods, builds skills/proficiency in applying these. Attention is given to data handling tasks and to statistical/epidemiologic strategies for analysis and presentation. Same as EPID 549. Prerequisite(s): EPID 402 or EPID 404; and BSTT 401 and EPID 406; or consent of the instructor. Recommended background: Credit or concurrent registration in EPID 501.
Community Health Sciences	CHSC	550	Advanced Concepts in Community Health Sciences	3 hours.	Examines health from diverse perspectives and analyzes processes central to community health practice. Prerequisite(s): Open only to Ph.D. degree students; or approval of the department.
Community Health Sciences	CHSC	551	Foundations of Public Health Inquiry	3 hours.	Examines research paradigms, precepts of theory development, literature synthesis, and ethical principles in order to enhance the scholarliness and meaningfulness of public health inquiry. Prerequisite(s): Open only to Ph.D. degree students; or approval of the department.
Community Health Sciences	CHSC	553	Family Planning: Policies and Practices	2 hours.	Overview and analysis of family planning concepts, including contraceptive and abortion methods, and the policies that affect their implementation. Prerequisite(s): CHSC 400 and EPID 403 and BSTT 400; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	554	International Women's Health: Current and Emerging Issues	3 hours.	Examines current and emerging women's health issues globally with an emphasis on studying social and cultural factors affecting women's physical and psychosocial health. Prerequisite(s): Graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	563	Neighborhoods and Health	3 hours.	This interdisciplinary seminar explores theories and empirical evidence regarding the mechanisms by which neighborhoods affect health and contribute to health disparities. Same as NUEL 563. Prerequisite(s): Graduate or professional standing and an introductory graduate-level statistics course.
Community Health Sciences	CHSC	564	Community Integration in Developmental Disabiities	3 hours.	Historical and contemporary issues pertaining to the empowerment and integration of persons with developmental disabilities into community settings. Same as DHD 564, and DIS 564.
Community Health Sciences	CHSC	577	Survey Questionnaire Design	3 hours.	Concepts and strategies for developing survey questionnaires for various modes of survey data collection. Same as PA 577. Prerequisite(s): Graduate or professional standing and CHSC 446 or CHSC 447; or approval of the department.
Community Health Sciences	CHSC	584	Community Organizing for Health	3 hours.	Focuses on facilitating community organizing processes in health promotion including theories, field work tools, feminist and international perspectives. Field work required. Prerequisite(s): CHSC 480; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	586	Health Behavior Interventions	3 hours.	Examines advanced concepts and strategies for the development, implementation, and evaluation of public health interventions to change health behaviors. Prerequisite(s): CHSC 480 and credit or concurrent registration in CHSC 446; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	587	Theories of Health Behavior	3 hours.	An advanced course in theories of health behavior with an emphasis on integrative applications of health behavior theories to specific populations, settings, and areas of health. Prerequisite(s): CHSC 480; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	588	Research Synthesis and Meta-Analysis	3 hours.	Examines recent developments in research synthesis in the behavioral, social, and medical sciences. Prerequisite(s): CHSC 480 and CHSC 446; and graduate or professional standing; or approval of the department.
Community Health Sciences	CHSC	594	Advanced Special Topics in Community Health Sciences	1 TO 4 hours.	Advanced study of topics in community health, including maternal and child health, gerontology, behavioral science of health and illness, international health, community health, and public health practice. May be repeated. Students may register in more than one section per term. Topics vary by semester. Prerequisite(s): Graduate or professional standing; or approval of the department. Recommended background: Advanced placement in graduate program.
Community Health Sciences	CHSC	595	Seminar in Community Health Sciences	1 TO 3 hours.	Seminar course addressing contemporary issues in community health sciences research and approaches to professional development. Satisfactory/Unsatisfactory grading only. May be repeated. Topics vary by seminar. Prerequisite(s): Graduate or professional standing; or approval of the department. Recommended background: Advanced placement in graduate program.

Computer Science - CS

Computer Science	CS	401	Computer Algorithms I	3 OR 4 hours.	Design and analysis of computer algorithms. Divide-and-conquer, dynamic programming, greedy method, backtracking. Algorithms for sorting, searching, graph computations, pattern matching, NP-complete problems. Same as MCS 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 360; or Grade of C or better in CS 202.
Computer Science	CS	411	Artificial Intelligence I	3 OR 4 hours.	Problem representation; rule-based problem-solving methods; heuristic search techniques. Application to expert systems, theorem proving, language understanding. Individual projects. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 484. Prerequisite(s): CS 202.
Computer Science	CS	415	Computer Vision I	3 OR 4 hours.	Computer vision system design. Segmentation and representation of regions and boundaries; image filtering; object recognition; advanced topics (examples: texture, stereo, color); applications. Programming assignments. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 487. Prerequisite(s): CS 202 or MCS 360; or consent of the instructor.
Computer Science	CS	421	Natural Language Processing	3 OR 4 hours.	Design of natural language processing systems; part-of speech tagging, statistical and symbolic parsers; semantic interpretation; discourse and dialogue processing; natural language generation; applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 301 or MCS 441.
Computer Science	CS	422	User Interface Design and Programming	3 OR 4 hours.	User interface design, implementation, and evaluation: user-centered design methodologies, windowing systems, I/O devices and techniques, event-loop programming, user studies. Programming projects. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 478. Prerequisite(s): CS 340.
Computer Science	CS	424	Visualization and Visual Analytics	3 OR 4 hours.	Geospatial visualization, scientific visualization, medical visualization, information visualization, and social network visualization, interaction, data analysis, human factors, dynamic data, privacy, uncertainty, data transforms. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CS 201 or graduate standing; or consent of the instructor.
Computer Science	CS	426	Video Game Design and Development	3 OR 4 hours.	Theory and practice of video game design and programming. Students will form interdisciplinary teams, to design, build and demonstrate video games or related interactive simulation environments. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 107 and CS 201 and CS 488; or consent of the instructor.
Computer Science	CS	440	Software Engineering I	3 OR 4 hours.	Software life-cycle model, requirement specification techniques, large-scale software design techniques and tools, implementation issues, testing and debugging techniques, software maintenance. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 470. Prerequisite(s): CS 340.
Computer Science	CS	441	Distributed Object Programming Using Middleware	3 OR 4 hours.	Design and implementation of distributed object programs using middleware software standards; interface definition languages and programming language mappings; static and dynamic object communication mechanisms. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CS 340 and CS 385.
Computer Science	CS	442	Software Engineering II	3 OR 4 hours.	Advanced concepts in software development: requirements engineering, cost estimation, risk analysis, extreme programming, regression test case selection, and design patterns. Software lab assignments required. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CS 440.
Computer Science	CS	450	Introduction to Networking	3 OR 4 hours.	Network protocols, algorithms, and software issues. Topics include the Open Systems Interconnect model, data link, network and transport layers, TCP/IP, ATM, mobile networks. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 433. Credit is not given for CS 450 if the student has credit for ECE 433. Prerequisite(s): CS 202 and CS 385; and STAT 381 or STAT 401 or IE 342.
Computer Science	CS	455	Design and Implementation of Network Protocols	3 OR 4 hours.	Network protocols and their software, Examines OS network interface through network layers. Topics include routing, congestion control, fault tolerance, security, name servers, multicast, and performance. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 340 and CS 450.
Computer Science	CS	466	Advanced Computer Architecture	3 OR 4 hours.	Design and analysis of high performance uniprocessors. Topics include arithmetic: multiplication, division, shifting; processor: pipelining, multiple function units. instruction sets; memory: caches, modules; virtual machines. Same as ECE 466. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 366 or CS 366.
Computer Science	CS	469	Computer Systems Design	3 OR 4 hours.	Analysis and modeling of digital systems; hardware description languages; CAD tools for simulation, synthesis, and verification of computer systems. Project: a simple processor design. 3 undergraduate hours. 4 graduate hours. Same as ECE 469. Prerequisite(s): CS 366; or ECE 366 and ECE 368.
Computer Science	CS	473	Compiler Design	3 OR 4 hours.	Language translation: lexical analysis, parsing schemes, symbol table management, syntax and semantic error detection, and code generation. Development of fully-functional compiler. Same as MCS 411. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CS 301 or grade of C or better in MCS 441; and grade of C or better in CS 202 or grade of C or better in MCS 360; and grade of C or better in CS 266.
Computer Science	CS	474	Object-Oriented Languages and Environments	3 OR 4 hours.	Data abstraction, classes and objects, messages and methods, polymorphism and dynamic binding, inheritance. Object-oriented design. Pure and hybrid object-oriented languages. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 474. Prerequisite(s): CS 340.
Computer Science	CS	475	Object-Oriented Programming	3 OR 4 hours.	OO Paradigm: classes, messages, methods, variables, inheritance, polymorphism; the C++ and Java languages; programming labs required. 3 undergraduate hours. 4 graduate hours. Credit is

					not given for CS 475 if the student has credit for CS 340 or CS 474. Extensive computer use required. Prerequisite(s): CS 202; and consent of the instructor.
Computer Science	CS	476	Programming Language Design	3 OR 4 hours.	Definition, design, and implementation of programming languages. Syntactic and semantic description; variable bindings, control and data structures, parsing, code generation, optimization; exception handling; data abstraction. Same as MCS 415. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 476. Prerequisite(s): MCS 360 or CS 340.
Computer Science	CS	480	Database Systems	3 OR 4 hours.	Database design, logical design, physical design. Relational databases. Recovery, concurrency control. Normalization. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 480. Prerequisite(s): CS 202.
Computer Science	CS	485	Networked Operating Systems Programming	4 OR 5 hours.	Concepts, design, and programming of multi-process and distributed systems; inter-process communications; fault tolerance; distributed programming semantics. Programming assignments and project required. 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 471. Prerequisite(s): CS 385.
Computer Science	CS	487	Building Secure Computer Systems	3 OR 4 hours.	Building and programming secure systems; protecting systems from threats and reduction of vulnerabilities; Includes application, host and network security. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Grade of C or better in CS 385; and senior standing or above; or consent of the instructor.
Computer Science	CS	488	Computer Graphics I	0 TO 4 hours.	Principles of interactive computer graphics. Raster and vector display, techniques and hardware considerations. Introduction to two-dimensional and three dimensional rendering. Laboratory. Same as AD 488. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 488. Prerequisite(s): Credit or concurrent registration in CS 340.
Computer Science	CS	491	Seminar	1 TO 4 hours.	Topics of mutual interest to a faculty member and a group of students. Offered as announced by department bulletin or the Timetable. May be repeated. Previously listed as EECS 491. Prerequisite(s): Consent of the instructor.
Computer Science	CS	493	Special Problems	2 TO 4 hours.	Special problems or reading by special arrangement with the faculty. Previously listed as EECS 493. No graduate credit for Computer Science majors. Prerequisite(s): Consent of the instructor.
Computer Science	CS	499	Professional Development Seminar	0 hours.	Graduating seniors will be provided with information regarding future career paths and will provide information regarding the program to be used for assessment purposes. Students take the CS Major Field Exam as part of this course. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to seniors; and approval of the department. Must be taken in the student's last semester of study.
Computer Science	CS	501	Computer Algorithms II	4 hours.	Continuation of MCS 401 (same as CS 401). Advanced topics in algorithms. Lower bounds. Union-find problems. Fast Fourier transform. Complexity of arithmetic, polynomial, and matrix calculations. Approximation algorithms. Parallel algorithms. Same as MCS 501. Prerequisite(s): MCS 401 or CS 401.
Computer Science	CS	502	Design and Analysis of Efficient Algorithms in Computational Molecular Biology	4 hours.	Design and analysis of efficient algorithms for computational problems in molecular biology such as genome sequencing and construction of evolutionary trees. Prerequisite(s): Grade of B or better in CS 401; or consent of the instructor. Recommended background: CS 501 and some exposure to basic chemistry and biology.
Computer Science	CS	503	Applied Graph Theory	4 hours.	Paths, circuits, trees, cutsets, planarity, duarity, matrices and vector space of graphs, directed graphs, coloring, covering, matching and applications to switching networks and computer science. Previously listed as EECS 563. Prerequisite(s): Consent of the instructor.
Computer Science	CS	505	Computability and Complexity Theory	4 hours.	Turing machines, undecidability, Rice's theorem, recursively enumerable sets, complexity theory, hierarchy theorems, alternation, parallel complexity classes, complete problems. Previously listed as EECS 561. Prerequisite(s): CS 301.
Computer Science	CS	511	Artificial Intelligence II	4 hours.	Predicate logic and resolution strategies, reasoning under uncertainty, incomplete information reasoning, state and change, planning, temporal reasoning knowledge representation, learning, advanced search techniques and current topics. Previously listed as EECS 584. Prerequisite(s): CS 411.
Computer Science	CS	514	Expert Systems	4 hours.	Anatomy of expert systems, types of expert systems, architecture of an expert system, expert system tools, building an expert system; expert systems in the marketplace. Previously listed as EECS 585. Prerequisite(s): CS 411.
Computer Science	CS	515	Advanced Computer Vision	4 hours.	Analysis of 3-D scene images. Shape from shading, texture, line drawings, and surface orientation. Surface representation methods and reconstruction of 3-D scenes. Design of knowledge-based vision systems and 3-D applications. Previously listed as EECS 587. Prerequisite(s): CS 415.
Computer Science	CS	521	Statistical Natural Language Processing	4 hours.	Statistical techniques for Natural Language Processing, including maximum likelihood estimation, Hidden Markov Models, and probabilistic grammars; and their applications, including parsing, semantic inference, dialogue processing and summarization. Prerequisite(s): CS 421; or consent of the instructor.
Computer Science	CS	522	Human-Computer Interaction	4 hours.	The computer-user interface: media, languages, interaction techniques, user modeling. Human factors in software development. Theory, experimental methods, evaluation, tools. Project required. Previously listed as EECS 578. Prerequisite(s): CS 422.
Computer Science	CS	523	Multi-Media Systems	4 hours.	Principles of multi-media interface design for computer applications. Multi-disciplinary approaches to integrating text, still images, animation, and sound into human-computer interfaces. Previously

					listed as EECS 579. Prerequisite(s): CS 422; or consent of the instructor.
Computer Science	CS	524	Visualization and Visual Analytics II	4 hours.	Current topics in scientific visualization, medical visualization, information visualization, volume rendering, isosurfaces. Extensive computer use required. Prerequisite(s): CS 424 or CS 488; and graduate standing; or consent of the instructor.
Computer Science	CS	525	Advanced Graphics Processor Programming	4 hours.	Graphics Processing Unit (GPU) Programming languages, vertex shaders, fragment shaders, general purpose computing on GPUs. Prerequisite(s): CS 488; or graduate standing; and consent of the instructor.
Computer Science	CS	526	Computer Graphics II	4 hours.	State of the art in computer graphics, visualization and interactive techniques. Same as AD 588. Prerequisite(s): CS 488; or consent of the instructor.
Computer Science	CS	527	Computer Animation	4 hours.	Theoretical and practical aspects of computer animation: keyframing, kinematics, simulation, and motion capture. Laboratory required. Prerequisite(s): CS 488; or consent of the instructor.
Computer Science	CS	528	Virtual Reality	4 hours.	Principles of virtual reality and virtual environments: hardware, software, input and control devices, design issues, and quantitative assessment of user performance. Prerequisite(s): CS 488 or consent of the instructor.
Computer Science	CS	540	Advanced Topics in Software Engineering	4 hours.	Formal methods; requirements and specification languages; program flow analysis; validation and verification; software metrics; program representations; software tools; software testing; software process. Previously listed as EECS 570. Prerequisite(s): CS 440; or consent of the instructor.
Computer Science	CS	541	Software Engineering Environments	4 hours.	Software configuration management; software quality assurance; software engineering economics; software factory; software reuse; computer aided software engineering; software prototyping. Previously listed as EECS 571. Prerequisite(s): CS 540; or consent of the instructor.
Computer Science	CS	542	Distributed Software Engineering	4 hours.	Fundamental concepts of distributed software. Task allocation algorithms, language concepts for concurrency and communication, analysis methods and tools, and formal models. Previously listed as EECS 572. Prerequisite(s): CS 440.
Computer Science	CS	545	Formal Methods In Concurrent and Distributed Systems	4 hours.	Formal methods in concurrent and distributed systems, particularly temporal logic and automata for specifying and reasoning real-time properties. Automated and manual techniques for checking correctness. Previously listed as EECS 575. Prerequisite(s): Consent of the instructor.
Computer Science	CS	553	Distributed Computing Systems	4 hours.	Distributed Computing systems terminology and design issues. Data communications protocols; distributed operating systems, resource management, and synchronization; security; database systems. Previously listed as EECS 573. Prerequisite(s): CS 366 and CS 385.
Computer Science	CS	554	Advanced Topics in Concurrent Computing Systems	4 hours.	Petri nets, methods and their applications to concurrent, distributed, parallel, and data-flow systems; and logic programming and rule-based systems. Previously listed as EECS 564. Prerequisite(s): Consent of the instructor.
Computer Science	CS	559	Neural Networks	4 hours.	Artificial neural networks, perceptron, backpropagation, Kohonen nets, statistical methods, Hopfield nets, associative memories, large memory networks, cognition. Same as ECE 559. Prerequisite(s): Consent of the instructor.
Computer Science	CS	560	Fuzzy Logic	4 hours.	Crisp and fuzzy sets; membership functions; fuzzy operations; fuzzy relations and their solution; approximate reasoning; fuzzy modeling and programming; applications; project. Previously listed as EECS 560. Prerequisite(s): Consent of the instructor.
Computer Science	CS	565	Physical Design Automation	4 hours.	Computer-aided physical design of integrated circuits; circuit partitioning and placement; floorplanning; global and detailed routing; timing optimization; general optimization tools: local search, constraint relaxation. Same as ECE 565. Prerequisite(s): CS 401; and CS 466 or ECE 465.
Computer Science	CS	566	Parallel Processing	4 hours.	Parallel processing from the computer science perspective. Includes Architecture (bus based, lockstep, SIMD), Programming Languages (Functional, traditional and extensions), compilers, interconnection networks, and algorithms. Same as ECE 566. Prerequisite(s): CS 466 or ECE 466; and CS 401.
Computer Science	CS	567	Principles of Computational Transportation Science	4 hours.	Builds on the fundamentals of transportation science and emphasizes its high-level computational aspects. Topics covered include database design and theory, spatial and temporal information systems issues and travel modeling. Same as CME 567 and UPP 567. Prerequisite(s): Grade of B or better or concurrent registration in UPP 560. Open only to Ph.D. students; or consent of the instructor.
Computer Science	CS	569	High-Performance Processors and Systems	4 hours.	Instruction-level parallelism, multiple-instruction issue, branch prediction, instruction and data prefetching, novel cache and DRAM organization, high-performance interconnect, compilation issues, case studies. Same as ECE 569. Prerequisite(s): CS 466 or ECE 466; and graduate standing.
Computer Science	CS	577	Object Stores	4 hours.	Use, design, and implementation of object stores. An object store enables object-oriented programming to be extended by storing objects on disk and communicating objects between processes. Previously listed as EECS 577. Prerequisite(s): CS 385 and CS 480; and knowledge of C++, or consent of the instructor.
Computer Science	CS	580	Query Processing in Database Systems	4 hours.	Query processing in deductive databases and in distributed/parallel databases systems. Same as IDS 511. Previously listed as EECS 580. Prerequisite(s): CS 480.
Computer Science	CS	581	Database Management Systems	4 hours.	Concurrency control; reliability, recovery, data integrity, database machines and current topics. Previously listed as EECS 581. Prerequisite(s): CS 480.
Computer	CS	582	Information	4 hours.	Document retrieval, office automation. Optimal retrieval, relevance feedback, clustered search,

Science			Retrieval		construction of clusters, model of term weighting, thesaurus construction, multimedia data, handling of audio and video. Previously listed as EECS 582. Prerequisite(s): CS 480.
Computer Science	CS	583	Data Mining and Text Mining	4 hours.	Provide students with a sound knowledge in data and text mining tasks and techniques, as well as, ensure students ability to use this technology. Prerequisite(s): CS 401. Recommended background: Algorithm Probability.
Computer Science	CS	584	Advanced Data Mining	4 hours.	Data stream mining - including stream clustering, classification and frequent pattern mining. And, relation/link/graph mining - including frequent subgraphs, relational clustering and classification. Prerequisite(s): CS 583 and graduate standing; or consent of the instructor.
Computer Science	CS	586	Data and Web Semantics	4 hours.	Data modeling and semantics; knowledge representation, querying, and reasoning for the semantic web; metadata; data integration and interoperation; web services; applications. Extensive computer use required. Prerequisite(s): CS 480 or equivalent.
Computer Science	CS	587	Computer Systems Security	4 hours.	Security policies; security properties; protection mechanisms for single systems, networked systems, and distributed computing; trust; attacks on computer systems. Extensive computer use required. Prerequisite(s): CS 485 or CS 450; or consent of the instructor.
Computer Science	CS	588	Security and Privacy in Networked and Distributed Systems	4 hours.	Introduction to cryptographic principles; network authentication; confidentiality; integrity; distributed denial of service; certificates and distributed architectures for security; multiorganization trust; privacy, anonymity in distributed systems. Prerequisite(s): CS 401; and CS 450 or CS 485; or consent of the instructor.
Computer Science	CS	594	Special Topics	4 hours.	Subject matter varies from term to term and section to section, depending on the specialities of the instructor. May be repeated. Students may register in more than one section per term. Previously listed as EECS 594. Prerequisite(s): Consent of the instructor.
Computer Science	CS	595	Departmental Seminar	0 hours.	Seminar by faculty and invited speakers. Satisfactory/Unsatisfactory grading only. May be repeated. Previously listed as EECS 595.
Computer Science	CS	596	Individual Study	1 TO 4 hours.	Individual study or research under close supervision of a faculty member. May be repeated. Students may register in more than one section per term. No graduation credit for students in the following: MS in Computer Science or PhD in Computer Science. Previously listed as EECS 596. Prerequisite(s): Consent of the instructor. For Computer Science majors only.
Computer Science	CS	597	Project Research	0 TO 9 hours.	A research design or reading project approved by the committee appointed by the director of graduate studies. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Previously listed as EECS 597. Prerequisite(s): Consent of the instructor. For CS majors only.
Computer Science	CS	598	M.S. Thesis Research	0 TO 16 hours.	M.S. thesis work under the supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Previously listed as EECS 598. Prerequisite(s): Consent of the instructor. For CS majors only.
Computer Science	CS	599	Ph.D. Thesis Research	0 TO 16 hours.	Ph.D. thesis work under supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Previously listed as EECS 599. Prerequisite(s): Consent of the instructor. For CS students only.

Criminology, Law, and Justice - CLJ

Criminology, Law, and Justice	CLJ	402	Trial Interaction	3 OR 4 hours.	Language use, culture, and law in the trial process. Analysis of qualitative methods applied to legal processes and change. Same as LING 402. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 261 and CLJ 350; or consent of the instructor.
Criminology, Law, and Justice	CLJ	404	Roman Law and the Civil Tradition	3 OR 4 hours.	Roman law and its relationship to values and social structure; social analysis through law; continental law tradition. Same as CL 404, and HIST 404. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 200 or CL 203 or HIST 203 or consent of the instructor.
Criminology, Law, and Justice	CLJ	405	The Problem of Justice	3 OR 4 hours.	Premodern and modern views of justice and their practical utility in analyzing legislative, executive, and judicial programs for enhancing or restricting justice. Same as POLS 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101, plus two 200-level courses in criminology, law, and justice or two 200-level courses in political science.
Criminology, Law, and Justice	CLJ	421	Youth, Crime, Law and Justice in Society	3 OR 4 hours.	Theories of juvenile delinquency and rule-breaking; juvenile rights; organization and administration of the juvenile justice system in the U.S. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 210 and CLJ 220.
Criminology, Law, and Justice	CLJ	422	Victimization	3 OR 4 hours.	Survey of criminal victimization theory and research. Examination of causes, consequences, and prevention of violent crime and of victims' experiences in the criminal justice system. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101 and two 200-level criminology, law, and justice courses.
Criminology, Law, and Justice	CLJ	423	Violence	3 OR 4 hours.	Explores how men and women have experienced violence historically and in modern times. Students examine how violence is perpetrated through words, pictures, physical harm, and silences. Same as ANTH 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101 and CLJ 200.
Criminology, Law, and Justice	CLJ	424	Gender, Crime, and Justice	3 OR 4 hours.	An in-depth examination of the etiology of female crime and the involvement of females in the criminal justice system as offenders, victims, and workers/professionals. Same as GWS 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101 and CLJ 220; or consent of the instructor.
Criminology, Law, and Justice	CLJ	435	Organized and White Collar Crime in the United States	3 OR 4 hours.	Analysis and evaluation of organized crime, including its public perception; sociological, political, and economic impacts as well as past and present enforcement strategies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Two 200-level criminology, law, and justice courses.
Criminology, Law, and Justice	CLJ	442	Comparative Criminal Justice Institutions	3 OR 4 hours.	Comparative study of law, jurisprudence, enforcement, and punishment in Western and non-Western societies, including civil law, common law, and Islamic systems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Two 200-level criminology, law, and justice courses.
Criminology, Law, and Justice	CLJ	456	Community Corrections	3 OR 4 hours.	History, processes, and functions of programs organized for sanctioning offenders in community settings, such as probation, parole, halfway houses, restitution, community service, home confinement. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 350 or CLJ 355; plus one 200-level criminology, law, and justice course.
Criminology, Law, and Justice	CLJ	480	Application of Science to the Law	4 hours.	Issues affecting the development, accessibility and admissibility of forensic science services by the criminal justice system; problems which may compromise the quality, fairness and effectiveness of scientific inquiries. Same as BPS 480. Prerequisite(s): CLJ 210 and CLJ 260; or graduate standing.
Criminology, Law, and Justice	CLJ	491	Topics in Rule Breaking	3 OR 4 hours.	Content of course varies, addressing major issues. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Students may register in more than one section per term. Prerequisite(s): Six 200- or 300-level criminology, law, and justice courses.
Criminology, Law, and Justice	CLJ	492	Topics in Rule Application	3 OR 4 hours.	Content of course varies, addressing major issues. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Students may register in more than one section per term. Prerequisite(s): Six 200- or 300- level criminology, law, and justice courses.
Criminology, Law, and Justice	CLJ	500	Law and Society	4 hours.	Emergence and growth of rule-governed social order; social organization of legal actors; functional aspects of law including social control, dispute resolution; rule-interpretation; and the promotion of social and economic enterprises.
Criminology, Law, and Justice	CLJ	520	Criminological Theory	4 hours.	Critical examination of the major traditions in criminological theories; emphasis on critical, positivist, interpretivist, and postmodern.
Criminology, Law, and Justice	CLJ	539	Seminar in Rule Breaking	4 hours.	Study of a specific area of rule-breaking such as larceny, criminal violence, corporate crime, political crime, public order criminality or occupational crime. Content varies. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the instructor.
Criminology, Law, and Justice	CLJ	540	Criminal Justice: Process and Institutions	4 hours.	Critical examination of the criminal justice system. The dynamics and processes of contemporary police, judicial, and correctional institutions are evaluated in the context of key historical developments and relevant research.
Criminology, Law, and Justice	CLJ	541	The Dynamics and Behavior in Criminal Justice Agencies	4 hours.	Leading theories of organizational behavior used to interpret organizational patterns, functions, and constraints in rule-applying institutions; emphasis on the application of these theories to the problems of planned change.
Criminology, Law, and	CLJ	546	Violence and Victimization	4 hours.	The field of victimology and victimization theories are introduced including characteristics of victims, crime and post-crime victimization effects, and victim criminal justice system

Justice					experiences.
Criminology, Law, and Justice	CLJ	547	Race, Class, and Gender Dimensions of Crime and Justice	4 hours.	Theories addressing the intersections of race, class, gender, crime and justice. Students examine criminological theories, social construction of race, class, and gender, legal decision-making, and implications for justice in our society. Same as GWS 547.
Criminology, Law, and Justice	CLJ	548	Legal Discourse and Culture in Law and Society	4 hours.	Discourse, power, and culture in legal settings and analysis of power and resistance in the construction of law as a social fact. Prerequisite(s): CLJ 500.
Criminology, Law, and Justice	CLJ	555	Corrections: Institutions and Field Operations	4 hours.	Examines institutions and field services in public and private sectors. Addresses historical and empirical approaches to the analysis of policy and correctional effectiveness; the neo-classical challenge to rehabilitation, and corrections case law. Prerequisite(s): CLJ 540.
Criminology, Law, and Justice	CLJ	560	Quantitative Methods and Design	4 hours.	Fundamentals of scientific inquiry, logic of causal inference, and quantitative methods. Development of perspective and identification of weaknesses in research design. Development of skills in proposal development and data collection unique to criminology, law, and justice. Prerequisite(s): CLJ 262 or consent of the instructor.
Criminology, Law, and Justice	CLJ	561	Qualitative Methods and Design	4 hours.	Theories and techniques of qualitative research methods, particularly fieldwork and indepth interviews. Criminology, law, and justice problems amenable to these techniques and methods and interrelationship between the researcher role and substantive findings. Prerequisite(s): CLJ 262 or consent of the instructor.
Criminology, Law, and Justice	CLJ	562	Statistical Applications in Criminology, Law, and Justice I	4 hours.	Basic descriptive and inferential statistics, their applications in data analysis, and assumptions underlying use of these procedures in criminology, law, and justice research. Prerequisite(s): CLJ 262 or the equivalent.
Criminology, Law, and Justice	CLJ	563	Evaluation Research in Criminology, Law, and Justice	4 hours.	Experimental, quasi-experimental, and non-experimental approaches to evaluation research; indicators of effectiveness. Applications to crime prevention, police, courts, and correctional programs. Politics of researcher-agency interactions. Prerequisite(s): One graduate level course in research methods and consent of the instructor.
Criminology, Law, and Justice	CLJ	564	Statistical Applications in Criminology, Law, and Justice II	4 hours.	Introduction to multivariate statistics with emphasis on multiple regression in criminology, law, and justice research, analysis and interpretation of regression output, coding of variables and path analysis. Prerequisite(s): CLJ 562.
Criminology, Law, and Justice	CLJ	570	Advanced Methods in Criminology, Law, and Justice	4 hours.	Methodological problems in criminology, law, and justice measurement including the identification problem in estimating deterrance and the limitations of survival analysis in estimating recidivism. Prerequisite(s): CLJ 560 and CRJ 561 or the equivalent.
Criminology, Law, and Justice	CLJ	580	Forensic Science: Survey and Foundations	2 hours.	Survey course for forensic sciences with emphasis on criminalistics; unique characteristics, underlying philosophies; nature, analytical methods, significance of results with chemical, biological, trace, pattern evidence. Same as BPS 580. Prerequisite(s): Approval of the department.
Criminology, Law, and Justice	CLJ	589	Special Topics in Forensic Science	3 hours.	Content may vary but will revolve around the philosophic, moral, and managerial problems associated with criminalistics practice. Topics may include evidence collection, analysis, reporting, and testimony to non-criminalistics fields. Same as BPS 589. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Criminology, Law, and Justice	CLJ	592	Internship in Criminology, Law, and Justice	2 TO 4 hours.	Placement in a criminal justice agency or setting under the supervision of a faculty member with an accepted research project and paper. May be repeated to a maximum of 4 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Criminology, Law, and Justice	CLJ	594	Selected Issues in Criminology, Law, and Justice	4 hours.	Current issues and advanced problem areas related to deviance, crime, etiology, labeling, criminal careers, organized crime and victimology. May be repeated to a maximum of 12 hours. Students may register in more than one section per term.
Criminology, Law, and Justice	CLJ	596	Independent Study or Research	2 TO 8 hours.	Research undertaken for this course may not duplicate that being done for CLJ 598. Supervised projects, which may consist of extensive readings in criminology, law, and justice, research on special problems not included in the regular course offering. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of instructor and approval of the director of graduate studies.
Criminology, Law, and Justice	CLJ	597	Project Research	0 TO 8 hours.	Independent research project under the supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): Graduate standing in the M.A. in Criminology, Law, and Justice program and consent of the instructor.
Criminology, Law, and Justice	CLJ	598	Thesis Research	0 TO 16 hours.	For students doing thesis research or writing. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the student's adviser; and acceptance of the thesis topic and preliminary thesis outline by the thesis committee.
Criminology, Law, and Justice	CLJ	599	Dissertation Research	0 TO 16 hours.	Research on the topic of the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 20 hours. Prerequisite(s): Consent of faculty advisor and director of graduate studies.

Curriculum and Instruction - CI

Curriculum and Instruction	CI	400	Anthropology and Education	3 OR 4 hours.	This course uses an anthropological approach in the study of formal and informal educational processes to understand the relationship between education, culture and society as represented in ethnographic texts.
Curriculum and Instruction	CI	410	Literature, Social Studies, and the Arts in the Elementary School	4 hours.	Theory and practice in curriculum development, planning instruction, and assessing learning in elementary classrooms. Literature, social studies, and the arts content foci.
Curriculum and Instruction	CI	411	Creating Learning Environments in the Elementary School	3 hours.	Examination of beliefs about teaching culture and learning in urban America in relation to the creation of learning environments with emphasis on application of state standards in classrooms and the development of a electronic teaching portfolio. 30 hours of fieldwork required. Prerequisite(s): Graduate standing and CI 412.
Curriculum and Instruction	CI	412	Dynamics of Learning Environments	3 hours.	Exploration of multiculturalism and bilingualism/biculturalism in schools and families. Continued development of electronic portfolio for meeting Illinois professional teaching and technology standards. Prerequisite(s): Graduate standing and Enrollment in M.Ed. in Elementary Education Program.
Curriculum and Instruction	CI	413	Foundations of Literacy Instruction, K-8	4 hours.	For prospective teachers, introduction to teaching literacy K-8; examining cognitive, social, developmental perspectives; relationships between language and literacy; connections to school subjects; aligning instruction, assessment, standards. Extensive computer use required. Word processing on writing; search engines for examining literacy curriculum, professional organizations, email networks. Prerequisite(s): Graduate standing.
Curriculum and Instruction	CI	414	Middle and High School Literacy	3 hours.	Focuses on the teaching of reading and writing strategies appropriate for disciplinary learning and expression. Field work required. Prerequisite(s): Junior standing or above; and consent of the instructor.
Curriculum and Instruction	CI	428	Curriculum and Teaching in Secondary Education	3 hours.	Introduction to the study of curriculum and teaching. Specifically designed for graduate students wanting to become middle and high school teachers, students who are newly admitted to the secondary education program. Credit is not given for CI 428 if the student has credit for ED 430. Field work required. Prerequisite(s): Open only to Master's degree students in the Secondary Education Program; and consent of the instructor.
Curriculum and Instruction	CI	450	Literacy and Society	4 hours.	Explores the significant role of literacy in cognition, law, economics, social and personal life and its implications for teaching and learning. Extensive computer use required. Prerequisite(s): Graduate standing.
Curriculum and Instruction	CI	464	Bilingualism and Literacy in a Second Language	4 hours.	Theoretical foundations of second language acquisition and the teaching of English as second language. Methods and materials for teaching reading and writing in bilingual/ESL settings. Prerequisite(s): CI 481 or ED 258; or consent of the instructor.
Curriculum and Instruction	CI	472	Language Proficiency Assessment and ESL Instruction	4 hours.	English language proficiency assessment instruments and procedures; effective planning and ESL instructional practices; methods, materials, and technology resources for teaching ESL in K-12 school settings. Prerequisite(s): CI 481 or ED 258; or consent of the instructor.
Curriculum and Instruction	CI	480	Technology and Multimedia: Learning Tools in the Classroom	3 OR 4 hours.	New technologies to support teaching and learning in pre-college classrooms. Same as SPED 480. 3 undergraduate hours. 4 graduate hours.
Curriculum and Instruction	CI	481	Foundations and Current Issues in Educating English Language Learners	4 hours.	Philosophical, theoretical, socio-cultural and educational examination of learning and achievement issues that culturally and linguistically diverse students face in American schools. Field work required. Prerequisite(s): Junior standing or above.
Curriculum and Instruction	CI	482	Assessment and Instruction: A Multilingual/Multicultural Perspective	4 hours.	Methods and materials for teaching English language learners (ELLs) in bilingual/ESL classrooms. Emphasis upon curricular and methodological practices, assessment for academic placement, and instruction. Prerequisite(s): CI 481 or ED 258; or consent of the instructor.
Curriculum and Instruction	CI	483	Methodology of Second Language Teaching	3 OR 4 hours.	Approaches, methods, and techniques for teaching second languages with a focus on speaking, listening, writing, reading, and on assessment and curriculum/syllabus design. Same as LING 483 and LCSL 483. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.
Curriculum and Instruction	CI	484	Curriculum and Instruction in the Middle School	3 hours.	Philosophy, curriculum, and instructional methods for teaching middle grade students (grades five through eight). Content area reading is included. Prerequisite(s): EPSY 255 or both ED 200 and ED 210; or graduate standing and either ED 402 or ED 403, and ED 421; and approval of the of the College of Education.
Curriculum and Instruction	CI	494	Special Topics in Curriculum and Instruction	1 TO 4 hours.	Exploration of an area not covered in existing course offerings. Content varies. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	500	Proseminar in Curriculum and Instruction	1 hours.	Research-oriented colloquia on issues in curriculum and instruction. Serves as introduction to faculty research interests. Provides opportunity to consider issues in research design. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Admission to the Ph.D. in Education program or consent of instructor.
Curriculum and	CI	502	Mathematics and	4 hours.	Integrating mathematics and science content with issues of teaching and learning, including

Instruction			Science in the Elementary School		adapting and developing curriculum, planning, classroom interactions, and assessment in elementary classrooms. Prerequisite(s): ED 402 or ED 403; and either ED 421 or ED 422 or ED 445; and ED 430; and CI 460; and a second reading methods course.
Curriculum and Instruction	CI	503	Advanced Foundations of Literacy Instruction, K-8	4 hours.	Introduction to teaching literacy K-8; examining cognitive, social, developmental perspectives; relationships between language and literacy; connections to other school subjects; aligning instruction, assessment, standards. Extensive computer use required [word processing on writing; search engines for examining literacy curriculum, professional organizations, email networks]. Prerequisite(s): CI 450; or consent of the instructor. Open to Master's degree students and Ph.D. degree students. Recommended background: Admission to M.Ed. in Instructional Leadership: Literacy, Language and Culture.
Curriculum and Instruction	CI	504	Secondary Literacy	4 hours.	Focuses on the foundations of literacy and on the literacy processes of middle and secondary students and how these processes apply to reading and writing in the disciplines. Field work required.
Curriculum and Instruction	CI	505	Integrated Reading and Writing Instruction	4 hours.	Examination of the reading-writing relationship. Specific instructional strategies for teaching reading and writing together in the elementary grades. Prerequisite(s): CI 413; or consent of the instructor.
Curriculum and Instruction	CI	507	Teaching and Learning Mathematics in the Elementary School	4 hours.	For prospective teachers, integrating mathematics content with teaching and learning issues, including adapting and developing curriculum, planning, classroom interactions, and assessment in K-9 classrooms. Recommended background: Admission to M.Ed. in Instructional Leadership Concentration in Elementary Education program.
Curriculum and Instruction	CI	508	Teaching and Learning Science in the Elementary School	4 hours.	For prospective teachers, development of multiple frameworks for facilitating the learning of science in students of various abilities, cultures, and backgrounds. Recommended background: Admission to M.Ed. in Instructional Leadership Concentration in Elementary Education program.
Curriculum and Instruction	CI	509	Reading and Writing with Young Children	4 hours.	The early writing and reading behaviors of children and how these develop during the primary grades. Observation, teaching, and assessing are emphasized. Prerequisite(s): ED 422; and consent of the instructor.
Curriculum and Instruction	CI	511	Student Teaching in the Elementary Grades I	6 hours.	Culminating course in graduate elementary teacher education. Meets Illinois State Board of Education requirements for certification. Prerequisite(s): Completion of all professional education courses and program requirements. Must enroll concurrently in CI 512.
Curriculum and Instruction	CI	512	Student Teaching in the Elementary Grades II	6 hours.	The culminating course in the graduate elementary teacher education sequence. Meets Illinois State Board of Education requirements for certification. Prerequisite(s): Graduate standing and concurrent registration in CI 511 required.
Curriculum and Instruction	CI	515	Urban Youth Program Evaluation	3 hours.	Analysis of the impact of social trends and problems on urban youth. Evaluation of urban youth programs with emphasis on affective and moral dimensions.
Curriculum and Instruction	CI	516	Research on Mathematics Teachers and Teaching	4 hours.	Grounds students in research on mathematics teachers and teaching, while situating the literature within the broader sociopolitical context. Course information: Recommended Background Experience in STEM (science, technology, engineering, mathematics) education or a related field such as learning sciences.
Curriculum and Instruction	CI	517	The Sociopolitical Context of Mathematics Education	4 hours.	Examines the sociopolitical context of mathematics education and STEM (science, technology, engineering, mathematics) education, to understand how math education interacts with local/global, sociopolitical forces and movements. Recommended Background: Experience in STEM (science, technology, engineering, mathematics) education or a related field such as learning sciences.
Curriculum and Instruction	CI	518	Race, Identity, and Agency in Mathematics and Science Education	4 hours.	Explores an emerging literature that is situated at the intersection of scholarship on race, identity, and critical mathematics and science education. Participants will analyze the theories and methods that inform these literatures. Recommended Background: Experience in STEM (science, technology, engineering, mathematics) education or a related field such as learning sciences.
Curriculum and Instruction	CI	519	Research on the Learning of Mathematics	4 hours.	Examines research on the learning of mathematics, including: whole number concepts and operations, rational numbers and proportional reasoning, algebra, functions, geometry, probability and statistics, problem solving, and proof. Recommended Background:Experience in STEM (science, technology, engineering, mathematics) education or a related field such as learning sciences.
Curriculum and Instruction	CI	520	The K-12 Mathematics Curriculum: Theory, Politics and Reform	4 hours.	A look at the K-12 curriculum from three perspectives: theoretical (epistemological, learning, teaching), political (whose interests are served) and practical (implementation issues in schools). Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	521	Learning and Teaching Mathematics with Technology	4 hours.	Can technology support conceptually-based learning of mathematics? Issues of learning, teaching, and equity related to technology in the K-12 mathematics classroom. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	522	Social Context of Mathematics Education	4 hours.	Examination of contextual, social, and linguistic factors which influence the learning of mathematics; emphasis on sociohistorical and activity theories; and equity in schooling. Prerequisite(s): Graduate standing in the College of Education or consent of the instructor.
Curriculum and Instruction	CI	525	Assessment and Instruction for	4 hours.	Theoretical and practical issues concerning the etiology of reading problems and clinical diagnostic techniques. Children with reading problems are diagnosed and taught in the

			Struggling Readers, K-12, Part 1		practicum component. Prerequisite(s): CI 450; and CI 503 or CI 504; and consent of the instructor.
Curriculum and Instruction	CI	526	Assessment and Instruction for Struggling Readers, K-12, Part 2	4 hours.	Continued study of theoretical and practical issues concerning the etiology of literacy problems and clinical diagnostic and instructional techniques. Practicum inolves tutoring clients in the UIC Reading Clinic. Prerequisite(s): CI 525.
Curriculum and Instruction	CI	527	Reading Specialists as Literacy Leaders	4 hours.	Theories and practices related to the role of the reading specialist, including management and evaluation of support systems, programs, personnel, and professional development in literacy. Prerequisite(s): CI 450 and CI 503 and CI 504.
Curriculum and Instruction	CI	528	Assessing Literacy in Classrooms	4 hours.	Introduction to and practicum in K-12 classroom literacy assessment and its relation to literacy instruction. Addresses purposes of and techniques for conducting/interpreting specific literacy assessments. Extensive computer use required [word processing on writing; search engines for examining literacy curriculum, professional organizations, email networks, use of power point, excel and SPSS]. Prerequisite(s): CI 450 and CI 503 and CI 504 and consent of the instructor. Open only to Master's degree students. Recommended background: Admission to M.Ed. in Instructional Leadership: Literacy, Language and Culture.
Curriculum and Instruction	CI	529	Secondary Science Education in Urban Settings	4 hours.	Introduction to the study of curriculum and teaching for those interested in urban education and who want to become secondary science teachers at the middle and high school levels. Course Information: Field work required. Recommended background: An undergraduate degree in a science field. Class Information: To be properly registered, students must enroll in one Lecture-Discussion and one Practice.
Curriculum and Instruction	CI	530	The Learning and Teaching of Secondary Science in Urban Schools	4 hours.	Prepares science teacher candidates with the knowledge, skills and dispositions needed for teaching secondary science in urban contexts. Field experience required.
Curriculum and Instruction	CI	532	Staff Development and School Improvement	4 hours.	Analysis of issues of school improvement and teacher professional development. Emphasis on processes of and alternative approaches to individual and organizational change. Prerequisite(s): CI 574 or ED 430 or ED 431 or ED 543; and consent of the instructor.
Curriculum and Instruction	CI	535	Studies in Literacy Research and Teacher Inquiry	4 hours.	Analysis of methodologies and topics of reading research; decision-making processes for effective literacy instruction based on research; skills and strategies in designing teacher inquiry. Extensive computer use required [word processing on writing; search engines for identifying research studies, including teacher researcher websites]. Prerequisite(s): CI 450 or CI 503 or CI 504; and consent of the instructor. Admission to the M.Ed. in Instructional Leadership: Language, Literacy and Culture program or consent of the instructor.
Curriculum and Instruction	CI	536	Colloquium on Literacy	1 hours.	Various areas of reading, writing, and literacy including research on learning, instruction, and use. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Prerequisite(s): Enrollment in a graduate specialization in reading, and consent of the instructor.
Curriculum and Instruction	CI	539	Internship in Instructional Leadership	4 hours.	Conceptualization, development, implementation, analysis, and interpretation of a curriculum and/or instructional improvement in an educational setting (supervised by university faculty and leadership from the setting). May be repeated to a maximum of 8 hours. Prerequisite(s): CI 532.
Curriculum and Instruction	CI	540	Linguistics for Teachers	4 hours.	Introduction to linguistic concepts as they apply to teaching in monolingual and bilingual classrooms. Relation of linguistic theory to theories of language and cognition.
Curriculum and Instruction	CI	541	Oral Language: Its Development and Role in the Classroom	4 hours.	Analysis of oral language development and children's varying patterns of language use; analysis of talk in classroom settings and instructional decision-making processes to assess and optimize student learning. Extensive computer use required. Field work required. Prerequisite(s): CI 450 and either CI 503 or CI 504. Restricted to graduate students in education, psychology, or English.
Curriculum and Instruction	CI	542	Improving School/District Literacy Achievement	4 hours.	Review of research on school/factors implicated in improvement of literacy achievement. Role of empirical evidence (best practices, scientifically based research, research synthesis, beat the odds studies) in school decision making and policy. Prerequisite(s): CI 450 and CI 503 and CI 504.
Curriculum and Instruction	CI	543	Using Multimedia Environments to Support Literacy and Learning	4 hours.	Introduction to ways changes in technologies of communication transform environments for teaching and learning. Analyzing technologies, linear and non-linear reading environments and designing instructional strategies to enhance multiple literacies. Extensive computer use required. Prerequisite(s): One social science course or one computing course focused on the human use of computing.
Curriculum and Instruction	CI	544	Foundations of Writing	4 hours.	Introduction to K-8 writing research, theory and practice, including writing development, processes, text pedagogy, assessment. Combination of academic study of writing with guided inquiry. Computer use required [word processing on writing; search engines for examining literacy curriculum, professional organizations, email networks, use of power point and web-page composers]. Prerequisite(s): CI 450. Recommended background: Admission to the M.Ed. in Instructional Leadership: Literacy, Language and Culture.
Curriculum and Instruction	CI	545	Educational Evaluation	4 hours.	Examination of theoretical and operational assumptions of alternative evaluation models; analysis and critique of evaluation case-studies. Prerequisite(s): Admission to Ph.D. in Education program.

Curriculum and Instruction	CI	546	Children's and Adolescent Literature	4 hours.	Overview of trade books written for children from preschool through adolescence. Emphasizes critically reading, selecting, evaluating books appropriate for developmental stages, curricular connections, and students in our multicultural society. Prerequisite(s): CI 450 and CI 503 and CI 504; and consent of the instructor.
Curriculum and Instruction	CI	547	Integrating Literacy Instruction	4 hours.	Engaging in professional experiences (e.g., teacher inquiry, teacher book clubs) that support the design and adaptation of frameworks and units that emphasize meaningful instructional connections among reading, writing, and talk in the classroom. Extensive computer use required. Prerequisite(s): CI 450 and either CI 503 or CI 504. Restricted to graduate students in education, psychology, or English.
Curriculum and Instruction	CI	548	Leadership for Literacy Instruction	4 hours.	School and system leadership practices for promoting effective literacy instruction in urban elementary and secondary schools. Assessment and improvement of literacy curriculum, pedagogy, and evaluation. Same as EDPS 548. Prerequisite(s): Consent of the instructor; admission to a degree program in the College of Education. Students admitted to the Ed.D. in Urban Education Leadership, prerequisites also include EDPS 550 and EDPS 552.
Curriculum and Instruction	CI	549	Critical Pedagogy: Practice and Theory	4 hours.	Examine theory and practice of social justice teaching in schools, including: history liberatory pedagogies, culturally relevant and critical pedagogies, funds of knowledge, critical multiculturalism and anti-racist pedagogy, critical race theory. Same as EDPS 549. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	550	Conflicts in Curriculum	4 hours.	Analysis of theoretical models for curriculum development, special attention to alternative, and often conflicting viewpoints about the particulars of the development process. Prerequisite(s): Admission to a graduate program in education.
Curriculum and Instruction	CI	551	Practitioner Research in Science Contexts	4 hours.	Introduction to practitioner research as a valid form of research, a change agent process, and lifelong professional development. Students examine practitioner research literature and methodologies and conduct their own study in science education. Recommended background: An interest in science education and science-related field context in which to do practitioner research.
Curriculum and Instruction	CI	552	Curriculum and Cultural Context	4 hours.	Influence of cultural, political, sociological, and economic factors on curriculum, at the instructional, institutional, societal, and ideological levels. Prerequisite(s): CI 574 or consent of instructor.
Curriculum and Instruction	CI	553	History of Curriculum Thought	4 hours.	Analysis of selected documents on curriculum theory and policy from antiquity to present; secondary treatments and primary sources; interaction of theory and practice. Prerequisite(s): CI 574 or consent of the instructor.
Curriculum and Instruction	CI	556	Proseminar in Literacy, Language and Culture	4 hours.	Socialization of students into field through intensive introduction to literacy, its relationship to language and culture, using the collective knowledge and research experience of faculty. Emphases on developing student inquiry in urban contexts. Restricted to first year doctoral students with a specialization in Literacy, Language, and Culture.
Curriculum and Instruction	CI	557	Proseminar in Literacy, Language, and Culture	4 hours.	Socialization of students into field through intensive introduction to literacy, its relationship to language and culture, using the collective knowledge and research experience of faculty. Emphases on developing student inquiry in urban contexts. Restricted to first year doctoral students with a specialization in Literacy, Language, and Culture.
Curriculum and Instruction	CI	558	The Historical and Philosophical Bases of Literacy and Literacy Instruction	4 hours.	Critical examination of historical and philosophical bases of current literacy and literacy instruction from social, cultural, and psychological perspectives. Emphases on historical patterns of reading and writing instruction in the U.S. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	559	The Social and Cultural Contexts of Literacy and Literacy Instruction	4 hours.	Critical examination of theoretical and methodological orientations that inform the study of socio-cultural influences on the definition and practices of literacy in classrooms, at school level, and in out of school contexts. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	561	Genre Theory and Practice	4 hours.	Analysis of perspectives and methodologies employed in genre theory and practice; exploration and evaluation of discourse-analysis approaches used in genre research; critical examination of socio-cultural bases of genre. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	562	Design and Conduct of Literacy Research	4 hours.	Design principles for the study of literacy development and education. Emphasis is on examining lines of literacy research from multiple design perspectives; relationship between research design and theory and epistemology. Field work required. Computer use required. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	563	Analysis of Research in Literacy	4 hours.	Critical analyses of literacy-related research methods, their implications for interpreting research, the forms in which research is published; manuscript review process, and ethical considerations that inform all of the above. Prerequisite(s): CI 581 or CI 586; and consent of the instructor.
Curriculum and Instruction	CI	564	Design and Conduct of Literacy Research	4 hours.	Introduction to design principles informing the study of literacy development and education. Emphasis on conducting literacy research from multiple design perspectives; and the relationship between epistemology, theory, and research design. Prerequisite(s): ED 502 and ED 503 and CI 563. Priority in enrollment will be given to students admitted into Literacy, Language, and Culture doctoral program.
Curriculum and Instruction	CI	568	Research in Children's and Adolescent Literature	4 hours.	Topical seminar that examines research on a specific area of children's or adolescent literature such as multicultural literature, picture books, nonfiction texts, or the development of literacy understanding in children/adolescents. May be repeated to a maximum of 8 hours.

					Prerequisite(s): Consent of the instructor and an undergraduate or master's level survey course on children's/adolescent literature.
Curriculum and Instruction	CI	570	Critical Issues in Science Education	4 hours.	Explores the nature of scientific activity and educational issues, such as constructivism, discourse, gender and multicultural issues, assessment, the role of technology, and teacher research. Prerequisite(s): Admission to a graduate program in the College of Education or consent of the instructor.
Curriculum and Instruction	CI	571	Integrating Mathematics, Science, and ESL	4 hours.	Curriculum and instructional issues and practice related to the integration of mathematics, science, and English as a Second Language development. Prerequisite(s): CI 481 or consent of the instructor.
Curriculum and Instruction	CI	572	Assessment in Science and Math Education	4 hours.	Explores different purposes of assessment, generates principles to guide assessment, studies "new" assessment practices, and explores ways to implement them in science and mathematics classes. Prerequisite(s): Admission to graduate study in education or consent of the instructor.
Curriculum and Instruction	CI	573	Multimodality, Multiliteracies, and Science Education	4 hours.	Examines how different forms of communication influence learning and teaching of science in formal and informal settings.
Curriculum and Instruction	CI	574	Foundations of Curriculum Studies	4 hours.	Curriculum as area of inquiry; historical, philosophical, cultural, and related foundations; variations on curriculum theory and practice; alternative paradigms of curriculum inquiry. Prerequisite(s): ED 430 or admission to the Ph.D. in Education program or the Ph.D. in Public Policy Analysis program.
Curriculum and Instruction	CI	575	Seminar in Research Issues with English Language Learners	4 hours.	Selected topics on research in the education of language minority students for advanced M.Ed. and Ph.D. students. Topics vary each semester. May be repeated to a maximum of 12 hours. Prerequisite(s): CI 481.
Curriculum and Instruction	CI	576	Possibilities for Teaching and Schooling	4 hours.	Philosophical and conceptual analysis of teaching and schooling and the impact of those conceptions on the conduct of educational practice. Prerequisite(s): CI 574 or consent of the instructor.
Curriculum and Instruction	CI	577	Literacy In and Out of School	4 hours.	Analysis of literacy practices in formal and informal contexts. Focus on community and family contributions to literacy learning; emphasis on consequences of cultural congruity and discontinuity between in and out of school literacy practices. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	578	Advanced Studies in Qualitative Research Methods	4 hours.	The dynamics of data collection and analysis, the use of theory and interdisciplinary frameworks, and writing up and presenting original research. Prerequisite(s): ED 502.
Curriculum and Instruction	CI	579	Bi-Literacy: Theory, Research, and Practice	4 hours.	Theoretical foundations, research paradigms, and issues focusing on bilingual and bi-literacy practices in and between home, school and community contexts. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	581	Perspectives on Reading: Theory, Research and Practice	4 hours.	Introduction of doctoral students to perspectives underlying theory, research, and practices related to understanding reading and reading instruction. Study of how research and practice is framed, shaped, and constrained by theoretical perspectives. Prerequisite(s): Priority will be given to students admitted into the Literacy, Language, and Culture doctoral program.
Curriculum and Instruction	CI	582	Research Perspectives on Literacy in the Disciplines	4 hours.	Literacy is an integral part of expertise in the major fields of study. This course reviews the research in literacy and its related constructs in the disciplines of mathematics, science, history, and English. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	583	Early Literacy: Theory Research and Practice	4 hours.	Analysis of theories and research focusing on the initial phases of young children's acquisition of reading and writing, with emphasis on issues related to instruction. Prerequisite(s): CI 503 and consent of the instructor.
Curriculum and Instruction	CI	584	Semiotics, Literacy, and Learning	4 hours.	Theory and research focusing on language and literacy as they relate to other embodied forms of meaning-making; how these varied meanings are socially and culturally mediated; the ways in which they enable and constrain processes of learning. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	585	Seminar in Literacy Studies	4 hours.	Selected topics in literacy theory, research and practice for advanced Ph.D. students. Topics vary each semester. May be repeated to a maximum of 12 hours. Prerequisite(s): CI 563 or the equivalent or consent of instructor.
Curriculum and Instruction	CI	586	Perspectives on Writing Instruction: Theory, Research, and Practice	4 hours.	An examination of research and theoretical perspectives on writing and multimodal text construction including critical reflection on perspectives that have contributed to changes in the ways we view texts, writing, writers, and instruction. Prerequisite(s): CI 544; and consent of the instructor. Priority in enrollment will be given to students admitted into Literacy, Language, and Culture doctoral program.
Curriculum and Instruction	CI	587	Literacy Assessment: Theory, Research, and Practice	4 hours.	Theory and practice in literacy assessment. Measurement issues unique to literacy assessment, including word recognition, vocabulary, comprehension and writing. Critical consideration of how assessment both enables and constrains instruction. Prerequisite(s): CI 503 and consent of the instructor.
Curriculum and Instruction	CI	588	Design Research in the Study of Literacy	4 hours.	Emphasis on understanding the conceptual frameworks that inform design research, integrating literacy theory into the design of teaching and learning environments; the use of design research in the study of literacy in various instructional settings. Individual and group participation (including participation on course listserv). Prerequisite(s): Consent of the

					instructor.
Curriculum and Instruction	CI	589	Literacy and Learning Technologies: Theory, Research and Practice	4 hours.	Critical analyses of how technologically based, multimedia transform instruction with a focus on the design of strategies to enhance written, visual and oral literacies using linear and non linear software and on-line environments. Prerequisite(s): Consent of the instructor.
Curriculum and Instruction	CI	590	Alternative Paradigms of Qualitative Research in Education	4 hours.	Methodology, cases, and rationale for action research, educational criticism, critical ethnography, historiography, and phenomenological hermeneutics as alternatives in qualitative research in education. Prerequisite(s): CI 578 or consent of instructor; and admission to Ph.D. in Education program or Ph.D. in Public Policy Analysis program.
Curriculum and Instruction	CI	592	Apprenticeship in Teacher Education	1 TO 4 hours.	Faculty guidance and supervision of doctoral students' teaching experience related to curriculum and instruction. Variable credit (1-4 hrs) given based upon scope of students' teaching responsibilities, and proposed reflection on them. Prerequisite(s): Consent of the instructor and program coordinator.
Curriculum and Instruction	CI	593	Ph.D. Research Project	1 TO 8 hours.	Students design, implement, and analyze results of a research problem in this area of specialization. Completed study is reviewed by faculty. May be repeated to a maximum of 8 hours. Prerequisite(s): Admission to the Ph.D. in Education program.
Curriculum and Instruction	CI	594	Special Topics in Curriculum and Instruction	2 TO 4 hours.	Seminar on a preannounced topic focusing on methodology, research and educational implications of recent models of learning, problem solving and thinking. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of instructor.
Curriculum and Instruction	CI	596	Independent Study	1 TO 4 hours.	Students design, implement and analyze the results of a research problem in this area of specialization. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of study adviser.
Curriculum and Instruction	CI	599	Thesis Research	0 TO 16 hours.	Research on the topic of the student's dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the dissertation advisor.

Disability and Human Development - DHD

Disability and Human Development	DHD	401	Foundations of Disability and Human Development	3 hours.	A critical review of key concepts and issues in disability. Students will develop a framework for understanding disability as a multi-level entity, including the impact of disability at personal, social, and societal levels. Prerequisite(s): Enrollment in the M.S. in Disability and Human Development program or consent of the instructor.
Disability and Human Development	DHD	440	Introduction to Assistive Technology: Principles and Practice	3 hours.	Principles and exemplary practice of assistive technology used by individuals with disabilities, including augmentative communication, seating, mobility, computer access, environmental control, home modifications, and worksite modifications. Prerequisite(s): Graduate standing or consent of the instructor. Recommended background: Undergraduate enrolled in health sciences, education, or engineering and working professionals seeking to develop assistive technology as an area of concentration.
Disability and Human Development	DHD	441	Adaptive Equipment Design and Fabrication	3 hours.	Examination of the interaction between design and disability, through comparison of appropriate design theories, materials, and work on consumer-based issues. Prerequisite(s): Graduate standing; or DHD 440 and consent of the instructor. Recommended background: Undergraduates enrolled in health sciences, education, or engineering, or working professionals seeking to develop assistive technology as an area of concentration.
Disability and Human Development	DHD	444	Assistive Technology for Literacy, Learning and Participation in Pre-K through High School	3 hours.	Use of communication systems, computers, adapted equipment and strategies to foster participation and inclusion of students in grades preschool through high school. Same as SPED 444.
Disability and Human Development	DHD	445	Topics in Disability Studies	3 OR 4 hours.	This course will focus on topics structured around particular aspects of Disability Studies and its practical, cultural, and theoretical implications. Same as ENGL 445. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or ENGL 364; and senior standing or above; or consent of the instructor.
Disability and Human Development	DHD	460	Fundamentals of Behavior Analysis	3 hours.	Introduction to the principles, concepts, and applications of behavioral principles. Content includes philosophic origins, historic and current practices of experimental and applied behavior analysis. Prerequisite(s): Credit or concurrent registration in DHD 401 or the equivalent.
Disability and Human Development	DHD	464	Survey of Developmental Disabilities	3 hours.	Survey of the developmental disabilities field, including basic definitions, history of DD services, relevant public policies and legislation, service delivery systems, and research. Same as CHSC 464. Prerequisite(s): Graduate standing or consent of the instructor.
Disability and Human Development	DHD	494	Special Topics in Disability and Human Development	1 TO 4 hours.	Systematic study of selected topics in disability and human development. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.
Disability and Human Development	DHD	501	Disability Studies I	4 hours.	Provides analysis of contemporary classification and diagnosis systems for disability as well as the conceptual foundations for disabilty studies as a content area. Previously listed as DIS 501.
Disability and Human Development	DHD	502	Disability Studies II	4 hours.	Current approaches and practices in disability studies, critically considered from a variety of perspectives. Service delivery systems and the influence that civil rights and self determination have had. Previously listed as DIS 502. Prerequisite(s): DHD 501.
Disability and Human Development	DHD	505	Leadership Education in Neurodevelopmental and Related Disabilities I	4 hours.	Introduces students to issues related to disabilities, including leadership, public health, interdisciplinary training and practice, emerging issues, cultural competence, family centered care, and research. Prerequisite(s): Approval of the Department.
Disability and Human Development	DHD	506	Leadership Education in Neurodevelopmental and Related Disabilities II	3 hours.	Emphasizes the leadership competencies of the MCH Bureau pertaining to disability issues: MCH knowledge, cultural competency, family-centered care, interdisciplinary team-building, community and systems, and policy and advocacy. Prerequisite(s): DHD 505 Students must be accepted into the Illinois Leadership Education in Neurodevelopmental and related Disabilities (LEND) program.
Disability and Human Development	DHD	510	Concepts in Interdisciplinary Research on Disability	3 hours.	Core concepts and methodologies of the major research traditions used in disability research.
Disability and Human Development	DHD	514	Ethical Issues in Disability	3 hours.	Examines contemporary ethical issues affecting the lives of persons with disabilities and disability professionals. Critiques the application of ethical principles to problems of genetics, treatment decisions and competency.
Disability and Human Development	DHD	515	Statistical Methods in Disability Studies	3 hours.	Examination of parametric and non-parametric statistical methods commonly used in disability research with microcomputer applications to supplement text and lecture materials. Prerequisite(s): An introductory course in statistics.
Disability and Human Development	DHD	517	Ethics and Disability: Contemporary Problems	3 hours.	Ethical theories and ethical decision-making are examined from an interdisciplinary disability studies perspective in relation to people with disabilities. Topics include assisted suicide, de-institutionalization, and genetic discrimination. Prerequisite(s): DHD 514 or consent of the instructor.

Disability and Human Development	DHD	520	Disability and Physical Activity	3 hours.	Examination of the foundations of physical activity for persons with disabilities. Emphasis on strategies for promoting physical activity among persons with disabilities in community settings. Same as KN 520.
Disability and Human Development	DHD	525	Technology to Promote Physical Activity Among Persons with Disabilities	3 hours.	Applications of new and emerging technologies to promote participation in and adherence to healthful physical activity by people with disabilities. Considers ways of redesigning physical, social and attitudinal environments to achieve these outcomes. Same as IE 525. Recommended background: DHD 515 or an equivalent course on interpreting research findings.
Disability and Human Development	DHD	526	Family Perspectives on Disability	3 hours.	Examines trends, theories and research methods, policies, and family centered intervention approaches for families of persons with disabilities. Same as CHSC 526. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	530	Disability Oppression and Resistance	3 hours.	Combines social theory that addresses a wide variety of disability studies concerns (ideology, oppression, empowerment, consciousness, and the body) with approaches on how best to use these theories to analyze the disability experience.
Disability and Human Development	DHD	532	Community Intervention	3 hours.	Theory, research and practice of community interventions in public, nonprofit and voluntary settings, such as disability organizations; intervention types and effectiveness; role of community intervenor. Same as PSCH 532. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	535	Advocacy and Empowerment in Disability	3 hours.	In-depth review of academic literature on advocacy and empowerment. Relevant theories, research, and interventions in the context of individuals with disabilities will be reviewed.
Disability and Human Development	DHD	537	Disability and Health Promotion	3 hours.	Examines health issues in disability with emphasis on health promotion and preventing secondary disease. Relationship of emerging theories of health promotion to disability are discussed.
Disability and Human Development	DHD	538	Disability and Health Promotion II	3 hours.	Health promotion evaluation issues pertaining to people with disabilities will be critiqued and analyzed in relationship to application and usability. The content will build upon basic concepts discussed in DHD 537. Prerequisite(s): DHD 537.
Disability and Human Development	DHD	541	Advanced Concepts in Disability Research	3 hours.	Seminar-based applications of advanced scholarship skills. Topics covered include problem formulation, manuscript development, and critical reviews.
Disability and Human Development	DHD	545	Leadership in the Non-Profit Disability Organization	3 hours.	Applications in management and leadership in the non-profit disability agency. Focus on employee motivation, recruitment, retention, fiscal management, long-range planning, board development and succession planning.
Disability and Human Development	DHD	546	Qualitative Methods in Disability Research	4 hours.	Examines qualitative research methods, design, data collection, analysis, and report-writing. Issues of ethical conduct, power relationships, and collaborative approaches.
Disability and Human Development	DHD	547	Analysis and Comparison of For-Profit and Non-Profit Organizations	3 hours.	Organizational theory applied to non-profit disability agencies. Review and evaluation of theoretical models of organizations, authority, management, and budgeting.
Disability and Human Development	DHD	551	Computers, Communication and Controls in Rehabilitation Technology	3 hours.	Provides information on operation and use of alternative controls for computers, augmentative communication devices and powered mobility. Emphasis on matching consumer's need and assistive technology. Same as OT 551. Prerequisite(s): DHD 440. Recommended background: Speech-Language Pathology, Occupational Therapy, Special Education.
Disability and Human Development	DHD	552	Seating and Wheeled Mobility	3 hours.	Focuses on issues of wheelchair seating, positioning and mobility for children and adults with physical disabilities. Assessment procedures, technology selection, current research and analysis of funding sources. Prerequisite(s): DHD 440 or consent of the instructor. Recommended background: Physical therapy, occupational therapy, speech-language pathology, special education, engineering.
Disability and Human Development	DHD	554	Augmentative Communication Assessment	3 hours.	Augmentative communication assessment strategies and evaluation of materials development. Utilizes case examples for discussion of specific approaches for different ages, disabilities, and settings. Prerequisite(s): DHD 440. Recommended background: Speech-Language Pathology, Occupational Therapy, Special Education.
Disability and Human Development	DHD	560	Behavioral Assessment and Functional Analysis	3 hours.	Concepts and principles for use of behavioral assessment and functional analysis. Prerequisite(s): DHD 460; or consent of the instructor.
Disability and Human Development	DHD	561	Disability and Community Participation: Policy, Systems Change and Action Research	4 hours.	Focuses on the critical examination of disability policy, activism, and research. Emphasis on conducting participatory action research in collaboration with constituents with disabilities, community organizations, and policy makers. Same as OT 561. Field work required. Depending on the research project, students may or may not need to complete IRB training. More information on the IRB process will be available at the start of the project. Prerequisite(s): Consent of the instructor. Recommended background: Previous coursework in disability policy, disability empowerment research and qualitative research. To be properly registered, students must enroll in one Lecture/Discussion and one Practice.
Disability and	DHD	563	Exploring the Promise	3 hours.	Examination of the history and implementation of the American with Disabilities Act. Analyzes

Human Development			of the Americans with Disabilities Act of 1990		and evalutes the effectiveness of the legislation in promoting and protecting the civil rights of people with disabilities.
Disability and Human Development	DHD	564	Community Integration in Developmental Disabiities	3 hours.	Historical and contemporary issues pertaining to the empowerment and integration of persons with developmental disabilities into community settings. Same as CHSC 564. Provides an analysis of the historical and current approaches to the treatment of persons with disabilities within institutions and the natural community. It provides an important perspective for the understanding of current research issues, services systems, public policies, legislation, and litigation pertaining to disability. It is relevant to all specializations in the Disability and Human Development and Disability Studies programs.
Disability and Human Development	DHD	565	Research Methodology and Outcomes Measures in Rehabilitation Technology	3 hours.	Analyzes the research process in rehabilitation technology and assistive technology and how such analyisis leads to the development of a research proposal. Outcome measures related to assistive technology will be evaluated for their applicability. Same as OT 565. Recommended background: Engineering, Occupational Therapy, Physical Therapy, Special Education, and Speech and Language Pathology.
Disability and Human Development	DHD	570	Disability and Culture	3 hours.	Development of a cultural comparative approach in disability studies; American and cross-cultural aspects of disability; imagery of disability; disability and the body: gender and life-course issues, cultures of disability. Prerequisite(s): DHD 401 or consent of the instructor.
Disability and Human Development	DHD	571	Eugenics in America, 1848-1945	4 hours.	Critical examination of the philosophy and practice of eugenics toward people with disabilities during the period from mid nineteenth to mid twentieth centuries.
Disability and Human Development	DHD	572	Modern History of Disability in the United States and around the World	4 hours.	Explores several aspects of disability experiences in modern America and around the world. The course will focus on case studies and themes in the disability experience during the late 19th through the 21st centuries. Prerequisite(s): Graduate or professional standing.
Disability and Human Development	DHD	575	History of Human Differences: Disability Minorities in America	3 hours.	Historical experiences of disability minorities during the modern era. Focus on American experiences and comparing them to premodern and contemporaneous experiences in Western European societies. Prerequisite(s): DHD 401 or consent of the instructor.
Disability and Human Development	DHD	576	Visualizing the Body	4 hours.	Survey of key moments in the representational life of disability in film. Film portrayals of disability will be analyzed from the perspective of narrative theory, film grammar, and social history. Prerequisite(s): Graduate or professional standing.
Disability and Human Development	DHD	581	Disability Policy I: Foundations of Disability Policy	3 hours.	Provides a foundation of disability policy. Examines policy processes, policy making and welfare state arrangements. Focus on different political/ideological approaches to disability policy. This course has a required online component for all students. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	582	Disability Policy II: Contemporary Issues in Disability Policy	3 hours.	An overview of contemporary policies, legislation and issues relating to people with disabilities across a range of policy areas. Focus on historical, political, legal, social, economic and cultural forces that shape policies and practices. This course has a required online component for all students. Prerequisite(s): DHD 581.
Disability and Human Development	DHD	583	Methodology in Disability Policy	3 hours.	An introduction to the tools and techniques of comparative policy analysis relating to disability policy and legislation. Focuses on both analytical and practical components of methodology in disability policy. This course has a required online component for all students. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	584	International Human Rights, Policy and Disability	3 hours.	Provides an overview of international human rights, policy and disability. Focus on historical, moral, legal and economic discourses of human rights for people with disabilities. Emphasis on comparative analysis of rights, policy and disability. This course has an online component for all students. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	589	Current Research in Disability Studies	1 hours.	A review of the current primary source literature in the area of disability research. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 10 hours. Previously listed as DIS 589. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	590	Field Experience in Disability and Human Development	0 TO 12 hours.	Opportunities for guided experience working with agencies, families, and persons with disabilities providing concrete, practical applications of concepts and principles of disability and human development. May be repeated to a maximum of 12 hours. Prerequisite(s): DHD 401 and DHD 415; or consent of the instructor.
Disability and Human Development	DHD	592	Interdisciplinary Seminar in Disability Studies	1 hours.	Students, faculty, and guest speakers present topics addressing current issues in research in the area of disability studies. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours. Students may register in more than one section per term. Previously listed as DIS 595. Prerequisite(s): Consent of the faculty adviser.
Disability and Human Development	DHD	593	Independent Research	1 TO 8 hours.	Advanced study and analysis of a topic selected by a student under the supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	594	Advanced Special Topics in Disability and Human Development	1 TO 4 hours.	Systematic study of advanced selected topics in disability and human development. May be repeated. Students may register in more than one section per term.

Disability and Human Development	DHD	595	Seminar in Disability and Human Development	1 TO 4 hours.	Identifies and analyzes a broad range of issues related to disability and human development. Topics vary according to student interests and instructor availability. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	596	Independent Study	1 TO 4 hours.	Advanced study and analysis of a topic under guidance of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Disability and Human Development	DHD	597	Project Research	0 TO 16 hours.	Independent research project under the supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Graduate standing in the M.S. in Disability and Human Development program and consent of the instructor.
Disability and Human Development	DHD	598	Master's Thesis Research	0 TO 16 hours.	Thesis research to fulfill master's degree requirements. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Graduate standing in the M.S. in Disability and Human Development program and consent of the instructor.
Disability and Human Development	DHD	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research in one area of disability studies. Satisfactory/Unsatisfactory grading only. May be repeated. Previously listed as DIS 599. Prerequisite(s): Graduate standing in the Ph.D. in Disability Studies program and consent of the instructor.

Earth and Environmental Sciences - EAES

Earth and Environmental Sciences	EAES	400	Field Experience in Earth Sciences	1 TO 6 hours.	Training in and application of field methods (geological, geochemical, and geophysical) to solution of problems in earth and environmental sciences. May be repeated to a maximum of 6 hours. Field trips required at a nominal fee. Field work required. Students who wish to use EAES 400 to satisfy the summer course selective must register for at least 4 credit hours. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	410	Geochemistry	4 hours.	Origin of elements. Principles of the distribution of elements in the earth's crust. Element partitioning between coexisting minerals. Thermodynamic considerations of mineral equilibria. Geochemistry of continental waters. Ocean geochemistry. Prerequisite(s): CHEM 114 or consent of the instructor.
Earth and Environmental Sciences	EAES	415	Environmental Geochemistry	4 hours.	Origin and distribution of elements in the earth. Thermodynamics and kinetics of mineral-solution reactions. Behavior of stable and radioisotopes in geochemical processes. Prerequisite(s): EAES 230 and EAES 285; and CHEM 114; or consent of the instructor.
Earth and Environmental Sciences	EAES	416	Organic Geochemistry	3 hours.	Global carbon cycle, chemical composition of biogenic matter, sedimentology and diagenesis of organic matter, molecular fossils, geopolymers, fossil fuels, anthropogenic organic compounds, carbon isotope geochemistry. Prerequisite(s): EAES 230 or EAES 320; and CHEM 114 or CHEM 130; or consent of the instructor.
Earth and Environmental Sciences	EAES	418	Introduction to Biogeochemistry	3 hours.	Explores the interaction of the biosphere, geosphere, and atmosphere on Earth, with focus on biogeochemical cycles and the methods used to study them. Examination of conditions on early Earth and the changes brought by the introduction of life. Prerequisite(s): CHEM 112 and CHEM 114; and EAES 230 or EAES 285 or EAES 111; or consent of the instructor. Recommended background: BIOS 100 or BIOS 101.
Earth and Environmental Sciences	EAES	422	Crystal Chemistry	3 OR 4 hours.	The crystal chemistry, chemistry, phase equilibria, and properties of materials and minerals. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): EAES 320; or consent of the instructor.
Earth and Environmental Sciences	EAES	430	Petrology	0 TO 4 hours.	Igneous and metamorphic rock composition, classification, rock-forming processes. Description and interpretation of thin-sections. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): EAES 320 and CHEM 114; or consent of the instructor.
Earth and Environmental Sciences	EAES	440	Structural Geology and Tectonics	0 TO 4 hours.	Elementary stress and strain relations; folds, fabrics and faults; deformation mechanisms; basic plate tectonic concepts with regional geological examples. 3 undergraduate hours. 4 graduate hours. Required weekend field trip at a nominal fee. Prerequisite(s): EAES 111 or consent of the instructor.
Earth and Environmental Sciences	EAES	444	Geophysics	3 OR 4 hours.	Introduction to basic principles of geophysics applicable for environmental problems and the solid earth including magnetics, electric, seismic, gravity, geophysical well logging, radioactivity and heat flow. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): EAES 111 or consent of the instructor. Recommended background: Completion of introductory courses in physics and calculus.
Earth and Environmental Sciences	EAES	448	Plate Tectonics	3 OR 4 hours.	Basic concepts and recent developments including plate kinematics, marine magnetics and paleomagnetics, evolution of oceanic lithosphere, subduction zones and passive margins. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): EAES 111 or consent of the instructor. Recommended background: Completion of introductory courses in physics and calculus.
Earth and Environmental Sciences	EAES	455	Clastic Sedimentology and Sequence Stratigraphy	4 hours.	Processes, facies, and sedimentary architecture in fluvial, deltaic, coastal, and offshore marine clastic depositional environments. Relative sea-level change and its controls on the stratigraphic record. Basin and reservoir modeling. Field trips required at nominal fee. Prerequisite(s): EAES 350 or consent of the instructor.
Earth and Environmental Sciences	EAES	466	Principles of Paleontology	3 hours.	Theory and methods of evolutionary paleobiology; includes paleoecology, functional morphology, and major features of organic evolution. Same as BIOS 466. Prerequisite(s): EAES 360 or consent of the instructor.
Earth and Environmental Sciences	EAES	470	Environmental Geomorphology	4 hours.	Quantitative analysis of the mechanics, rates, and distribution of physical processes that modify Earth's and other planets' surfaces. Introduction to field, theoretical, and modelling approaches. Prerequisite(s): EAES 230 or EAES 285; and MATH 181; or consent of the instructor.
Earth and Environmental Sciences	EAES	473	Soils and the Environment	4 hours.	Soil science, emphasizing local soils and parent materials, soil classification and mapping, soil physics, soil gases and greenhouse gas emissions, soil chemistry and biogeochemistry, soil-plant interactions, and soil invertebrates. Course information: Same as BIOS 473. Field work required. Recommended background: Introductory courses in Chemistry and Biology are recommended. Coursework in EAES (such as EAES 101 and/or 111) is preferred.
Earth and Environmental Sciences	EAES	475	Hydrology/Hydrogeology	0 TO 4 hours.	The occurrence, storage, movement, and quality of water above, on and below the Earth's surface. Topics progress through atmospheric water vapor processes, Earth surface hydrology, and groundwater hydrology. 3 undergraduate hours. 4 graduate hours. Field trip required at nominal fee. Prerequisite(s): EAES 101; and MATH 181; or consent of the instructor.
Earth and	EAES	480	Statistical Methods in Earth	0 TO 4 hours.	Techniques of probability and data analysis as applied to problems in environmental

Environmental Sciences			and Environmental Sciences		sciences. Sampling, statistical inference, descriptive statistics, multivariate methods, time series analysis. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Completion of at least one 200- or 300-level course in the earth and environmental sciences or consent of the instructor.
Earth and Environmental Sciences	EAES	484	Planetary Science	3 hours.	Explores how geologic processes are expressed on bodies in our solar system other than the Earth. Prerequisite(s): EAES 230 and EAES 285; or consent of the instructor.
Earth and Environmental Sciences	EAES	488	Instrumental Analysis	3 hours.	Scanning electron microscopy with energy-dispersive system. DC plasma analysis. Prerequisite(s): CHEM 114 and EAES 220; or consent of the instructor.
Earth and Environmental Sciences	EAES	492	Internship in the Earth and Environmental Sciences	1 hours.	Off-campus participation in governmental or private-sector training program. Credit is contingent on submission of a final report. Satisfactory/Unsatisfactory grading only. May be repeated with approval. A combined maximum of 6 hours of credit in EAES 492 and EAES 396 may be applied toward the degree. Prerequisite(s): Approval of the Department.
Earth and Environmental Sciences	EAES	494	Current Topics in Earth and Environmental Sciences	4 hours.	Discussion of current research topics in earth and environmental sciences. May be repeated to a maximum of 8 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor. Recommended background: Senior standing and 12 hours of advanced courses in earth and environmental sciences.
Earth and Environmental Sciences	EAES	510	Advanced Geochemistry	3 TO 4 hours.	Advanced topics in one of the following categories: isotope geochemistry and geochronology, distribution of elements in the earth's crust, mineral systems with and without volatile components, low-temperature mineral systems. Lectures and seminars. May be repeated if topics vary. Prerequisite(s): Consent of the instructor. Recommended background: Credit in EAES 410.
Earth and Environmental Sciences	EAES	511	Principles of Aqueous Geochemistry	4 hours.	Theory and application of thermodynamics and kinetics to processes controlling the compositions of natural waters, including solid and gas solubility, dissolution and precipitation, sorption, oxidation-reduction, acid-base equilibria. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	512	Solid-Water Interface Chemistry	4 hours.	Description, theory, and characterization of molecular-scale chemical processes at the solid-water interface. Major emphasis on oxide minerals with minor emphasis on metals, salts, and organics. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	513	Stable Isotope Geochemistry and Biogeochemistry	4 hours.	Lectures and readings will cover nucleosynthesis, physical basis of isotopic fractionation, isotopic distributions in nature, and applications of stable isotope ratio measurements in studies of geologic, hydrologic, and biogeochemical cycles. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	514	Environmental Radioactivity	4 hours.	Covers the origins and distribution of radioactivity in the natural environment, along with applications of radioactivity measurements to studies of geologic, hydrologic, atmospheric, and biological processes. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	516	Advanced Organic Geochemistry/Biochemistry	4 hours.	Carbon biogeochemical cycle, carbon fixation and carbon isotope fractionation, compound specific isotope analysis, biomarker geochemistry, paleoenvironment. Prerequisite(s): EAES 416 or consent of the instructor.
Earth and Environmental Sciences	EAES	518	Geobiology	4 hours.	Interactions between microorganisms and minerals, preservation of organisms and biofilms, influence of microorganisms in biogeochemical cycles, microorganisms on early Earth, life in extreme environments, the ?dark? biosphere, and astrobiology. Same as BIOS 518. Recommended background: Basic knowledge of biology, chemistry, and earth sciences at the level of introductory college courses in each subject.
Earth and Environmental Sciences	EAES	520	Advanced Mineralogy	4 hours.	Various types in one of the following catagories: structural determination, advanced diffraction techniques, crystal chemistry and structural mineralogy. Lectures, seminars, and laboratory. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	524	X-Ray Crystallography	4 hours.	Introduction to the use of diffraction techniques and crystallography for the identification and characterization of materials. Previously listed as EAES 424. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	530	Advanced Petrology	3 TO 4 hours.	Selected topics: generation and properties of magmas, formation of metamorphic rocks, reaction rates in metamorphic rocks. May be repeated if topics vary. Prerequisite(s): Consent of the instructor. Recommended background: Credit in EAES 430.
Earth and Environmental Sciences	EAES	540	Interdisciplinary Approaches to the Study of Integrated Human/Natural Landscapes	3 hours.	Examination of ecological, biogeochemical and evolutionary principles; techniques and philosophies of ecological remediation, restoration and conservation; environmental regulation and policy; sustainability in theory and practice. Same as BIOS 540 and CME 540. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	541	Seismology	4 hours.	Elastic wave propogation theory, instrumentation, seismic source mechanisms, body and surface waves, free oscillations, earth's interior, focal mechanisms, earthquakes and plate tectonics. Prerequisite(s): EAES 444 or consent of the instructor.
Earth and Environmental Sciences	EAES	543	Advanced Geophysics and Plate Tectonics	4 hours.	Advanced topics in geophysics and plate tectonics including subjects such as mantle convection, driving forces of plate tectonics and evolution of rifted continental margins. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): EAES 444 or EAES 448.

Earth and Environmental Sciences	EAES	545	Spatial and Temporal Analysis and Modeling	4 hours.	Methods for the analysis and modeling of spatial and temporal patterns in the earth and environmental sciences. Data acquisition. Prerequisite(s): Graduate standing; and consent of the instructor.
Earth and Environmental Sciences	EAES	546	Research Methods for Landscape Ecological and Anthropogenic Processes	4 hours.	Students will develop the skills to choose and utilize relevant methods and tools used in the study and management of altered natural landscapes to achieve research and management objectives through hands-on interdisciplinary laboratory modules. Same as BIOS 546 and CME 546. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	547	Field Experiences in Landscape Ecological and Anthropogenic Processes	4 hours.	Evaluation of the issues and needs of various landscape restorations and related urban-impacted sites in the Chicago metropolitan area based upon selected readings, site visits and presentations and discussions with the site manager/coordinators. Same as BIOS 547 and CME 547. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	548	Capstone Project in Landscape, Ecological and Anthropogenic Processes	4 hours.	Interdisciplinary capstone project course that explores a "real-world" environmental issue selected by the students and approved by the faculty. Students will conduct research and analysis collaboratively and develop solutions and recommendations. Same as CME 548 and EAES 548. Prerequisite(s): Grade of B or better in BIOS 540 or Grade of B or better in CME 540 or Grade of B or better in EAES 540 or Grade of B or better in UPP 555; and Grade of B or better in BIOS 546 or Grade of B or better in CME 546 or Grade of B or better in EAES 546 or Grade of B or better in UPP 555; and Grade of B or better in BIOS 547 or Grade of B or better in CME 547 or Grade of B or better in EAES 547 or Grade of B or better in UPP 555.
Earth and Environmental Sciences	EAES	555	Advanced Sedimentary Geology	3 hours.	Advanced topics in modern sedimentology and stratigraphy. May be repeated if topics vary. Field trips required at nominal fee. Prerequisite(s): EAES 455 or consent of the instructor.
Earth and Environmental Sciences	EAES	560	Topics in Paleontology	3 TO 4 hours.	In-depth analysis of current problems and issues in paleontology, involving reading primary literature, student presentations, and critical discussions. Same as BIOS 560. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Earth and Environmental Sciences	EAES	570	Advanced Surficial Processes	4 hours.	Advanced topics in theoretical, empirical, and applied aspects of hillslope processes, sediment transport mechanics, river mechanics, weathering and soil development, or drainage basin development. May be repeated if topics vary. Prerequisite(s): EAES 470.
Earth and Environmental Sciences	EAES	572	Quaternary Environmental Systems	3 hours.	Interrelations between eolian, lacustrine, marine, eolian and glacial environments for the past 1.8 million years; geochronologic and isotopic methods; stratigraphic and geomorphic approaches. Prerequisite(s): EAES 470.
Earth and Environmental Sciences	EAES	575	Advanced Hydrology	3 hours.	Selective topics; mechanics of near-surface groundwater, flow in fractured rocks, groundwater contamination, unsaturated-saturated flow, surface-groundwater interactions. May be repeated if topics vary. Prerequisite(s): EAES 475.
Earth and Environmental Sciences	EAES	576	Paleoclimatology	3 hours.	Principles of climatology and paleoclimatology; mechanisms and causes of climate change for the past 63 million years; geologic records of climate and modelling. Prerequisite(s): EAES 470.
Earth and Environmental Sciences	EAES	580	Aquatic Science	3 hours.	Addresses environmental issues related to lakes, rivers, estuaries, and coastal zones. Topics will cover sampling techniques, impact of humans, and global change. Field trip required at nominal fee. Prerequisite(s): EAES 475; or consent of the instructor.
Earth and Environmental Sciences	EAES	595	Departmental Seminar	1 hours.	Special one-hour seminar, every Thursday, by invited speakers from other earth and environmental sciences departments, governmental agencies, and industry. Satisfactory/Unsatisfactory grading only.
Earth and Environmental Sciences	EAES	596	Advanced Studies in Earth and Environmental Sciences	1 TO 6 hours.	Independent study or research with faculty supervision, leading to a written report. May be repeated. A maximum of 4 hours of credit may be applied toward the requirements for the M.S. degree. Prerequisite(s): Consent of the head of the department and the faculty member who will supervise the study.
Earth and Environmental Sciences	EAES	598	Master's Thesis Research	0 TO 16 hours.	Individual work under the supervision of faculty members in their respective fields. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the thesis supervisor.
Earth and Environmental Sciences	EAES	599	Ph.D. Thesis Research	0 TO 16 hours.	Individual work under the supervision of faculty members in their respective fields. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the thesis supervisor.

Economics - ECON

Economics	ECON	436	Mathematical Economics	3 OR 4 hours.	Application of mathematics to theories of consumer and producer behavior, determination of prices in markets, growth and stability features of macroeconomic models. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECON 218 or ECON 220; and either ECON 345 or MATH 165 or MATH 180.
Economics	ECON	441	Teaching Methods in Economics	3 OR 4 hours.	Develops skills in preparing and giving lectures and examinations, computer usage and other aspects of teaching economics and consumer economics at secondary/higher education levels. 3 undergraduate hours. 4 graduate hours. Credit earned in ECON 441 may not be used to satisfy Economics credit requirements for the BA, BS, MA or PhD degrees awarded by the Department of Economics. Credit earned in ECON 441 may be applied toward the degree as an elective. Prerequisite(s): For undergraduate students, two 300- or 400-level electives in economics; for graduate students in economics, one course in graduate-level microeconomics or macroeconomics.
Economics	ECON	442	Topics in Economic Education	1 TO 4 hours.	Topics vary. Course content is announced prior to each term in which it is given. May be repeated for credit. Students may register for more than one section per term. Credit for this course may not be used to satisfy the minimum number of Econonics credit hours needed for the BA, BS, MA or PhD in Economics. It may be used as general elective credit for these degree programs or as the Economic Education course requirement for the Certificate in the Teaching of Economics. Prerequisite(s): Consent of the instructor. Prerequisites may vary according to topic.
Economics	ECON	450	Business Forecasting Using Time Series Methods	3 OR 4 hours.	Autoregressive, moving average, and seasonal models for time series analysis and business forecasting. Forecasting using multi-variable transfer function models. Same as IDS 476. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or ECON 346 or consent of the instructor.
Economics	ECON	472	Real Estate Finance	3 OR 4 hours.	Finance principles applied to real estate; financing of residential and income-producing real estate; real estate development finance; secondary mortgage market; taxation and real estate finance. Same as FIN 472. 3 undergraduate hours. 4 graduate hours. May not be used to satisfy the Economics credit requirement for the MA in Economics and PhD in Economics. Elective credit only will be applied toward these degrees. Prerequisite(s): ECON 218 or ECON 220.
Economics	ECON	475	Real Estate Markets and Valuation	3 OR 4 hours.	Real estate market analysis. Sales comparison, cost, and income approaches to estimating residential and commercial property values. Statistical procedures for real estate analysis. 3 undergraduate hours. 4 graduate hours. Course may not be applied toward the minimum required courses in Economics for the MA or PhD in Economics. Prerequisite(s): ECON 218 or ECON 220; and ECON 270 or IDS 270; or consent of the instructor.
Economics	ECON	495	Competitive Strategy	4 hours.	Multidisciplinary analysis of organizational strategy and policy, using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.
Economics	ECON	499	Independent Study in Economics	1 TO 3 hours.	Independent study of a topic not covered in a graduate-level course. Prerequisite(s): Graduate standing and consent of the director of graduate studies and the instructor.
Economics	ECON	500	Managerial Economics	4 hours.	Economic analysis applied to business operations; demand theory; production cost analysis; capital theory; pricing policies; capital budgeting. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	501	Microeconomics I	4 hours.	Theories of consumer and producer behavior and determination of market price. Systematic treatment of the core of microeconomic theory. Prerequisite(s): ECON 220 and MATH 165.
Economics	ECON	502	Microeconomics II	4 hours.	Advanced microeconomic theory. Theories of consumer behavior, uncertainty, general equilibrium, welfare economics. Prerequisite(s): ECON 501.
Economics	ECON	511	Macroeconomics I	4 hours.	Static and dynamic theories of income, employment and the price level; advanced treatment of consumption, investment, money demand and aggregate production functions; stabilization theory and policy. Prerequisite(s): ECON 221.
Economics	ECON	512	Macroeconomics II	4 hours.	Neoclassical and modern market-clearing models of real and monetary influences on economic growth, inflation and business cycles. Prerequisite(s): ECON 511.
Economics	ECON	513	Special Topics in Macroeconomics and International Economics	4 hours.	Intense study of selected research topics in macroeconomics and international economics. Topics may vary. Prerequisite(s): ECON 512.
Economics	ECON	514	International Trade Policy	4 hours.	Theoretical models on the causes and consequences of international trade and their empirical validation. Effects of tariff and non-tariff trade policies and preferential trade agreements. Prerequisite(s): ECON 501; or ECON 520 and ECON 521.
Economics	ECON	515	International Monetary Policy	4 hours.	Capital mobility and stabilization policy under fixed and flexible exchange rates; optimum currency areas; reform of international monetary system; problems of liquidity adjustment and confidence. Prerequisite(s): ECON 511 or ECON 521.
Economics	ECON	516	Economic Development in an Interdependent World	4 hours.	Theoretical and empirical studies of economic development with intersectoral and international perspectives; structural change and resource reallocation; factor proportions, substitutability, and movement; export-led growth. Prerequisite(s): ECON 501 or ECON 520 or consent of the

					instructor.
Economics	ECON	519	International Economics for Business	4 hours.	Comparative advantage. Trade policy. Custom unions and free-trade areas. Balance of payments and foreign-exchange markets. Capital mobilty and other globalization issues. Stabilization policy. Monetary integration. Credit for ECON 519 may not be used to satisfy Economics credit requirements for the MA or PhD in Economics or for the PhD in Business Administration (Concentration in Economics). Credit is not given for ECON 519 if the student has credit for ECON 333, ECON 415 or ECON 515. Prerequisite(s): ECON 520.
Economics	ECON	520	Microeconomics for Business Decisions	4 hours.	Efficient allocation of resources by consumers, profit and non-profit firms and government, regulation of industry, monopoly and imperfect competition, business ethics and the market place, efficiency versus equity, social welfare. Credit is not given for ECON 520 if the student has credit in ECON 501. Prerequisite(s): MATH 165 or MATH 181 or the equivalent.
Economics	ECON	521	Macro and International Economics for Business	4 hours.	Impact of the macro economy and international economics on business decisions. Determination of economic activity, inflation, interest rates and exchange rates. Role of monetary and fiscal policy. Credit is not given for ECON 521 if the student has credit in ECON 511.
Economics	ECON	531	Labor Economics I	4 hours.	Determinants of wage differentials; analysis of determinants and consequences of investments in human capital (schooling, on-the-job training, health); labor mobility, supply and allocation of time. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	532	Labor Economics II	4 hours.	Impact of training, legislation, institutional constraints, and discrimination on the labor market. Focus on demographic groups (race, nativity, ethnicity, gender). Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	533	Economic Development and Human Resources	4 hours.	Economic Theory applied to less developed countries, focusing on humann aspects of development. Household economy, employment, earnings; labor productivity, unemployment; migration, population growth, income distribution. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	534	Econometrics I	4 hours.	Detailed treatment of the multivariate linear regression model using matrix algebra. Emphasis on formulating and testing static and dynamic econometric models. Prerequisite(s): ECON 346; or consent of the instructor.
Economics	ECON	535	Econometrics II	4 hours.	Detailed treatment of simultaneous equations estimation; evaluation of alternative estimators; problems of estimation including PROBIT, LOGIT, TOBIT and error component models. Prerequisite(s): ECON 534.
Economics	ECON	536	Advanced Mathematical Economics	4 hours.	Mathematics theory and applications, including calculus and linear algebra, to theories of consumer and producer behavior, general equilibrium, welfare economics, externalities, and social choice. Prerequisite(s): MATH 181.
Economics	ECON	537	Business Research and Forecasting I	4 hours.	The role of research in business; forecasting methods and techniques, including models and their applications. Same as IDS 582. Prerequisite(s): ECON 534 and at least one statistics course with regression analysis at the 300-level or above.
Economics	ECON	538	Business Research and Forecasting II	4 hours.	The role of research in business; forecasting methods and techniques, including multivariate time series models and their applications. Same as IDS 583. Prerequisite(s): IDS 476 or IDS 582 or ECON 537.
Economics	ECON	539	Microeconometrics	4 hours.	Application of econometric techniques to empirical problems in microeconomics with emphasis on issues of identification and causality; and the selection, implementation and testing of statistical models. Prerequisite(s): ECON 501 and ECON 535.
Economics	ECON	551	Economics of Education	4 hours.	Basic concepts and tools of economics applied to education. Economic implications of educational outcomes for the economy, and for socioeconomic structure (e.g., income distribution, fertility patterns, ethnic group differences). Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	552	Economic Demography	4 hours.	Economic analysis of fertility (number and timing of children), mortality, marriage and divorce, population age structure, the relationship between population growth and economic development. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	553	Economics of Religion	4 hours.	The economic determinants of participation in religious activities; the effects of religion on economic and demographic behavior, health, and well-being. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	555	Health Economics I	4 hours.	Topics in the supply and demand for health services; the role of insurance in the medical care industry; public policy issues of cost and quality regulation. Prerequisite(s): ECON 501 or ECON 520; or consent of the instructor.
Economics	ECON	556	Health Economics II	4 hours.	Economics of health-related behaviors, prevention and health promotion, health disparities, health and development, evaluation of health-related interests. Prerequisite(s): ECON 501 or ECON 520; or consent of the instructor.
Economics	ECON	560	Industrial Organization	4 hours.	Analysis of industry structure, behavior and performance; firms in imperfect competition; concentration measurement; oligopoly; theory; cartels; price discrimination; vertical and horizontal integration. Prerequisite(s): ECON 501 or ECON 520 or consent of the instructor.
Economics	ECON	570	Environmental and Natural Resource Economics	4 hours.	Analytical methods for evaluating the impacts and control costs of pollution externalities and natural resource changes. Consequent implications for public and business policy. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	571	Urban Real Estate	4 hours.	Economic analysis of urban real estate and land. Real estate appraisal. Demand for urban land;

			and Land Economics		supply of land and improvements. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	572	Urban Economics	4 hours.	Urban economic models and economic analysis of urban problems. Firm location, housing, transportation, local public finance. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	575	Economic Analysis of Public Expenditures	4 hours.	Microeconomic theory as applied to public expenditure decisions; externalities, shadow prices and investment criteria in cost-benefit analysis; uncertainty and the value of life; extensive illustrative case studies. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	576	Economics of Taxation	4 hours.	Analysis of the effects of taxation on economic behavior; taxation and public choice; the effects of taxation on the distribution of income; theory and empirical analysis of welfare effects of taxes; optimal tax theory; issues in tax policy and tax reform. Prerequisite(s): ECON 501 or ECON 520.
Economics	ECON	592	Workshop in Economics	4 hours.	Bridges the transition from coursework to dissertation research. The nature of a Ph.D. dissertation, topic selection, career design, research support networks. Students define a potential dissertation topic, survey the literature, and present it in class. Prerequisite(s): Comprehensive exams in micro and macro.
Economics	ECON	593	Internship Program	0 TO 8 hours.	Under the direction of a faculty supervisor, students work in government or a private firm on problems related to their major field of interest. Specific credit allotted is determined by the Graduate Curriculum Committee after receiving the supervisor's recommendation. Prerequisite(s): Completion of the core courses in the degree program in which the student is enrolled and approval of the internship program by the graduate adviser and the Graduate Curriculum Committee.
Economics	ECON	594	Special Topics in Economics	1 TO 4 hours.	An intensive study of a selected topic in economics. May be repeated. Students may register in more than one section per term.Topics vary by sections and by term. Prerequisite(s): ECON 501 or ECON 520; or consent of the instructor.
Economics	ECON	596	Independent Study	1 TO 4 hours.	Independent study under faculty supervision. Prerequisite(s): Consent of the instructor.
Economics	ECON	598	Master's Thesis Research	0 TO 16 hours.	Research on M.A. thesis. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the chair of the thesis committee.
Economics	ECON	599	Ph.D. Thesis Research	0 TO 16 hours.	Research on a Ph.D. thesis. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the chair of the thesis committee.

Education - ED

Education	ED	402	Philosophy of Education and Urban School Policy	3 hours.	Selected social and education philosophies and their impact on urban school curriculum design, school organization and control.
Education	ED	403	Policy Issues in the History of American Education	3 hours.	Political, economic, and cultural influences shaping the development of American education policy; emphasis on issues of education theory and practice in their historical settings.
Education	ED	421	Advanced Educational Psychology	3 hours.	Examines current theory and research on the teaching-learning process with particular attention to general learning and curriculum-relevant problem solving skills. Prerequisite(s): ED 210 or graduate standing.
Education	ED	422	Advanced Developmental Psychology and Educational Processes	3 hours.	Focuses on cognitive and social development from birth to adolescence. Examines relations between development, learning, and educational processes. Same as PSCH 422. Prerequisite(s): PSCH 100 and any one from ED 210, PSCH 259, PSCH 320; or graduate standing and consent of the instructor.
Education	ED	429	Practicum in Middle and High School Classrooms	2 hours.	Students will observe secondary classrooms, tutor individuals, and teach small groups. Discussions explore curriculum, instruction, and assessment practices within content areas and cultural contexts. Prerequisite(s): Admission into a secondary teacher education program and graduate standing. Must enroll concurrently in ED 430.
Education	ED	430	Curriculum and Teaching	3 hours.	Introduction to curriculum and teaching as areas of inquiry; implications of these areas of inquiry for educational practice; related contemporary problems and issues. Credit is not given for ED 430 if the student has credit for CI 428. Prerequisite(s): Admission to graduate study in Education, or consent of the instructor.
Education	ED	431	Improving Learning Environments	3 hours.	Analysis of structural, normative, and social dimensions of learning environments and their relationships to student learning. Exploration of change processes to improve those environments. Prerequisite(s): Graduate standing or consent of the instructor.
Education	ED	432	Instruction and Assessment in the Urban Secondary Classroom	5 hours.	Learning to teach, how to plan for diverse learners, design differentiated instruction, assess student learning and develop classroom discipline. Field experience in urban schools is required. Prerequisite(s): Completion of education core courses in Graduate Teacher Certification Program: Ed 402 or ED 403 and ED 445.
Education	ED	440	Capstone Experience: Project Planning	3 hours.	This course is Part I of the yearlong capstone experience for EDS candidates. Students will identify a topic with a sociopolitical or educational policy focus and develop a proposal for an internship/community project and a research/policy paper. Planning may include a related fieldwork experience and an outline of inquiry for project implementation. Prerequisite(s): Senior standing or above; and approval of the department and admission to the BA in Urban Education, Concentration in Education in a Democratic Society.
Education	ED	441	Capstone Experience II	6 hours.	This course is Part II of the yearlong capstone experience for EDS candidates. Students will implement their proposed community project/internship and complete their research/policy paper.
Education	ED	445	Adolescence and the Schools	3 hours.	Physiological, intellectual, and social development of adolescence. Relations between aspects of adolescent development and the academic and social demands of secondary schools. Prerequisite(s): ED 210 or the equivalent, or graduate standing.
Education	ED	450	Student Teaching in the Urban Elementary Classroom I	9 hours.	A year-long experience of the program, student teaching in an urban elementary classroom. This is the pre-student teaching practicum that has teacher candidates in classrooms three days a week with a weekly seminar. 9 hours. Prerequisite(s): Senior standing or above and admission to the Bachelor of Arts in Urban Education, Concentration in Elementary Education.
Education	ED	451	Composing a Teaching Life II/Senior Reflective Seminar	5 hours.	Provides the capstone experience for students, with a weekly Senior Reflective Seminar in which students reflect upon their teaching through the lenses of the five program curricular strands. Field work required. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program. Senior standing and successful completion of ED 450.
Education	ED	461	Political and Socio-Cultural Perspectives on Special Education	3 hours.	Students will examine issues of access and equity through legislation, litigation, and socio-cultural perspectives and be introduced to major theoretical frameworks that influence special education programs. Same as SPED 461. Field work required.
Education	ED	470	Educational Practice with Seminar I	0 TO 12 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the college. 1 to 12 hours. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the college or department of specialization.
Education	ED	471	Educational Practice with Seminar II	0 TO 12 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the college. 1 to 12 hours. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in ED 470, and approval of the college or department of specialization.
Education	ED	472	Promoting	3 hours.	The importance of school-wide and classroom structure and climate in the educational process.

			Academic and Prosocial Behavior I		Strategies to promote academic success and desired social behavior. Same as SPED 472. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Education	ED	473	Teaching Math and Science with Adaptations	3 hours.	Provides prospective teachers with assessment strategies and a range of adaptations, modifications, and interventions in math and science for students with disabilities. Same as SPED 473. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Education	ED	500	Philosophical Foundations of Educational Inquiry	4 hours.	Philosophical foundations of various forms of educational inquiry. Epistemological and ethical dimensions of different research approaches. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.
Education	ED	501	Data and Interpretation in Educational Inquiry	4 hours.	Data, interpretation, reliability, validity, accuracy, stability, and generalizability from different methodological perspectives; how research design, data collection, and interpretation vary with different philosophical approaches. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.
Education	ED	502	Essentials of Qualitative Inquiry in Education	4 hours.	Hands-on introduction to qualitative research methods, including foundations, practices, and ethics in qualitative research. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.
Education	ED	503	Essentials of Quantitative Inquiry in Education	4 hours.	Introduces theory and assumptions behind parametric statistics. Also provides hands-on experience in conducting basic quantitative research (t-test, correlation, regression, analysis of variance). Same as EPSY 503. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.
Education	ED	504	Urban Contexts and Educational Research	4 hours.	A multidisciplinary approach for understanding research on learners and learning, schools and schooling, families, and communities in urban contexts. Extensive computer use required. Prerequisite(s): Admission to one of the PhD programs in the College of Education or consent of the instructor.
Education	ED	505	Introduction to Educational Research: Paradigms and Processes	4 hours.	Offers a survey introduction to the history, contexts, paradigms and orientations, ethics, and processes of educational research. Extensive computer use required. Prerequisite(s): Admission to one of the PhD programs in the College of Education or consent of the instructor.
Education	ED	506	Introduction to Educational Research: Designs and Analyses	4 hours.	Offers researchers an introduction to research in the field of education. It is the second of a two-course sequence and will introduce students to different types of research designs and analyses in the field of education. Extensive computer use required. Prerequisite(s):
Education	ED	543	Research on Teaching	4 hours.	Review and analysis of history, paradigms, methods, and findings of research on teaching. Focus on the development of research questions and strategy. Prerequisite(s): ED 490 or ED 503 or CIE 578; and consent of the instructor.
Education	ED	580	Colloquium on Diversity in Secondary Education	2 hours.	Designed to provide candidates with opportunities to interact with experts who deal with various issues of diversity in education, to discuss those issues with their cohorts, and to explore ways of meeting students' diverse needs. Satisfactory/Unsatisfactory grading only.
Education	ED	594	Special Topics in Education	1 TO 4 hours.	Exploration of a topic not covered in existing course offerings. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Education	ED	596	Independent Study	1 TO 4 hours.	Students independently study related topics not covered by course, under faculty supervision. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the advisor.

Educational Policy Studies - EDPS

Educational Policy Studies	EDPS	412	Politics of Urban Education	3 OR 4 hours.	Relations between school governance and politics. The role of educational interest groups, school boards, professional educators, and citizens in formulation and execution of educational policy. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	449	Early Childhood /Early Childhood Special Ed: Perspectives, Policies and History	3 hours.	Perspectives, policies, history, and foundations of Early Childhood Education and Early Childhood Special Education. Emphasis on the effects of changing economic, political, legal, social, and views of human development. Same as EPSY 449 and SPED 449.
Educational Policy Studies	EDPS	453	Topics in Educational Policy Studies	3 OR 4 hours.	Topics are announced at the time the class is scheduled. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours.
Educational Policy Studies	EDPS	480	Youth Culture Community Organizing and Education	4 hours.	Introduction to the tenets of community organizing in partnership with contemporary interpretations of youth culture as a means to interpret urban public education. Prerequisite(s):
Educational Policy Studies	EDPS	500	City Schools: Education in the Urban Environment	4 hours.	Cross-disciplinary, critical analysis of relationships between public schools and school districts and their urban environments, with attention to implications for school improvement. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	501	Education Finance and Budgeting	4 hours.	Role of government, school boards, and community in funding education. Principles of school and district financial planning, management, and analysis. Equity issues in school finance. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	502	Advanced Foundational Studies in Philosophy of Education	4 hours.	Advanced investigation of historical and emergent themes in philosophy of education, with specific attention to competing perspectives on human nature and knowing, methods of philosophic inquiry, and the nexus of democratic and educational theory. Prerequisite(s): Enrollment in a doctoral program or consent of the instructor. Recommended background: ED 402.
Educational Policy Studies	EDPS	503	History and Historiography in Education	4 hours.	An advanced critical analysis of the history of education in the United States, with specific attention to competing historical perspectives, historical methods of investigation, and the educational histories of different population groups.
Educational Policy Studies	EDPS	505	Social Theory in Educational Foundations	4 hours.	Investigates competing theoretical perspectives in the social foundations of education, addressing the evolution of social and educational theory. Prerequisite(s): Enrollment in a doctoral program or consent of the instructor.
Educational Policy Studies	EDPS	510	Introduction to Doctoral Education in Policy Studies	4 hours.	This required doctoral seminar will be taken in the first year of doctoral study. It introduces theoretical perspectives and research problems in both concentrations of the Ph.D. program as well as relation between educational and social change. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Ph.D. in Policy Studies in Urban Education program or consent of the instructor.
Educational Policy Studies	EDPS	512	Data and Interpretation in Educational Policy Studies	4 hours.	Methodology course providing students with basic understanding and skills in assessing, interpreting and representing quantitative and qualitative evidence in educational policy studies research. Students study research design and critique. Prerequisite(s): ED 500 and enrollment in the Ph.D. in Policy Studies in Urban Education program or consent of the instructor.
Educational Policy Studies	EDPS	544	Research Design in Educational Policy Studies	4 hours.	Alternative research design models and evaluation methodologies; quantitative and qualitative approaches; ethnography; historiography; experimentation and quasi-experimentation; institutional and practitioner research designs and methods. May be repeated. Prerequisite(s): Admission to the Ph.D. in Policy Studies in Urban Education (Educational Organization and Leadership Concentration) or the Ed.D. in Urban School Leadership Program and consent of the instructor.
Educational Policy Studies	EDPS	548	Leadership for Literacy Instruction	4 hours.	School and system leadership practices for promoting effective literacy instruction in urban elementary and secondary schools. Assessment and improvement of literacy curriculum, pedagogy, and evaluation. Same as CI 548. Prerequisite(s): Consent of the instructor; admission to a degree program in the College of Education. Students admitted to the Ed.D. in Urban Education Leadership, prerequisites also include EDPS 550 and EDPS 552.
Educational Policy Studies	EDPS	549	Critical Pedagogy: Practice and Theory	4 hours.	Examine theory and practice of social justice teaching in schools, including: history liberatory pedagogies, culturally relevant and critical pedagogies, funds of knowledge, critical multiculturalism and anti-racist pedagogy, critical race theory. Same as CI 549. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	550	Organizational Change in Education	4 hours.	Introduction to models and theories of organizational change in education. Overview of mechanisms, resources, and contexts of effective school improvement. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	552	The Urban School Principal	4 hours.	Leadership and management responsibilities of principals in urban schools. Theory and research on principal leadership, case study analysis, and field experience with working principals. Prerequisite(s): Admission to the Ed.D. in Urban School Leadership Program or consent of the instructor.

Educational Policy Studies	EDPS	553	System Leadership in Urban Schools	4 hours.	Leadership and management responsibilities of system-level administrators in urban school districts. Theory and research on system level leadership using case study analysis and field work with system administrators. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	555	Political Economy of Urban Education	4 hours.	Politics of urban school policy and practice. Interest groups, school boards, educators, citizens, and governments as political actors. Educational leadership in political context. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	556	Instructional Leadership	4 hours.	Instructional improvement role of educational leaders of urban schools. Human resource development, parent/community support, supportive organizational contexts. Strategic planning, implementation, and evaluation. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	559	Internship in Educational Leadership	4 hours.	Field experience in approved educational leadership positions and sites to perform authentic leadership tasks. Supervision by site-based mentor and university instructor. Different sections will focus on school-level and system-level administration. May be repeated. 4 hours required for the Illinois Type 75 certificate. Additional hours may be needed for students to satisfy local school system administrator certification requirements (such as Chicago Public School's 1019 requirement). Prerequisite(s): Admission to the Ed.D. in Urban School Leadership program and to the Type 75 General Administrative Certificate program, and consent of the instructor. Requires concurrent registration in EDPS 573.
Educational Policy Studies	EDPS	563	Politics of Gender, Sexuality, and Education	4 hours.	Cross-disciplinary examination of issues related to gender, sexuality, and sexual orientation in education, with critical attention paid to educational policy and practice. Same as GWS 563. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	565	Globalization and Education	4 hours.	Examines implications of global economic, political, and cultural processes for educational policies and practices at local and national levels. Prerequisite(s): Graduate standing; and consent of the instructor.
Educational Policy Studies	EDPS	566	Cultural Studies in Education	4 hours.	Examines origins, evolution, and current frameworks of cultural studies, with a focus on educational policy and practice. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	567	Economics of Education	4 hours.	Introduction to the economics of education. Relates education and income, studies and conditions for efficient production of education, teacher markets and school finance. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	568	Education and the Law	4 hours.	Legal rights, responsibilities, and authority of students, parents, teachers, administrators, boards, and government units in relation to schools. Legal issues in education policy and practice. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	570	Historical and Philosophical Analysis of Education Policy	4 hours.	Historical and philosophical research methodology in the study of educational policy. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	571	The Education Policy Process	4 hours.	Examination of forces that influence the processes of educational policy making, adoption and implementation, with a focus on the roles of legislatures, courts, government agencies, interest groups. Prerequisite(s): Admission to the PhD in Policy Studies in Urban Education or the EdD in Urban School Leadership or consent of the instructor.
Educational Policy Studies	EDPS	572	Sociology of Education	4 hours.	Education as a social institution in interaction with other institutions, such as the economy. Topics include the emergence of national systems of education, purposes of education, inequality and educational reform. Same as SOC 572. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	573	Seminar in Education Leadership Practice	4 hours.	Budget and finance, strategic planning and decision making, communication, use of data and technology, parent/community relations, student support services. Different sections will focus on school-level and system-level administration. May be repeated. 4 hours is required for the Illinois Type 75 certificate. Additional hours may be needed for students to satisfy local school system administrator certification requirements (such as Chicago Public School's 1019 requirement). Prerequisite(s): Admission to the Ed.D. in Urban Educational Leadership program and consent of the instructor. Requires concurrent registration in EDPS 559.
Educational Policy Studies	EDPS	574	Impact of College on Students	4 hours.	Introduction to research on the impact of college on students. Emphasis is placed on methods of assessing impact and research on college effects. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	575	Higher Education Organization and Administration	4 hours.	Perspectives on organization, leadership, and administration of higher education. Understandings from organization theory and research on postsecondary institutions applied to issues in higher education administration. Prerequisite(s): Admission to Ph.D. in Public Policy Analysis program or consent of the instructor.
Educational Policy Studies	EDPS	576	History of Higher Education	4 hours.	Focus on key historical events that have had enduring implications for colleges and universities. Emphasis on social, political, economic, intellectual, and legal forces shaping American higher education. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	577	American Academic Profession	4 hours.	Foundations of the academic profession. Emphasis on institutional and disciplinary variation in the performance, evaluation, and reward of faculty activities. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	578	Political Theory and Education Policy	4 hours.	Theoretical perspectives on the role of politics in the development of educational policy at the federal, state and local levels. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	579	Organization Theory in Education	4 hours.	Theories of decision making, organizational effectiveness, and organizational improvement in education. Multi-disciplinary and historical perspectives and their application to understanding

					the nature and function of educational organizations. Prerequisite(s): Admission to the Ph.D. in Policy Studies in Urban Education program or the Ed.D. in Urban School Leadership program or consent of the instructor.
Educational Policy Studies	EDPS	581	Collective Bargaining in Education	4 hours.	Role of collective bargaining in governance, function, and improvement of school systems. Models and processes of negotiation, engagement, and conflict resolution. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	582	Cultural Pluralism and Education Policy	4 hours.	Social philosophical analysis of the theory of cultural pluralism, its relation to the liberal-experimentalist tradition in educational thought; selected equal educational opportunity policies; recent federal and state legislation on multicultural education. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	583	Women in Education	4 hours.	An overview of girl's and women's educational experiences and placement within the academic structure (as students, professionals and intellectuals). The impact of gender on the realization of educational, economic and social opportunities. Same as GWS 583. Prerequisite(s): Consent of the instructor or enrollment in the Ph.D. in Policy Studies in Urban Education program.
Educational Policy Studies	EDPS	586	Methods of Institutional and Practitioner Research	4 hours.	Methods of institutional and practitioner research for practicing educators in school and school system settings. Relationship of this form of inquiry to educational leadership and improvement. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	587	Methods of Case Study Research	4 hours.	Study and practice in documentary and field research methods of collecting, organizing and integrating educational data for case study. Includes attention to interviewing, observation, ethnography, and historiography. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	588	Critical Race Theory: Race and Racism in Education	4 hours.	Examines theories of race and racism in education within the interdisciplinary construct of Critical Race Theory. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	589	Adminstrative and Leadership Theory in Education	4 hours.	Overview of administrative theory including theory-practice interface; administrative theory history; and relationships of administrative theory to educational administration and organizations. Prerequisite(s): Admission to the Ph.D. in Policy Studies in Urban Education program or the Ed.D. in Urban School Leadership program or consent of the instructor.
Educational Policy Studies	EDPS	592	Professional Career Training in Education Policy Studies	4 hours.	Faculty supervised training through university teaching, research or internship. Presentation relating experience to theory. May be repeated to a maximum of 16 hours. Prerequisite(s): Approval of the Department Chairperson.
Educational Policy Studies	EDPS	593	Doctoral Research Project	1 TO 8 hours.	Students design, implement, and analyze results of a research problem in this area of specialization. Completed study is reviewed by faculty. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	594	Special Topics in Educational Policy	4 hours.	Exploration of an area not covered in existing course offerings. Topics vary. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Educational Policy Studies	EDPS	596	Independent Study in Educational Policy Studies	1 TO 4 hours.	Students carry out independent study in Educational Policy Studies under the direction of a faculty member. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the advisor and the Department Chairperson.
Educational Policy Studies	EDPS	599	Dissertation and Thesis Research in Educational Policy Studies	0 TO 16 hours.	Research on the topic of the student's dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the dissertation advisor.

Educational Psychology - EPSY

Educational Psychology	EPSY	413	Youth Development Colloquium	1 hours.	Focuses on current issues and trends in the field of youth development. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Junior standing or above.
Educational Psychology	EPSY	414	Developing Programs for Youth in Urban Contexts	3 hours.	Survey, evaluation, and development of models and programs designed to facilitate growth, development and learning for diverse youth. Specific focus will be on the urban context. Previously listed as CI 416. Prerequisite(s): Consent of the instructor or enrollment in the Youth Development Program.
Educational Psychology	EPSY	415	Fieldwork in Youth Development in Urban Contexts	3 hours.	Experience working with programs that foster the developmental needs of young people in urban contexts. Students will design, implement and evaluate programs that promote personal development and independent action among youth. May be repeated to a maximum of 6 hours. Previously listed as CIE 415. Field work required. Prerequisite(s): Enrollment in M.Ed in Youth Development or consent of the instructor.
Educational Psychology	EPSY	416	Systematic Approaches to Program Quality	3 hours.	An overview of theories and methods in exploring the system of program development, quality implementation, and evaluation. Relevant for those working in diverse settings and with diverse youth. Course information: Recommended background: coursework in psychology or educational psychology.
Educational Psychology	EPSY	420	Social Development of Urban Children	3 OR 4 hours.	General principles of social development and socialization during childhood and the factors common to urban children that illustrate and modify these principles. Same as PSCH 420. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to a graduate program in education or psychology, or consent of the instructor.
Educational Psychology	EPSY	429	Constructivist Approaches to Development: Piaget and Vygotsky	3 OR 4 hours.	Piaget's and Vygotsky's theories of development of knowledge. Empirical and logico-mathematical forms of knowledge. Thought and action. Thought and language. Same as PSCH 429. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ED 422 or PSCH 422 or the equivalent and graduate standing in education or graduate standing in psychology or consent of the instructor.
Educational Psychology	EPSY	446	Characteristics of Early Adolescence	3 hours.	Physiological, social, emotional and cognitive development of early adolescence. The relationship between these developmental characteristics and success in the middle grades. Same as PSCH 423. Prerequisite(s): ED 210 or ED 421 or ED 422 or PSCH 422 or the equivalent, and approval of the College of Education; or admission to the Ph.D. in Psychology program; or consent of the instructor.
Educational Psychology	EPSY	447	Adolescence in Urban Contexts	3 hours.	Overview of physiological, social and cognitive development and how the urban context shapes development. The course utilizes an assets-based approach that challenges stereotypes and normative assumptions regarding the adolescents in urban contexts. Prerequisite(s): Introductory coursework in psychology, child development, and social development; or admission to the M.Ed. or doctoral program in Educational Psychology.
Educational Psychology	EPSY	449	Early Childhood/Early Childhood Special Education: Perspectives, Policies and History	3 hours.	Perspectives, policies, history, and foundations of Early Childhood Education and Early Childhood Special Education. Emphasis on the effects of changing economic, political, legal, social, and views of human development. Same as SPED 449 and EDPS 449.
Educational Psychology	EPSY	451	Staff Management and Human Relations for Leaders in Early Childhood Education	3 hours.	Designed for directors, supervisors and managers in early childhood programs. Focuses on the administrator's role in staff development and human relations, including recruitment, hiring, retaining, training, support and evaluation of personnel.
Educational Psychology	EPSY	452	Legal, Fiscal and Program Management for Leaders in Early Childhood Education	3 hours.	Provides students with opportunities to learn and apply current theories of administration in order to improve their skills in managing early childhood education programs.
Educational Psychology	EPSY	453	Educational Programming and Community Relations for Leaders in Early Childhood Education	3 hours.	Designed for directors and managers in early childhood programs. Focuses on development and implementation of a program philosophy, curriculum for typically and atypically developing children; and promoting a positive image to the public.
Educational Psychology	EPSY	465	Cognitive Development and Disabilities	3 hours.	Theory and research on cognitive development in children with disabilities from infancy through adolescence, in the context of typical development. Models for cognitive assessment and intervention. Same as SPED 465. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Educational	EPSY	466	Language	3 hours.	Theory and research on language development in children with disabilities, in the context of

Psychology			Development, Diversity, and Disabilities		typical development. Models for language assessment and intervention. Same as SPED 466. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Educational Psychology	EPSY	467	Social and Emotional Development and Disabilities	3 hours.	Exploration of the risk factors and different theoretical approaches associated with the social and emotional development of youth ages 5-21 with and without disabilities. Same as SPED 467. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Educational Psychology	EPSY	494	Topics in Educational Psychology	1 TO 4 hours.	Seminar on a pre-announced topic focusing on methodology, research and educational implications of recent models of learning, problem solving, and thinking. May be repeated to a maximum of 12 hours. Prerequisite(s): Consent of the instructor.
Educational Psychology	EPSY	496	Independent Study	1 TO 4 hours.	Students carry out independent study under the direction of educational psychology faculty member. Prerequisite(s): Junior standing or above; and consent of the instructor.
Educational Psychology	EPSY	500	Proseminar in Educational Psychology	2 hours.	Interdisciplinary colloquia on selected topics in educational psychology. Serves as introduction to faculty research foci. Same as PSCH 550. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program, or consent of the instructor.
Educational Psychology	EPSY	501	Cognition and Instruction	4 hours.	Current research on relations among cognitive processes, learning, and instruction. Same as PSCH 551. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program, or consent of the instructor.
Educational Psychology	EPSY	502	Social Psychology of Education	4 hours.	Social psychological factors influencing academic and social outcomes in schools. Achievement motivation, peer relations, social values in relation to student characteristics and school practice. Same as PSCH 517. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program; or consent of the instructor.
Educational Psychology	EPSY	503	Essentials of Quantitative Inquiry in Education	4 hours.	Introduces theory and assumptions behind parametric statistics. Also provides hands-on experience in conducting basic quantitative research (t-test, correlation, regression, analysis of variance). Same as ED 503. Prerequisite(s): Admission to the Ph.D. in Education program or consent of the instructor.
Educational Psychology	EPSY	504	Rating Scale and Questionnaire Design and Analysis	4 hours.	Development and administration of rating scales and questionnaires, analysis of data, and reporting of results. The focus is on rating scales. Same as PSCH 504. Previously listed as EPSY 550. Prerequisite(s): ED 501, and ED 503 or EPSY 503 or the equivalents or consent of the instructor.
Educational Psychology	EPSY	505	Advanced Analysis of Variance and Multiple Regression	4 hours.	Detailed coverage of the principles of ANOVA models, multiple correlation, and multiple regression techniques as tools for the analysis and interpretations of educational and behavioral science data. Extensive computer use required. Prerequisite(s): EPSY 503; or consent of the instructor.
Educational Psychology	EPSY	506	Item Response Theory/Rasch Measurement	4 hours.	Statistical inference with item response theory models, useful to measure an individual's performance on a test or questionnaire. Models include parametric, non-parametric, unidimensional, multidimensional, and cognitive. Same as PSCH 506. May be repeated to a maximum of 8 hours. Extensive computer use required. Prerequisite(s): ED 501 and EPSY 503 and EPSY 546 or the equivalent. Appropriate score on the department placement test. Graduate or professional standing required or consent of the instructor.
Educational Psychology	EPSY	507	Approaches to Analyzing Rating Data	1 TO 4 hours.	An introduction to various statistical approaches for detecting rater effects and monitoring rater performance. Extensive computer use required. Prerequisite(s): ED 501 and ED 503 or the equivalent; or consent of the instructor. Recommended background: EPSY 504 and EPSY 505 and EPSY 506 and EPSY 512 and EPSY 546; and EPSY 547
Educational Psychology	EPSY	509	Research Design in Education	4 hours.	Emphasis is placed on discriminating theoretical and program evaluation research, distinguishing the parts of the study, and designing a research proposal. Prerequisite(s): Admission to a graduate program.
Educational Psychology	EPSY	510	Theory of Statistics	4 hours.	The foundations of statistical analysis and probability modeling, including probability theory, parameter estimation, axioms and principles of rational decision-making, and large-sample theory. EPSY 546 or EPSY 547 or EPSY 563; and graduate or professional standing; or consent of the instructor or equivalent.
Educational Psychology	EPSY	512	Hierarchical Linear Models	4 hours.	Parametric and semiparametric approaches to hierarchical linear modeling, for the analysis of continuous and categorical multivariate data. These approaches extend on classical linear regression analysis. Extensive computer use required. Prerequisite(s): EPSY 546 or EPSY 547 or EPSY 563; and graduate or professional standing; or consent of the instructor or equivalent.
Educational Psychology	EPSY	514	Non-Parametric Modeling	4 hours.	Contemporary nonparametric and semiparametric models that make minimal assumptions about the data-generating process, in order to permit more accurate conclusions in data analysis. Prerequisite(s): ED 501 and EPSY 503 or the equivalent; and appropriate score on the department placement test.
Educational Psychology	EPSY	517	Seminar in Urban Youth Development	4 hours.	In-depth analysis of topics and issues in the field of youth development and its relation to youth program development, with special attention to the urban context. Previously listed as CIE 517. Prerequisite(s): Consent of the instructor.
Educational Psychology	EPSY	519	Curriculum, Instruction and	5 hours.	Language arts, mathematics, science, social studies and fine arts curriculum development and instruction in the primary grades. Prerequisite(s): EPSY 429 and EPSY 520; and consent of the

			Assessment in Early Primary Grades		instructor.
Educational Psychology	EPSY	520	Curriculum and Practice in Early Childhood Education I	5 hours.	Examines curriculum models and methods for fostering learning and development in early childhood. Provides extensive clinical experience in early childhood classrooms. Prerequisite(s): EPSY 429 and ED 422; and consent of the instructor.
Educational Psychology	EPSY	521	Early Childhood Education Student Teaching	10 hours.	Instructional methods and curricula in the early childhood classrooms. Discussion of program and child evaluation. Includes full-time supervised student teaching. Meets Illinois State requirement for Type 04 Certification by providing supervised student teaching experience. Prerequisite(s): EPSY 519 and EPSY 520; and consent of the instructor.
Educational Psychology	EPSY	522	Internship in Early Childhood	6 hours.	Instructional methods in curricula in Early Childhood Education. Meets Illinois State Board of Education requirement for Type 04 Certification. May be repeated. Full-time fieldwork required in early childhood education classroom. Prerequisite(s): Consent of the instructor.
Educational Psychology	EPSY	524	Parent and Staff Relations in Early Education	4 hours.	Methods for involving parents in early childhood programs. The role of the director in program administration and in hiring, training, and supervising teachers and staff. Prerequisite(s): Consent of the instructor.
Educational Psychology	EPSY	525	Advanced Adolescent Development	3 hours.	Examines current theory and research on physiological, intellectual, emotional, and social development during the adolescent years. Examines relationship amongst individual, interpersonal, and contextual factors related to adolescent development. Prerequisite(s): EPSY 446 or EPSY 502 or ED 421 or ED 422 or ED 445; or consent of the instructor. Recommended background: Coursework in Educational Psychology or Psychology.
Educational Psychology	EPSY	526	Development in Infancy and Early Childhood	4 hours.	Consideration of development in the preschool years. Stress on theory, research, individual child study, and educational implications. Same as PSCH 520. Prerequisite(s): ED 422 or PSCH 422 or the equivalent.
Educational Psychology	EPSY	527	Seminar in Moral Development, Character Formation, and Education	4 hours.	Philosophical assumptions, psychology research, and theory underlying current approaches to moral and character education. Cultural and developmental factors in value formation. Same as PSCH 527. Prerequisite(s): ED 422 or PSCH 422 or the equivalent, or admission to the Ph.D. in Education program, Ph.D. in Psychology program, or Ph.D. in Social Work program, or consent of the instructor.
Educational Psychology	EPSY	529	Cognition and Instruction: Advanced Constructivist Approaches	4 hours.	Piaget's and Vygotsky's theories of knowledge development. Emphasis on competing approaches concerning the relation of thought to action, to language, and to social relations. Same as PSCH 552. Prerequisite(s): EPSY 429 or PSCH 429 or the equivalent, and admission into a Ph.D. program in the College of Education or psychology or consent of instructor.
Educational Psychology	EPSY	530	Achievement Motivation	4 hours.	The psychology of achievement motivation will be explored from the perspectives of personality, social, and educational psychology. Same as PSCH 525. Prerequisite(s): Graduate standing in education or psychology or consent of the instructor.
Educational Psychology	EPSY	531	Gender, Sexuality, and Adolescent Development	4 hours.	Focuses on the development of gender and sexuality in adolescence, the ways in which this development impacts growth in other areas, and the impact that social, contextual, and cultural factors have on these processes. Prerequisite(s): Consent of the instructor.
Educational Psychology	EPSY	546	Educational Measurement	4 hours.	Contemporary models for the analysis of data arising from multiple-choice tests, rating-scale questionnaires, or experts' judgments of examinee performance. Test equating is also covered. Prerequisite(s): ED 501, and ED 503 or EPSY 503 or the equivalent or consent of the instructor.
Educational Psychology	EPSY	547	Multiple Regression in Educational Research	4 hours.	Introduction to multiple correlation and regression techniques as tools for the analysis and interpretation of educational and behavioral science data. Prerequisite(s): EPSY 503.
Educational Psychology	EPSY	553	Assessment for Teachers	4 hours.	Plan, construct, administer, score, and report on classroom assessments that measure a wide variety of learning outcomes, from simple to complex; select and use standardized achievement tests; developing defensible grading procedures. Prerequisite(s): EPSY 421 and EPSY 422; or consent of the instructor.
Educational Psychology	EPSY	560	Educational Program Evaluation	4 hours.	An introduction to concepts, approaches, techniques, and practices of educational program evaluation. Students work toward acquiring knowledge and skills to plan and conduct evaluations of programs, projects, curriculum and institutions. Prerequisite(s): ED 501 and EPSY 503; or consent of the instructor.
Educational Psychology	EPSY	561	Assessment for Measurement Professionals	4 hours.	Plan, construct, administer, score, and report on classroom assessment; select and use standardized achievement tests; develop defensible grade procedures; measure issues in classroom assessment; validity and reliability of classroom assessments. Prerequisite(s): ED 421 and ED 422; or consent of the instructor.
Educational Psychology	EPSY	562	Large-Scale Testing	4 hours.	An introduction to large-scale assessments, including planning, constructing, administering, scoring, and reporting on large-scale tests. Prerequisite(s): EPSY 501 or the equivalent; or consent of the instructor. Recommended background: EPSY 503 or EPSY 553 or EPSY 561. Prior experience in designing, administering, scoring, and/or reporting on large-scale tests.
Educational Psychology	EPSY	563	Advanced Analysis of Variance in Educational	4 hours.	Detailed coverage of the principles of analysis of variance and the analysis of data collected from research employing experimental designs. Prerequisite(s): EPSY 503.

			Research		
Educational Psychology	EPSY	582	Forging Collaborations with Family and Community	3 hours.	Develops skills necessary to work in partnership with the families of children with disabilities, and community members. Same as SPED 582. Prerequisite(s): ED 461 or SPED 461 or the equivalent or consent of the instructor.
Educational Psychology	EPSY	583	Multivariate Analysis of Educational Data	4 hours.	Introduction to multivariate statistical methods in education including data screening, canonical correlation, MANOVA/MANCOVA, DFA, profile analysis, component/factor analysis, confirmatory factor analysis, and structural equation modeling. Prerequisite(s): EPSY 505 or EPSY 547 or EPSY 563.
Educational Psychology	EPSY	588	Current and Specialized Topics in Psychometrics	2 hours.	Seminar on current and specialized topics in psychometrics. Satisfactory/Unsatisfactory grading only. May be repeated. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in EPSY 546 or credit or concurrent registration in EPSY 550; and credit or concurrent registration in EPSY 503; or consent of the instructor.
Educational Psychology	EPSY	589	Topics in Educational Statistics	4 hours.	Seminar on a preannounced topic on educational statistical methodology for the analysis of educational data. May be repeated. Prerequisite(s): EPSY 547.
Educational Psychology	EPSY	593	Ph.D. Research Project	1 TO 8 hours.	Students design, implement, and analyze results of a research problem in this area of specialization. Completed study is reviewed by faculty. May be repeated to a maximum of 8 hours. Prerequisite(s): Admission to the Ph.D. in Education program.
Educational Psychology	EPSY	594	Special Topics in Educational Psychology	1 TO 4 hours.	Seminar on a preannounced topic focusing on methodology, research, and educational implications of recent models of learning, problem solving, and thinking. May be repeated to a maximum of 12 hours. Prerequisite(s): ED 421 and ED 422, or consent of the instructor.
Educational Psychology	EPSY	596	Independent Study	1 TO 4 hours.	Students carry out independent study in educational psychology under the direction of a faculty member. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): ED 490 or the equivalent, and consent of the advisor and instructor.
Educational Psychology	EPSY	598	Masters Research	0 TO 16 hours.	Research on the topic of the student's Master's thesis. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the thesis instructor.
Educational Psychology	EPSY	599	Thesis Research	0 TO 16 hours.	Research on the topic of the student's dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the dissertation advisor.

Electrical and Computer Engineering - ECE

Electrical and Computer Engineering	ECE	401	Quasi-Static Electric and Magnetic Fields	3 OR 4 hours.	Static electric and magnetic fields. Material description, boundary value problems. Field energy, its conversion and scaling laws. Quasi-static fields, field diffusion, eddy currents, energy losses. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 322.
Electrical and Computer Engineering	ECE	407	Pattern Recognition I	3 OR 4 hours.	The design of automated systems for detection, recognition, classification and diagnosis. Parametric and nonparametric decision-making techniques. Applications in computerized medical and industrial image and waveform analysis. Same as BIOE 407. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 220.
Electrical and Computer Engineering	ECE	410	Network Analysis	3 OR 4 hours.	Matrix algebra for network analysis, network parameters, macromodeling, high-frequency measurements, network functions and theorems. Topics in computer-aided analysis. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 310 and grade of C or better in ECE 310.
Electrical and Computer Engineering	ECE	412	Introduction to Filter Synthesis	3 OR 4 hours.	Fundamentals of network synthesis, filter approximations and frequency transformations. Active filter synthesis using bi-linear and bi-quad circuits. Topics in computer-aided design. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in ECE 310.
Electrical and Computer Engineering	ECE	415	Image Analysis and Computer Vision I	3 OR 4 hours.	Image formation, geometry and stereo. Two-dimensional image analysis by fourier and other 2-D transforms. Image enhancement, color, image segmentation, compression, feature extraction, object recognition. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 310 or a grade of C or better in ECE 310.
Electrical and Computer Engineering	ECE	417	Digital Signal Processing II	0 TO 5 hours.	Computer-aided design of digital filters; quantization and round-off effects; FFT algorithms; number-theoretic algorithms; multirate signal processing; DSP architectures and programming. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): ECE 317.
Electrical and Computer Engineering	ECE	418	Statistical Digital Signal Processing	3 OR 4 hours.	Stochastic signal models, LMS identification, identification of signals from noise, Wiener filtering, blind separation of mixed signal, discrete Wavelet Transforms, compression and denoising, ceptral analysis. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 317 and ECE 341.
Electrical and Computer Engineering	ECE	421	Introduction to Antennas and Wireless Propagation	3 OR 4 hours.	Potential, antenna parameters, radiation from linear wires and loops, impedance, arrays, communication links and path loss, tropospheric propagation, fading and diversity. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 225 and ECE 322.
Electrical and Computer Engineering	ECE	423	Electromagnetic Compatibility	3 OR 4 hours.	EMC requirements for electronic systems. Nonideal behavior of components. Radiated and conducted emissions. Susceptibility. Coupling and shielding. Electrostatic discharge. System design for EMS. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 310 and ECE 322.
Electrical and Computer Engineering	ECE	424	RF and Microwave Guided Propagation	0 TO 5 hours.	Maxwell's equations, transmission lines, Smith chart, strip lines, rectangular and circular waveguides, TE and TM waves, wave impedance, resonators, two-portal parameters, power and energy considerations. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): ECE 225 and ECE 322.
Electrical and Computer Engineering	ECE	427	Modern Linear Optics	3 OR 4 hours.	Geometrical optics, wave optics, two-dimensional Fourier analysis, scalar diffraction theory, Fourier transforming properties of lenses, coherent and incoherent images, holography, electromagnetic optics, polarization and crystal optics, resonators. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 310 and ECE 322.
Electrical and Computer Engineering	ECE	431	Analog Communication Circuits	0 TO 5 hours.	Introduction to radio frequency circuit design: narrowband transistor amplifiers, impedance matching networks, oscillators, mixers, amplitude and frequency modulation/demodulation, phase-lock loop circuits, amplifier noise and stability analysis. Laboratory. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): ECE 311 and ECE 340.
Electrical and Computer Engineering	ECE	432	Digital Communications	3 OR 4 hours.	Source coding, quantization, signal representation, channel noise, optimum signal reception, digital modulation: ASK, PSK, FSK, MSK, M-ary modulation. Probability of error. Inter-symbol interference. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 310, ECE 311 and ECE 341.
Electrical and Computer Engineering	ECE	434	Multimedia Systems	3 OR 4 hours.	Multimedia systems; compression standards; asynchronous transfer mode; Internet; wireless networks; television; videoconferencing; telephony; applications. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 310.
Electrical and Computer Engineering	ECE	435	Wireless Communication Networks	3 OR 4 hours.	Radio technology fundamentals; channel and propagation models; channel multiple access technologies; wireless mobile communication fundamentals; generic wireless mobile network; cellular/PCS wireless mobile network standards. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 432 and ECE 333.
Electrical and Computer Engineering	ECE	436	Computer Communication Networks II	3 OR 4 hours.	Explores integrated network architecture of service, control signaling and management, examples of high-speed LAN/WAN, next generation Internet and mobile wireless network. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 333.
Electrical and Computer Engineering	ECE	437	Wireless Communications	3 OR 4 hours.	Cellular concept, frequency reuse, mobile radio propagation, channel fading, noise in analog communications, mobile radio channel equalization, multiple access techniques (FDMA, TDMA, CDMA), wireless networking. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 311 and ECE 341.

Electrical and Computer Engineering	ECE	442	Power Semiconductor Devices and Integrated Circuits	0 TO 5 hours.	Covers the physics of devices encountered in the power-electronic and switching converter systems. 4 undergraduate hours. 5 graduate hours. Credit is not given for ECE 442 if the student has credit for EECS 442. ECE 442 is a supplement for ECE 445 and ECE 545. Prerequisite(s): ECE 342 and ECE 346.
Electrical and Computer Engineering	ECE	445	Analysis and Design of Power Electronic Circuits	0 TO 5 hours.	Analysis of different isolated and non-isolated power-converter topologies, understanding of power-converter components, switching schemes. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): ECE 342 and a grade of C or better in ECE 310.
Electrical and Computer Engineering	ECE	448	Transistors	3 OR 4 hours.	Bipolar junction transistors, electronic processes in surface-controlled semiconductor and dielectric devices. Metal oxide semiconductor filed effect transistors, surface and interface effects, diode lasers, integrated optoelectronic devices. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 346.
Electrical and Computer Engineering	ECE	449	Microdevices and Micromachining Technology	0 TO 5 hours.	Microfabrication techniques for microsensors, microstructures, and microdevices. Selected examples of physical/chemical sensors and actuators. Simulation experiments. Same as ME 449. 4 undergraduate hours. 5 graduate hours. Laboratory. Prerequisite(s): ECE 347; or consent of the instructor.
Electrical and Computer Engineering	ECE	451	Control Engineering	3 OR 4 hours.	State-space representation of systems; realization theory; stability; performance; modern control design techniques, including: fuzzy, learning, adaptive and nonlinear control. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 350.
Electrical and Computer Engineering	ECE	452	Robotics: Algorithms and Control	3 OR 4 hours.	Kinematic and dynamic modeling of robots; configuration space; motion planning algorithms; control of robots; sensors and perception; reasoning; mobile robots. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 201; and a grade of C or better in ECE 210 or a grade of C or better in ECE 225.
Electrical and Computer Engineering	ECE	458	Electromechanical Energy Conversion	0 TO 4 hours.	Electromagnetic forces and torque; magnetic circuits and transformers; DC machines; three-phase AC synchronous and induction machines; laboratory-demonstrations. Projects are required. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in ECE 225.
Electrical and Computer Engineering	ECE	465	Digital Systems Design	3 OR 4 hours.	Switching algebra, combinational circuits, Mux, ROM, DCD, PLA-based designs, advanced combinational circuit minimization techniques, sychronous and asynchronous squential circuit synthesis (minimization, hazards, races, state assignment) testing. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in PHYS 142; and a grade of C or better in ECE 265 or a grade of C or better in CS 366.
Electrical and Computer Engineering	ECE	466	Advanced Computer Architecture	3 OR 4 hours.	Design and analysis of high performance uniprocessors. Topics include arithmetic: multiplication, division, shifting; processor: pipelining, multiple function units. instruction sets; memory: caches, modules; virtual machines. Same as CS 466. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 366 or CS 366.
Electrical and Computer Engineering	ECE	467	Introduction to VLSI Design	0 TO 5 hours.	MOS, CMOS circuits VLSI technology, CMOS circuit characterization and evaluation. Static and dynamic MOS circuits, system design, faults, testing, and symbolic layout. Laboratory. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): ECE 340.
Electrical and Computer Engineering	ECE	468	Analog and Mixed - Signal VLSI Design	0 TO 5 hours.	Elementary transistor stages and analog components; low-power design; comparison of bipolar, CMOS, and BiCMOS; s-parameters and high-frequency ASIC design and modeling; RF wireless communication system components; behavioral modeling. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): ECE 467.
Electrical and Computer Engineering	ECE	469	Computer Systems Design	3 OR 4 hours.	Analysis and modeling of digital systems; hardware description languages; CAD tools for simulation, synthesis, and verification of computer systems. Project: a simple processor design. 3 undergraduate hours. 4 graduate hours. Same as CS 469. Prerequisite(s): CS 366; or ECE 366 and ECE 368.
Electrical and Computer Engineering	ECE	491	Seminar	1 TO 4 hours.	Topics of mutual interest to a faculty member and a group of students. Offered as announced by department bulletin or the Timetable. May be repeated. Prerequisite(s): Consent of the instructor.
Electrical and Computer Engineering	ECE	493	Special Problems	2 TO 4 hours.	Special problems or reading by special arrangement with the faculty. No graduation credit for students in the following: MS in Electrical and Computer Engineering or PhD in Electrical and Computer Engineering. Prerequisite(s): Consent of the instructor.
Electrical and Computer Engineering	ECE	499	Professional Development Seminar	0 hours.	Graduating seniors will be provided with information regarding future career paths and will provide information regarding the program to be used for assessment purposes. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to seniors; and approval of the department. Must be taken in the student's last semester of study.
Electrical and Computer Engineering	ECE	510	Advanced Network Analysis	4 hours.	Characterizations of networks. The indefinite-admittance matrix. Active two-port networks. Theory of feedback amplifiers. Stability of feedback amplifiers. Multiple-loop feedback amplifiers. Prerequisite(s): ECE 410.
Electrical and Computer Engineering	ECE	513	Advanced Analog Filter Synthesis	4 hours.	The active biquad, sensitivity analysis, realization of active two-port networks, design of broadband matching networks, and the theory of passive cascade synthesis. Prerequisite(s): ECE 412.
Electrical and Computer Engineering	ECE	515	Image Analysis and Computer Vision II	4 hours.	Image analysis techniques, 2D and 3D shape representation, segmentation, camera and stereo modeling, motion, generic object and face recognition, parallel and neural architectures for image and visual processing. Prerequisite(s): ECE 415; or consent of the instructor.

Electrical and Computer Engineering	ECE	516	Adaptive Digital Filters	4 hours.	Properties of signals; optimal filters, Wiener and Kalman filters; signal modeling, adaptive filters channel equalizing, echo canceling, noise canceling, and linear prediction; filter properties. Prerequisite(s): ECE 317 and ECE 341.
Electrical and Computer Engineering	ECE	517	Digital Image Processing	4 hours.	Operations on 2-D digital images: transforms, enhancement, restoration, warping, segmentation, registration, compression, water marking, steganography, and reconstruction from projection. Prerequisite(s): ECE 317 and ECE 341.
Electrical and Computer Engineering	ECE	520	Electromagnetic Field Theory	4 hours.	Maxwell's equations. Potentials. Constitutive relations. Special relativity. Boundary conditions. Green's functions. Polarization. Radiation from antennas and charged particles. Waveguides and resonators. Exterior boundary - value problems. Prerequisite(s): ECE 421.
Electrical and Computer Engineering	ECE	521	Computational Electromagnetics	4 hours.	Finite-element, finite-difference solution. Computer aided solutions: integral equations, method of moments, transform and iterative solutions. FD-TD, singularity expansion method. Practical problems in radiation and scattering. Prerequisite(s): ECE 520.
Electrical and Computer Engineering	ECE	522	Advanced Microwave Theory	4 hours.	Microwave integrated circuits: analysis, design. Microwave devices: filters, cavities and phase shifters. Millimeter waves: components and circuits, millimeter wave applications. Prerequisite(s): ECE 420 and ECE 520.
Electrical and Computer Engineering	ECE	523	Advanced Antenna Engineering	4 hours.	Radiation from helix and spiral; aperture antennas; linear and planar array synthesis; Hallen's and other methods for impedance; design of array feeds; reflector and lens antennas. Prerequisite(s): ECE 421 and ECE 520.
Electrical and Computer Engineering	ECE	526	Electromagnetic Scattering	4 hours.	Exact solutions of exterior boundary-value problems. Low-frequency expansions. High-frequency methods, including geometrical and physical theories of diffraction. Hybrid techniques. Radar cross-sections. Prerequisite(s): ECE 520.
Electrical and Computer Engineering	ECE	527	Optical Electronics	4 hours.	Optical resonators. Radiation and atomic systems. Laser oscillation. Laser systems. Parametric amplification and oscillation. Electrooptics and acoustooptics. Phase conjugate optics. Modulation, detection and noise. Prerequisite(s): ECE 520.
Electrical and Computer Engineering	ECE	528	Fiber and Integrated Optics	4 hours.	Propagation in thin films and fibers. Mode launching, coupling, and losses. Sources, detectors, modulators, interferometers. Fabrication and measurement techniques. Fiber optics systems. Prerequisite(s): ECE 520 or the equivalent.
Electrical and Computer Engineering	ECE	530	Random Signal Analysis	4 hours.	Probability for communications, properties and series representations of random processes, random processes through linear and non-linear systems, minimum MSE and maximum SNR systems. Prerequisite(s): ECE 341 or consent of the instructor.
Electrical and Computer Engineering	ECE	531	Detection and Estimation Theory	4 hours.	Bayes, Neyman-Pearson and minimax detection for discrete and continuous time random processes. Estimation of random and non-random signal parameters. Estimation of signals. Prerequisite(s): ECE 418 or consent of the instructor.
Electrical and Computer Engineering	ECE	532	Advanced Digital Communications	4 hours.	Characteristics of digitally modulated signals; digital signals in additive noise; communication over fading channels and with intersymbol interference; source and channel coding; synchronization; spread spectrum techniques. Prerequisite(s): ECE 432 or consent of the instructor.
Electrical and Computer Engineering	ECE	533	Advanced Computer Communication Networks	4 hours.	Computer and telecommunication networks; integrated (data, voice, and video) services; network performance; Quality of Service provisioning. Prerequisite(s): ECE 333 and ECE 341; or consent of the instructor.
Electrical and Computer Engineering	ECE	534	Elements of Information Theory	4 hours.	Entropy and mutual information, fundamentals of coding theory, data compression, complexity of sources, channel mutual information and capacity, rate distortion theory, information theory applications. Prerequisite(s): ECE 341 or consent of the instructor.
Electrical and Computer Engineering	ECE	535	Advanced Wireless Communication Networks	4 hours.	2nd generation: IS-95-based wireless mobile network; 2nd generation: GSM-based wireless mobile network; 2.5 generation: wireless mobile data/voice network; 3rd generation: broadband wireless mobile multimedia network. Prerequisite(s): ECE 435.
Electrical and Computer Engineering	ECE	537	Wireless Data Communications and Networking	4 hours.	The course discusses data services evolution in (2G) wireless systems to achive specified data rates of 3G. The course focuses on wireless data services in the wide and local area networks Prerequisite(s): ECE 432 and ECE 435; and senior standing or above; or consent of the instructor.
Electrical and Computer Engineering	ECE	540	Physics of Semiconductor Devices	4 hours.	Electrons in periodic lattice; equilibrium carrier distribution; energy band diagrams in junctions, in homogeneous semiconductors; recombination and generation; non-equilibrum processes, radiation and electric fields; diodes. Same as PHYS 540. Prerequisite(s): ECE 346 or the equivalent.
Electrical and Computer Engineering	ECE	541	Microelectronic Fabrication Techniques	4 hours.	Current fabrication techniques of microelectronic technology; plasma and CVD processes; etching techniques; ion implantation; surface analytical methods. Same as ME 541. Prerequisite(s): ECE 347 or ECE 449.
Electrical and Computer Engineering	ECE	542	Advanced Semiconductor Devices	4 hours.	Bipolar Transistor and Related Devices, MOSFET Transistor and Related Devices, MESFET and Related Devices, Quantum-Effect Devices, Photonic Devices. Prerequisite(s): ECE 540.
Electrical and Computer Engineering	ECE	545	Advanced Power-Electronics Design	4 hours.	High-frequency-magnetics design and measurement, parasitics, modeling, estimation, and measurement, soft switching for DC-DC converters, distributed DC-DC converters, and design layout. Prerequisite(s): ECE 445.
Electrical and	ECE	550	Linear Systems	4 hours.	State variable description, linear operators, impulse response matrix, controllability,

Computer Engineering			Theory and Design		observability, reducible and irreducible realizations, state feedback, state observers and stability. Prerequisite(s): ECE 350.
Electrical and Computer Engineering	ECE	551	Optimal Control	4 hours.	Optimal control of dynamic systems in continuous and discrete time, maximum principle, dynamic programming and constraints, learning systems. Prerequisite(s): ECE 550 or consent of the instructor.
Electrical and Computer Engineering	ECE	552	Nonlinear Control	4 hours.	Nonlinear phenomena, linear and piecewise linear approximations, describing functions, servomechanisms, phase plane, limit cycles, Lyapunov's stability theory, bifurcation, bilinear control, vibrational control, learning systems. Prerequisite(s): ECE 550 or consent of the instructor.
Electrical and Computer Engineering	ECE	553	System Identification	4 hours.	On-line and off-line identification of control systems in frequency and time domain, considering noise effects, nonlinearities, nonstationarities and distributed parameters. Prerequisite(s): ECE 550.
Electrical and Computer Engineering	ECE	559	Neural Networks	4 hours.	Artificial neural networks, perceptron, backpropagation, Kohonen nets, statistical methods, Hopfield nets, associative memories, large memory networks, cognition. Same as CS 559. Prerequisite(s): Consent of the instructor.
Electrical and Computer Engineering	ECE	560	Fuzzy Logic	4 hours.	Crisp and fuzzy sets; membership functions; fuzzy operations; fuzzy relations and their solution; approximate reasoning; fuzzy modeling and programming; applications; project. Prerequisite(s): Consent of the instructor.
Electrical and Computer Engineering	ECE	565	Physical Design Automation	4 hours.	Computer-aided physical design of integrated circuits; circuit partitioning and placement; floorplanning; global and detailed routing; timing optimization; general optimization tools: local search, constraint relaxation. Same as CS 565. Prerequisite(s): CS 401; and CS 466 or ECE 465.
Electrical and Computer Engineering	ECE	566	Parallel Processing	4 hours.	Parallel processing from the computer science perspective. Includes Architecture (bus based, lockstep, SIMD), Programming Languages (Functional, traditional and extensions), compilers, interconnection networks, and algorithms. Same as CS 566. Prerequisite(s): CS 466 or ECE 466; and CS 401.
Electrical and Computer Engineering	ECE	567	Advanced VLSI Design	4 hours.	VLSI subsystem and system design: synthesis, design styles, design process, testing. Case Studies: switching networks, graphics engine, CPU. Projects use computer-aided design tools. Prerequisite(s): ECE 467.
Electrical and Computer Engineering	ECE	568	Advanced Microprocessor Architecture and Design	4 hours.	Microprocessors; embedded control; processor core; system-on-chip; power-aware design; SMT design; Java processors; media processors; network processors; crypto processors; trusted processor architectures; architecture simulation. Extensive computer use required. Prerequisite(s): ECE 466 and consent of the instructor.
Electrical and Computer Engineering	ECE	569	High-Performance Processors and Systems	4 hours.	Instruction-level parallelism, multiple-instruction issue, branch prediction, instruction and data prefetching, novel cache and DRAM organization, high-performance interconnect, compilation issues, case studies. Same as CS 569. Prerequisite(s): CS 466 or ECE 466; and graduate standing.
Electrical and Computer Engineering	ECE	572	Nanoscale Semiconductor Structures: Electronic and Optical Properties	4 hours.	Electronic and optical properties of nanscale semiconductors and devices, carrier interactions in dimensionally-confined nanostructures, deformation potential, piezoelectric potential, polar-optical-phonon interaction potential. Prerequisite(s): PHYS 244 & ECE 346. Recommended background: Background in semiconductor device fundamentals such as covered in ECE 346 as well as the underlying physical principles as covered in PHYS 244.
Electrical and Computer Engineering	ECE	594	Special Topics	4 hours.	Subject matter varies from term to term and section to section, depending on the specialities of the instructor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Electrical and Computer Engineering	ECE	595	Departmental Seminar	0 hours.	Seminar by faculty and invited speakers. Satisfactory/Unsatisfactory grading only. May be repeated.
Electrical and Computer Engineering	ECE	596	Individual Study	1 TO 4 hours.	Individual study or research under close supervision of a faculty member. May be repeated. Students may register in more than one section per term. No graduation credit for students in the following: MS in Electrical and Computer Engineering and PhD in Electrical and Computer Engineering. Prerequisite(s): Consent of the instructor.
Electrical and Computer Engineering	ECE	598	M.S. Thesis Research	0 TO 16 hours.	M.S. thesis work under the supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor. For ECE majors only.
Electrical and Computer Engineering	ECE	599	Ph.D. Thesis Research	0 TO 16 hours.	Ph.D. thesis work under supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor. For ECE majors only.

Energy Engineering - ENER

Energy Engineering	ENER	420	Combined Heat and Power, Design, and Management	4 hours.	CHP systems construction, operation, economics, and includes a student design project. Also, builds on previous courses in power plants, engines, HVAC, a stress on economic and software analysis, utility rates, and regulations. Credit is not given in ENER 420 if the student has credit in ME 420. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	422	Building Heating, Ventilating, and Air-Conditioning	4 hours.	Establishes the basic knowledge needed to understand heating and cooling systems, mass transfer in humidification, solar heat transfer in buildings, and psychrometrics. A computer design project will be completed. Credit is not given for ENER 422 if the student has credit in ME 422. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	424	Industrial Energy Management and Conservation	4 hours.	Beginning course in energy analysis and auditing, and builds upon the critical background established in the HVAC course. An overview of the energy industry, billing, economic analysis, deregulated markets and energy purchasing. Credit is not given for ENER 424 if the student has credit in ME 424. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	429	Internal Combustion Engines	4 hours.	Introduction to engine types, characteristics and performance. Combustion processes in spark and compression ignition engines; combustion abnormalities. Credit is not given for ENER 429 if the student has credit in ME 429. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	450	Air Pollution Engineering	4 hours.	Establishes the basic knowledge needed to understand and design air pollution reduction equipment, particularly from large industrial and power generation plants. Credit is not given for ENER 450 if the student has credit in ME 450. Prerequisite(s):
Energy Engineering	ENER	451	Electric Power Generation	4 hours.	Thermodynamics and practical aspects of central fossil fuel fired electric generating plants. Focus on large steam cycle generating plants, with discussion of geothermal and hydroelectric plants. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	494	Special Topics in Energy Engineering	4 hours.	Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor.
Energy Engineering	ENER	501	Engineering Project Coordination and Management	4 hours.	Theory, strategy, and tactics of the use of project management including project planning, matrix management concept, and team meetings. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	552	Design of Energy Efficient Buildings	4 hours.	Emerging technologies in designing energy efficient buildings, including new code issues. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	553	Sustainable Energy Engineering and Renewable Energy	4 hours.	A view of the energy industries future from the perspective of emerging and alternative technologies. Examples include fuel cells, distributed energy, micro-grids, hydrogen energy systems, and renewables. Prerequisite(s): Open only to Master of Energy Engineering students.
Energy Engineering	ENER	554	Nuclear Power Generation	4 hours.	Theoretical and practical aspects of nuclear power generation, operations, reactor design, power train design, licensing, regulation, health, safety, maintenance on new and existing plants. Prerequisite(s): ENER 451 and ME 205; or consent of the instructor.
Energy Engineering	ENER	594	Current Topics in Energy Engineering	4 hours.	Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor.

Engineering - ENGR

Engineering	ENGR	400	Engineering Law	3 OR 4 hours.	Overview of the legal system. Legal principles affecting the engineering profession. Professional ethics in engineering. Intellectual property law. Basic contract and tort principles. Environmental law. Same as MENG 400. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Engineering	ENGR	401	Engineering Management	3 OR 4 hours.	Theory, strategy, and tactics of the use of project management including project planning, matrix management concept, and team meetings. Same as MENG 401. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Engineering	ENGR	402	Intellectual Property Law	3 OR 4 hours.	Patent, copyright, trade secret, mask work, and cyber-squatting legal and procedural principles; protection for novel software, biotech inventions, and business methods; and trademark protection for domain names. Same as MENG 402. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Engineering	ENGR	403	Reliability Engineering	3 OR 4 hours.	Probability overview; statistics overview; system reliability modeling and prediction-static methods; system reliability modeling and prediction-dynamic methods; maintainability and availability; reliability optimization; and risk analysis. Same as MENG 403. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Engineering	ENGR	404	Entrepreneurship	3 hours.	Identify new business opportunities in technology, market value assessment, competition, business plan, funding acquisition, intellectual property protection and case studies. Prerequisite(s): Open only to seniors; and consent of the instructor.
Engineering	ENGR	420	Engineering for Success	1 hours.	Interactive seminars will be given by persons with engineering degrees having shown high achievement in either engineering or non-engineering endeavors. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Junior standing or above.
Engineering	ENGR	436	Wireless Data	3 OR 4 hours.	Data communications, existing Wireless Data Networks, planning, topology, performance, and operation. Same as MENG 436. 3 undergraduate hours. 4 graduate hours. Previously listed as ENGR 410. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above and a course in digital communications and an introductory course in wireless communications.
Engineering	ENGR	494	Special Topics in Engineering	3 OR 4 hours.	Course on multidisciplinary engineering topics that vary from term to term depending on current student and instructor interests. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Junior standing or above; and consent of the instructor.

English - ENGL

English	ENGL	400	History of the English Language	3 OR 4 hours.	Development of English from its Proto-Indo-European origin to the present; detailed examination of the external and internal history of Old, Middle, and Modern English. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing or above; or consent of the instructor. Recommended background: ENGL 200.
English	ENGL	401	Modern English	3 OR 4 hours.	This is a course on the sound system, the lexicon and syntax-semantics of modern American English taught from the linguistic perspective. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor. Recommended background: ENGL 200.
English	ENGL	402	Rhetoric	3 OR 4 hours.	Intensive study of central topics in rhetorical theory in their historical depth. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 342 or ENGL 361 or ENGL 370 or ENGL 372 or ENGL 374 or ENGL 375; and senior standing or above; or consent of the instructor.
English	ENGL	403	Introduction to Old English	3 OR 4 hours.	The elements of Old English grammar and readings from the literature of England before the Norman Conquest. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 240; and ENGL 241 or ENGL 242 or ENGL 243; or consent of the instructor.
English	ENGL	405	Topics in Old English Literature	3 OR 4 hours.	Studies in the language and literature of pre-Conquest England. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 403; or consent of the instructor.
English	ENGL	408	Topics in Medieval Literature	3 OR 4 hours.	Topics in English literature from the period 450-1500. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 311 or ENGL 312 or ENGL 313 or ENGL 314; and senior standing or above; or consent of the instructor.
English	ENGL	413	Topics in Shakespeare	3 OR 4 hours.	Study of a genre, topic or period in Shakespeare's work. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 312 or ENGL 313 or ENGL 314; and senior standing or above; or consent of the instructor.
English	ENGL	416	Topics in Renaissance Literature and Culture	3 OR 4 hours.	Study of a topic in English literature written between 1500 and 1700. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisites: ENGL 311 or ENGL 312 or ENGL 313 or ENGL 314; and senior standing or above; or consent of the instructor.
English	ENGL	417	Topics in Restoration and Eighteenth-century Literature and Culture	3 OR 4 hours.	Focus on a particular topic or theme in British literature 1660-1780. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 313 or ENGL 314 or ENGL 315 or ENGL 316; and senior standing or above; or consent of the instructor.
English	ENGL	419	Topics in Romantic Literature and Culture	3 OR 4 hours.	Concentrates on a particular aspect of British Romantic writing in order to provide a greater depth of study in the period. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 313 or ENGL 314 or ENGL 315 or ENGL 316 or ENGL 317; and senior standing or above; or consent of the instructor.
English	ENGL	421	Topics in Victorian Literature	3 OR 4 hours.	Study of a major author, genre, or theme in the Victorian period. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 315 or ENGL 316 or ENGL 317 or ENGL 318; and senior standing or above; or consent of the instructor.
English	ENGL	422	Topics in Postcolonial and World Literature in English	3 OR 4 hours.	Study of a major author, topic, movement, or genre within postcolonial and world literatures in English. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 318 or ENGL 319 or ENGL 320 or ENGL 333; and senior standing or above; or consent of the instructor.
English	ENGL	426	Topics in American Literature and Culture to 1900	3 OR 4 hours.	This course analyzes selected topics in American literature and culture to 1900. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 323 or ENGL 324 or ENGL 325; and senior standing or above; or consent of the instructor.
English	ENGL	427	Topics in American Literature and Culture, 1900-Present	3 OR 4 hours.	Study of a specific topic relating American literature to society, culture, history, race, gender, ethnicity. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisites: ENGL 324 or ENGL 325 or ENGL 326 or ENGL 327; and senior standing or above; or consent of the instructor.
English	ENGL	428	Topics in Literature and Culture, 1900-Present	3 OR 4 hours.	Study of a specific topic relating twentieth century literature to society, culture, history, race, gender, ethnicity. Content varies. 3 undergradute hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 318 or ENGL 319 or ENGL 320 or ENGL 325 or ENGL 326 or ENGL 327; and senior standing or above; or consent of the instructor.
English	ENGL	429	Topics in Literature and Culture	3 OR 4 hours.	Study of a specific topic relating literature to society, culture, history, race, gender, ethnicity. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Six hours of English at the 300 level and senior standing or above; or consent of the instructor.
English	ENGL	437	Topics in Poetry and Poetic Theory	3 OR 4 hours.	Investigations into the nature of poetry. Discussions of issues such as technical, theoretical, formal and historical developments. Topics and readings vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 303 or ENGL 316 or ENGL 355; and senior standing or above; or consent of the instructor.
English	ENGL	438	Topics in	3 OR 4 hours.	In-depth study of a topic, movement, artist or author in the field of drama and performance studies,

			Performance Studies		broadly defined. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequiste(s): ENGL 304 or ENGL 313 or ENGL 341 or ENGL 342 or ENGL 370 or ENGL 375; and senior standing or above; or consent of the instructor.
English	ENGL	439	Topics in Fiction and Theories of Fiction	3 OR 4 hours.	Study of fiction related to a particular theory of fiction (Realism, Romance, Literary Naturalism, Narrative Theory, Fictional Poetics). Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 305; and senior standing or above; or consent of the instructor.
English	ENGL	440	Topics in Cultural and Media Studies	3 OR 4 hours.	Study of a medium, genre, theme, period, influence, or problem in Culture and Cultural Theory. Topics Vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 302 or ENGL 341 or ENGL 342; and senior standing or above; or consent of the instructor.
English	ENGL	441	Topics in Asian American Literature and Culture	3 OR 4 hours.	An advanced seminar that examines various forms of cultural production by Asian American artists of diverse ethnic backgrounds. Topics vary. Same as ASAM 441. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 327 or ENGL 328 or ENGL 359; and senior standing or above; or consent of the instructor.
English	ENGL	443	Topics in Gender, Sexuality and Literature	3 OR 4 hours.	Specific study of topics in gender and literature. Content varies. Same as GWS 443. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequiste(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102; and senior standing or above; or consent of the instructor.
English	ENGL	444	Topics in Theories of Gender and Sexuality	3 OR 4 hours.	Advanced study of topics related to theories of gender and sexuality. Same as GWS 444. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequiste(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102; and senior standing or above; or consent of the instructor.
English	ENGL	445	Topics in Disability Studies	3 OR 4 hours.	This course will focus on topics structured around particular aspects of Disability Studies and its practical, cultural, and theoretical implications. Same as DHD 445. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or ENGL 364; and senior standing or above; or consent of the instructor.
English	ENGL	446	Topics in Criticism and Theory	3 OR 4 hours.	Focus on a particular critical or theoretical topic, movement, tradition or figure. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 370 or ENGL 372; and senior standing or above; or consent of the instructor.
English	ENGL	448	Topics in Rhetorical Studies	3 OR 4 hours.	Study of theoretical intersections between Rhetoric and Cultural Studies to describe and explain the ways in which discourse constructs identity, knowledge, and values. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequiste(s): ENGL 374 or ENGL 375 or ENGL 342 or ENGL 402; and senior standing or above; or consent of the instructor.
English	ENGL	459	Introduction to the Teaching of English in Middle and Secondary Schools	3 OR 4 hours.	Intended as a general initiation to the field of secondary English teaching, the course focuses on many of the crucial issues facing teachers in contemporary language arts classrooms. 3 undergraduate hours. 4 graduate hours. Field work required. Prerequisite(s): Completion of the University Writing requirement; and sophomore standing or above.
English	ENGL	462	Topics in American Literary Nonfiction Prose	3 OR 4 hours.	Study of a specific topic in the literary nonfiction of the United States, which may include its history, development and classification. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Grade of C or better in ENGL 240 and Grade of C or better in ENGL 243, and junior standing or above; or consent of the instructor.
English	ENGL	469	Women's Literary Traditions	3 OR 4 hours.	An exploration of issues such as the female aesthetic; women's popular literature; factors that enable creativity; differences of race and class. Same as GWS 469. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.
English	ENGL	470	Topics in Multiethnic Literatures in the United States	3 OR 4 hours.	Topics in the literatures of American racial and ethnic groups. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 328 or ENGL 333 or ENGL 350 or ENGL 351 or ENGL 355 or 357; or ENGL 359; and senior standing or above; or consent of the instructor.
English	ENGL	471	Topics in Native American Literatures	3 OR 4 hours.	The history and development of literature by and about American Indians. Content varies. Same as NAST 471. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies or consent of the instructor.
English	ENGL	472	Women and Film	3 OR 4 hours.	Roles and representations of women in classical Hollywood, European art and independent feminist cinemas. Same as AH 434, and GWS 472. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 302 or ENGL 342 or ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.
English	ENGL	473	Topics in African-American Literature	3 OR 4 hours.	African American literature and culture for students with significant background in the field. Topics vary. Same as AAST 490. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): AAST 357 or AAST 360 or ENGL 357; and senior standing or above; or consent of the instructor.
English	ENGL	474	Topics in Popular Culture and	3 OR 4 hours.	Study of a specific topic relating literature to popular culture, such as sport, television, and best sellers. Critical analysis of the cultural mythology encasing these subjects. Content varies. 3

			Literature		undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 302 or ENGL 341 or ENGL 342; and senior standing or above; or consent of the instructor.
English	ENGL	478	The Bible as Literature	3 OR 4 hours.	Literary analysis of the English Bible (including the Apocrypha) in its historical and religious contexts; study of the King James Version and successive revisions of it. Same as JST 478, and RELS 478. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in ENGL 240; and Grade of C or better in ENGL 241 or Grade of C or better in ENGL 242 or Grade of C or better in ENGL 243; or consent of the instructor.
English	ENGL	481	Methods of Teaching English in Middle and Secondary Schools	3 OR 4 hours.	Theory and practice; emphasis on current approaches to language and literature in multicultural settings. 3 undergraduate hours. 4 graduate hours. All students in the teacher education program must take this course in the term preceding their student teaching. Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor.
English	ENGL	482	Campus Writing Consultants	4 hours.	Tutoring in the Writing Center. Students are required to consult with others on their writing. Emphasis on practice and theories of writing. Appropriate for prospective teachers. Prerequisite(s): Senior standing or 9 hours of English and consent of the instructor. Students must obtain override from the Writing Center.
English	ENGL	483	Studies in Language and Rhetoric	3 OR 4 hours.	Study of a particular topic or movement in language or rhetoric. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above; or consent of the instructor.
English	ENGL	484	Studies in Language and Cognition	3 OR 4 hours.	Examination of relationships among theories of language structure, cognition, and discourse, with applications of such theories to the writing process. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 401; or consent of the instructor.
English	ENGL	485	Studies in the English Language and Linguistics	3 OR 4 hours.	Study of a topic such as language diversity and literacy, theories of grammar, literacy in society, ethnicity and language. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor.
English	ENGL	486	The Teaching of Writing in Middle and Secondary Schools	3 OR 4 hours.	Rhetoric and composition pedagogy. Study of a topic. Content varies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor.
English	ENGL	489	The Teaching of Reading and Literature in Middle and Secondary Schools	3 OR 4 hours.	Intended as a part of the English education methods sequence, with particular emphasis on helping prospective teachers assist struggling readers in the study of literature. 3 undergraduate hours. 4 graduate hours. Field work required. Prerequisite(s): ENGL 459 and completion of the University Writing requirement; or consent of the instructor.
English	ENGL	490	Advanced Writing of Poetry	3 OR 4 hours.	Advanced work on poetic techniques and practices; emphasis on analysis of student work, using published examples; particular attention to individual student development. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) by undergraduates. Prerequisite(s): Undergraduates: Grade of B or better in ENGL 210. Registration restrictions: Graduate students must obtain approval of the Department of English.
English	ENGL	491	Advanced Writing of Fiction	3 OR 4 hours.	Advanced practice; emphasis on analysis of student work and published examples. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) by undergraduates. Prerequisite(s): Undergraduates: Grade of B or better in ENGL 212. Registration restrictions: Graduate students must obtain approval of the Department of English.
English	ENGL	492	Advanced Writing of Nonfiction Prose	3 OR 4 hours.	Advanced practice in writing essays, articles, reviews or other forms of nonfiction prose. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) by undergraduates. Prerequisite(s): Undergraduates: Grade of B or better in ENGL 201. Registration restrictions: Graduate students must obtain approval of the Department of English.
English	ENGL	493	Internship in Nonfiction Writing	0 TO 6 hours.	Approved internship where students learn professional writing and organizational communication with an emphasis on initiative, planning, and meeting deadlines. Both the instructor and a supervisor mentor students during the course. May be repeated to a maximum of 6 hours. A maximum of 6 hours may be applied toward either the undergraduate major in English or a graduate degree in English. Credit is not given for ENGL 493 if the student has credit in ENGL 593. Prerequisite(s): ENGL 201and ENGL 202 or completion of the Chicago Civic Leadership Certificate Program (CCLCP) and an interview with the coordinator of the internship program prior to registration.
English	ENGL	494	Topics in the Teaching of English	1 TO 4 hours.	Study of a topic in literature, composition, and/or pedagogy. The content varies with each offering. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
English	ENGL	495	Playwriting	3 OR 4 hours.	The development of scripts for stage performance. Same as THTR 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and approval of the department and submission and approval of a playwriting sample or dialog-centered fiction prior to registration.
English	ENGL	498	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
English	ENGL	499	Educational Practice	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet

			with Seminar II		certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in ENGL 498, and approval of the department.
English	ENGL	500	Master's Proseminar	4 hours.	Study of disciplinary foundations of research in literary criticism, broadly defined.
English	ENGL	503	Proseminar: Theory and Practice of Criticism	4 hours.	Forms and theories of criticism, analysis of their application to specific genres and works, and practice in writing criticism.
English	ENGL	505	Seminar in Old English	4 hours.	A topic in Old English: emphasis on literature or philology. Content varies.
English	ENGL	507	Theory, Rhetoric, and Aesthetics	4 hours.	Emphasizing breadth of knowledge in a field of inquiry involving genres, authors, topics, or periods in theory, rhetoric, or aesthetics.
English	ENGL	510	Seminar in Language and Rhetoric	4 hours.	Study of a topic or movement in linguistic or rhetorical theory. Content varies. May be repeated to a maximum of 12 hours. Prerequisite(s): ENGL 401or ENGL 402 or consent of the instructor.
English	ENGL	515	Seminar in Medieval Studies	4 hours.	The works of Chaucer and other Middle English writers. Content varies. May be repeated to a maximum of 12 hours. Prerequisite(s): A minimum of 3 hours in Middle English literature.
English	ENGL	517	British Literature and Culture	4 hours.	Emphasizing breadth of knowledge in a field of inquiry involving genres, authors, topics, or periods in British literature and culture.
English	ENGL	518	Newberry Library Seminar in Renaissance Literature	4 hours.	Late Medieval and Renaissance literature. In conjunction with the Newberry Library Center for Renaissance Studies. May be repeated to a maximum of 12 hours. Prerequisite(s): ENGL 503 and 3 hours of medieval or Renaissance literature.
English	ENGL	520	Seminar in Renaissance Studies	4 hours.	English literature and culture of the sixteenth and seventeenth centuries. Topic varies. May be repeated to a maximum of 12 hours. Prerequisite(s): One course in Renaissance literature.
English	ENGL	525	Seminar in Restoration and Eighteenth-Century Studies	4 hours.	Content varies. Restoration and 18th Century Studies by topic. May be repeated to a maximum of 12 hours. Prerequisite(s): One course in Restoration or 18th-century literature.
English	ENGL	527	American Literature and Culture	4 hours.	Emphasizing breadth of knowledge in a field of inquiry involving genres, authors, topics, or periods in American literature and culture.
English	ENGL	530	Seminar in British Romantic Studies	4 hours.	Advanced study of author(s), topic, movement, or genre. Content varies. May be repeated to a maximum of 12 hours. Prerequisite(s): A course in Romantic literature.
English	ENGL	535	Seminar in Victorian Studies	4 hours.	Focus on author, topic, movement or genre. Content varies. May be repeated to a maximum of 12 hours. Prerequisite(s): 3 hours Victorian literature or consent of the instructor.
English	ENGL	537	Global and Multiethnic Literatures and Cultures	4 hours.	Emphasizing breadth of knowledge in a field of inquiry involving genres, authors, topics, or periods in global and/or multiethnic literatures and cultures.
English	ENGL	540	Seminar in Modern and/or Contemporary Studies in English	4 hours.	Study of an author, topic, movement or genre. Content varies. As part of the "Discourse, Text, and Context" series, provides seminar-level instruction in a key field of Modern or contemporary English studies. Topic varies by instructor. May be repeated to a maximum of 12 hours. Prerequisite(s): A minimum of three hours in modern literature.
English	ENGL	545	Seminar in American Studies to 1865	4 hours.	As part of the "Discourse, Text, and Context" series, provides seminar-level instruction in a key field in American studies to 1865. May be repeated to a maximum of 12 hours. Prerequisite(s): One advanced course in American literature.
English	ENGL	547	Media, Film, and Performance Studies	4 hours.	Emphasizing breadth of knowledge in a field of inquiry involving genres, authors, topics, or periods in media, film, and/or performance studies.
English	ENGL	550	Seminar in American Studies After 1865	4 hours.	Seminar topic in American Studies, possibly including mixed media, after 1865. May be repeated to a maximum of 12 hours.
English	ENGL	554	Seminar in English Education	4 hours.	Critical examination of theory and practice in the teaching of English. Content varies.
English	ENGL	555	Teaching College Writing	4 hours.	Methods, materials, and practice in teaching college writing. Satisfactory/Unsatisfactory grading only.
English	ENGL	556	Teaching Creative Writing	4 hours.	Methods, materials, and practice in teaching creative writing. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Program for Writers or consent of the instructor.
English	ENGL	557	Language and Literacy	4 hours.	Emphasizing breadth of knowledge in a field of inquiry involving genres, authors, topics, periods, or issues in language and literacy, broadly conceived.
English	ENGL	560	Practicum in the Teaching of English	1 TO 4 hours.	Provides an opportunity for supervised discussion and evaluation of materials and methods used in undergraduate English instruction. Participation in appropriate departmental workshops. For English Department teaching assistants. Satisfactory/Unsatisfactory grading only. May be repeated. No graduation credit. Prerequisite(s): Students may enroll only during terms in which

					they hold a teaching assistantship in the English department.
English	ENGL	567	Discourse Analysis	4 hours.	Discourse Analysis addresses issues of intentional communication, inference, the structure of texts or talk-in-interaction, and the interactive construction of social actions or identities in discourse. Same as LCSL 567. Previously listed as LING 567 and SPAN 567.
English	ENGL	570	Program for Writers: Poetry Workshop	4 hours.	Emphasis on poems written by students. May be repeated to a maximum of 12 hours. Prerequisite(s): Admission to the Program for Writers.
English	ENGL	571	Program for Writers: Fiction Workshop	4 hours.	Emphasis on fiction written by students. May be repeated to a maximum of 12 hours. Prerequisite(s): Admission to the program for writers.
English	ENGL	572	Program for Writers: Novel Workshop	4 hours.	Emphasis on novels written by students. May be repeated to a maximum of 12 hours. Prerequisite(s): Admission to the Program for Writers.
English	ENGL	573	Program for Writers: Translation Workshop	4 hours.	Emphasis on translations by students. May be repeated to a maximum of 12 hours. Prerequisite(s): Admission to the Program for Writers or consent of the instructor.
English	ENGL	574	Program for Writers: Non-Fiction Workshop	4 hours.	Emphasis on non-fiction written by students. May be repeated to a maximum of 12 hours. Prerequisite(s): Admission to the Program for Writers.
English	ENGL	575	Program for Writers: Experimental Writing Workshop	4 hours.	Emphasis on experimentation by students. May be repeated to a maximum of 12 hours. Prerequisite(s): Admission to the Program for Writers.
English	ENGL	576	Program for Writers: Editing and Publishing	4 hours.	Practicum in basic procedures for students desiring careers in publishing, or who wish to understand the stages of production from proposal to publication. Prerequisite(s): Consent of the instructor.
English	ENGL	579	The Past Decade	4 hours.	Discussion of the past decade of critical work in any given field within literary, rhetorical, linguistic, or cultural studies.
English	ENGL	580	Seminar in Genres of Literature, Film, and Media	4 hours.	A single genre, such as the Gothic novel, or mode, such as poetry, fiction, or drama. May be repeated to a maximum of 12 hours.
English	ENGL	581	Seminar in Interdisciplinary English Studies	4 hours.	Relation between literature and such fields as fine arts, philosophy, psychology, religion, science,sociology, and politics. Content varies. May be repeated to a maximum of 12 hours. Prerequisite(s): 4 hours in area of literature to be studied.
English	ENGL	582	Seminar in Multiethnic and Transatlantic Cultures	4 hours.	Study of a genre, movement, topic, or author in American multiethnic and/or Transatlantic culture. Content varies. May be repeated to a maximum of 12 hours.
English	ENGL	583	Seminar in Theories of the Popular	4 hours.	Study of a theme, form, era, or methodological approach. Content varies. May be repeated to a maximum of 12 hours.
English	ENGL	584	Seminar in Visual Technologies	4 hours.	One topic or movement. Content varies. May be repeated to a maximum of 12 hours. Prerequisite(s): Minimim of 3 hours in film.
English	ENGL	585	Seminar in Theoretical Sites	4 hours.	One author, topic or movement in advanced theory. Topic varies by instructor. May be repeated to a maximum of 12 hours. Prerequisite(s): Theory course at the undergraduate or graduate level.
English	ENGL	586	Seminar in Discourse, Culture, Mind	4 hours.	Interdisciplinary readings relating language and cognition from writing, rhetoric, cognitive psychology, and linguistics on a particular topic. May be repeated to a maximum of 12 hours. Prerequisite(s): ENGL 484.
English	ENGL	588	Seminar in Great Cities/Global Cultures	4 hours.	One author, topic, or movement in text, culture and public space. May be repeated to a maximum of 12 hours.
English	ENGL	591	Prospectus Preparation	1 TO 12 hours.	Students who have passed their preliminary exams may enroll in this independent study with their primary advisor the semester after they have successfully completed their exams. Satisfactory/Unsatisfactory grading only. May be repeated for a maximum of 24 hours of credit. Prerequisite(s): Consent of the instructor and consent of the Director of Graduate Studies.
English	ENGL	592	Preliminary Examination Research	1 TO 12 hours.	Supervised research and reading in preparation for the preliminary examinations. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 24 hours. Prerequisite(s): Consent of the instructor and consent of the director of graduate studies.
English	ENGL	593	Graduate Internship in Nonfiction Writing	1 TO 4 hours.	Directed field experience in an approved professional setting to practice writing, editing and research skills at an advanced level. May be repeated. A maximum of four hours of credit may be applied toward a graduate degree in English. Credit is not given for ENGL 593 if the student has credit for ENGL 493. Prerequisite(s): Consent of the English Department internship coordinator. Resume and writing samples are required.
English	ENGL	596	Independent Study	1 TO 4 hours.	Independent study and research in literature, creative writing, or language, literacy, and rhetoric. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and consent of the director of graduate studies.
English	ENGL	597	Master's Project Research in English	0 TO 4 hours.	Supervised research and reading that facilitates the student in preparation of the Project research. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. No more

					than 4 hours of ENGL 597 may be applied toward the degree. Prerequisite(s): Consent of the instructor and consent of the director of graduate studies. Open only to Master's degree students.
English	ENGL	599	Thesis Research	0 TO 16 hours.	For students involved in dissertation research and writing. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of instructor and the director of graduate studies.

English as a Second Language - ESL

English as a Second Language	ESL	401	Communication and Teaching Methods for International Teaching Assistants	1 TO 3 hours.	Basic communication and presentation skills for international teaching assistants in the culture of the American college classroom. Satisfactory/Unsatisfactory grading only. May be repeated for credit. Students may register for more than one section per term. No graduation credit. Prerequisite(s): Graduate or professional standing. Students must take the SPEAK Test and must obtain consent of the instructor.

Entrepreneurship - ENTR

Entrepreneurship	ENTR	420	Social Entrepreneurship	3 hours.	Focuses on using entrepreneurial skills to craft innovative responses to social problems. Social entrepreneurship applies to both profit and non-profit firms that have programs designed to create social value. Prerequisite(s): ENTR 310.
Entrepreneurship	ENTR	430	Family Business Management	3 hours.	Competitive strengths/weaknesses of a family business, dynamics of family interactions within the overlapping family, management and ownership systems. Credit is not given for ENTR 430 if the student has credit for MGMT 430. Recommended background: Prior experience in a family business.
Entrepreneurship	ENTR	435	International Entrepreneurship	3 hours.	Provides students with knowledge useful for creating an international new venture by focusing on the identification and evaluation of international business opportunities, as well as building and managing an international organization. Prerequisite(s): ENTR 310.
Entrepreneurship	ENTR	445	New Venture Planning	3 hours.	Focuses on strategic analysis and strategic planning for new ventures and provides students with the skills necessary to develop entry strategies for new ventures in uncertain environments. Prerequisite(s): ENTR 310.
Entrepreneurship	ENTR	450	Entrepreneurship for Scientists and Engineers	3 OR 4 hours.	Gives non-business students an appreciation for the rewards and challenges of entrepreneurship, especially as it relates to commercializing emerging technologies. 3 undergraduate hours. 4 graduate hours. Credit is not given for students enrolled in a Business Administration degree program.
Entrepreneurship	ENTR	454	Entrepreneurship New Venture Formation	3 hours.	Focuses on analyzing the value propositions of a new business venture, and garnering and employing resources in pursuit of that new venture. Credit is not given for ENTR 454 if the student has credit for MGMT 455 or MKTG 454. Prerequisite(s): ENTR 310 and FIN 300 and MGMT 340 and MKTG 360; or consent of the instructor.
Entrepreneurship	ENTR	464	Entrepreneurial Consulting	3 hours.	Student teams diagnose and recommend solutions to problems and opportunities facing Chicago area entrepreneurs and smaller enterprises. Application of previous coursework. Credit is not given for ENTR 464 if the student has credit for MKTG 464. Prerequisite(s): ENTR 454; and ECON 218 or ECON 220, and 6 credit hours of other entrepreneurship courses.
Entrepreneurship	ENTR	494	Special Topics in Entrepreneurship	3 hours.	Exploration of areas not covered in existing course offerings or study of selected topics in greater depth. Subject will vary from semester to semester. May be repeated to a maximum of 6 hours. May be repeated if topics vary. Prerequisite(s): ENTR 454 and senior standing or above and approval of the department.
Entrepreneurship	ENTR	499	Research Experience	1 TO 3 hours.	Research experience under the supervision of a faculty member. The faculty member and student will determine the research project. Each student must submit a written report and each student must participate at a research event on campus. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Approval of the department head and the instructor required.
Entrepreneurship	ENTR	502	Entrepreneurship	4 hours.	Launching new ventures and entrepreneurial companies; components of successful business plans and feasibility studies; perceptual processes of opportunity recognition; entrepreneurial creativity and innovation. Career opportunities. Credit is not given for ENTR 502 if the student has credit for MBA 510 or MGMT 502 or MKTG 502. Prerequisite(s): ACTG 500 and MKTG 500 or the equivalent courses.
Entrepreneurship	ENTR	545	New Venture Formation	4 hours.	Students gain awareness and understanding of how to start business ventures by writing and presenting business plans. Prerequisite(s): ENTR 502.
Entrepreneurship	ENTR	554	Fundamentals of Technology Ventures	4 hours.	Students gain an understanding of regulatory processes, capital markets, business plans and other requirements for creating and launching technology-based new business ventures. Prerequisite(s): Consent of the instructor.
Entrepreneurship	ENTR	555	Technology Venture Formation I	4 hours.	Student teams learn about specific emerging technologies, assess their market potential and write business plans to commercialize those technologies. Credit is not given for ENTR 555 if the student has credit for MGMT 555 or MKTG 555. Prerequisite(s): ENTR 554 and consent of the instructor.
Entrepreneurship	ENTR	556	Technology Venture Formation II	4 hours.	Mentors from the business community guide student teams as they revise business plans, research capital markets, pitch to potential investors and attempt to launch technology-based new ventures conceived in ENTR 555. Prerequisite(s): Credit or concurrent registration in ENTR 554 and ENTR 555; and consent of the instructor.
Entrepreneurship	ENTR	558	Entrepreneurial Electronic Commerce	4 hours.	The role of electronic commerce in entrepreneurship; competitive practices, marketing strategies, financing options, creating an e-commerce business plan. Credit is not given for ENTR 558 if the student has credit in MGMT 558 or MKTG 558. Prerequisite(s): ACTG 500 or MBA 501; and MKTG 500 or MBA 506.
Entrepreneurship	ENTR	559	Entrepreneurial Consulting	4 hours.	Application of principles from management and marketing to entrepreneurial firms. Emphasis on consulting with young and small firms and developing a consulting practice. Assessment, problem-solving, and change facilitation. Credit is not given for ENTR 559 if the student has credit for MGMT 559 or MKTG 559. Field work required. Prerequisite(s): ENTR 502.
Entrepreneurship	ENTR	584	Seminar in Entrepreneurship: Theoretical	4 hours.	Entrepreneurship is an emerging academic discipline that is interdisciplinary and cross-functional in nature. This seminar explores the foundations of entrepreneurship phenomena and related research. Prerequisite(s): Open only to Ph.D. degree students.

			Foundations		
Entrepreneurship	ENTR	594	Special Topics in Entrepreneurship	4 hours.	Exploration of areas not covered in existing course offerings or study of selected topics in greater depth. Subject will vary from semester to semester. Prerequisite(s): ENTR 502 and approval of the department.
Entrepreneurship	ENTR	596	Independent Study in Entrepreneurship	1 TO 4 hours.	Independent study of an approved topic in entrepreneurship. Student must prepare a written report under the guidance of the instructor. Prerequisite(s): Approval of the department.

Environmental and Occupational Health Sciences - EOHS

Environmental and Occupational Health Sciences	EOHS	400	Principles of Environmental Health Sciences	3 hours.	Environmental influences on health: population, food, energy; community hygiene and injury control; solid/hazardous wastes, air and water pollution, radiation; industrial hygiene and occupational health. Prerequisite(s): Enrollment restricted to public health students; other graduate, professional and advanced undergraduate students admitted by consent as space permits. To obtain consent, see the SPH registrar.
Environmental and Occupational Health Sciences	EOHS	405	Environmental Calculations	2 hours.	Problem solving techniques as applied to environmental and occupational health: dimensional analysis, mass and energy balances, trial and error solutions, numerical and graphical techniques. Recommended background: Mathematics through calculus, college physics and chemistry.
Environmental and Occupational Health Sciences	EOHS	408	Biological, Chemical, Explosives, and Nuclear Weapons as Public Health Threats	3 hours.	Preparation, understanding of threats, and rescue & response issues pertaining to potential terrorist incidents from a public health perspective. Same as EPID 408. Prerequisite(s): Graduate or professional standing; or consent of the instructor. Recommended background: EOHS 400 and EPID 410.
Environmental and Occupational Health Sciences	EOHS	411	Water Quality Management	4 hours.	Water pollution; historical and current developments in problems and solutions: characterization of pollutants, regulatory framework, risk assessment, standards, modeling, water purification, public health concerns. Prerequisite(s): Taught online. Consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	418	Analysis of Water and Wastewater Quality	2 hours.	Basic instrumentation and procedures related to measurement and surveillance of various water quality parameters.
Environmental and Occupational Health Sciences	EOHS	421	Fundamentals of Industrial Hygiene	2 hours.	Recognition, evaluation, control of chemical, biological, and physical agents in the workplace. Application to preliminary surveys, measurement of exposure, and evaluation of control measures. Prerequisite(s): EOHS 400 or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	425	Physical Agents	4 hours.	Theory and methodology in assessing and controlling exposure to physical agents in the occupational environment. Prerequisite(s): EOHS 405 and EOHS 421 and EOHS 428; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	426	Chemical and Biological Agents	4 hours.	Theory and methodology in assessing and controlling exposure to chemical and biological agents in the occupational environment. Prerequisite(s): EOHS 405 and EOHS 421 and EOHS 428; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	427	Evaluation and Control of the Psychosocial Work Environment	2 hours.	Theory and methodology in assessing and controlling psychosocial stressors in the occupational environment. Prerequisite(s): EOHS 421 or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	428	Industrial Hygiene Laboratory I	2 hours.	Detailed methods and experiments for measuring chemical, biological, and physical agents; and methods for evaluating the effectiveness of control measures. Prerequisite(s): EOHS 400 and EOHS 405 and EOHS 421, or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	432	Air Quality Assessment and Management	4 hours.	Scientific theory and methods to measure and model air quality for the purpose of managing the protection of the environment and the health of the public. Course information: Credit is not given for EOHS 432 if the student has credit in EOHS 431 or EOHS 438. Prerequisite(s): EOHS 405; or consent of the instructor. Class schedule information: To be properly registered, students must enroll in one Lecture-Discussion and one Laboratory.
Environmental and Occupational Health Sciences	EOHS	440	Chemistry for Environmental Professionals	3 hours.	Introductory atmospheric chemistry, aspects of air pollution, chemistry related to natural water and water treatment; priority organic pollutants and heavy metals. Same as CME 411. Prerequisite(s): One year of college chemistry.
Environmental and Occupational Health Sciences	EOHS	441	Ergonomics and Human Factors	3 OR 4 hours.	The study of principles and techniques associated with ergonomic problems. Topics include human information input and processing, human output and control, and ergonomic considerations in safety. Same as IE 441. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IE 342 or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	455	Environmental and Occupational Toxicology	3 hours.	General and applied toxicology as it relates to environmental and occupational exposures to hazardous agents. Emphasis on basic principles, specific types of toxicity, and major classes of toxic agents. Prerequisite(s): CHEM 232 and CHEM 234 and BIOS 100 or the equivalent courses and senior standing or above or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	460	Safety Engineering	3 OR 4 hours.	Human protection systems; accident and emergency handling; manufacturing and service hazard systems. Same as IE 461. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342 or consent of the instructor.

Environmental and Occupational Health Sciences	EOHS	461	Community Health and Consumer Protection	2 hours.	Prevention of health hazards due to infectious and chemical agents and physical processes, especially in the home and small community environments; role of health agencies. Prerequisite(s): EOHS 400 or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	463	Safety Management Systems	2 hours.	Introduction to practical aspects of initiating a safety program in a moderately sized production plant. Prerequisite(s): Consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	472	Management of Solid and Hazardous Wastes	3 hours.	Management of solid and hazardous waste, including radioactive waste: landfills, incineration, recycling, composting, source reduction, groundwater and air pollution impacts, control, regulations, siting, health impacts. Same as CME 423, and GEOG 444.
Environmental and Occupational Health Sciences	EOHS	475	Health Related Database Design and Analysis	4 hours.	Introduces students to the design and analysis of health related relational and spatial databases. Same as HPA 480. Extensive computer use required. Taught online only. Prerequisite(s): Consent of the instructor. Recommended Background: Strong quantitative background recommended.
Environmental and Occupational Health Sciences	EOHS	480	Environmental and Occupational Health Policy	3 hours.	Introduction to the framework for policymaking in the realm of occupational and environmental health. Focus is on the role of economics, legal/regulatory processes, and ethical issues. Cross-cultural and international differences will be explored. Prerequisite(s): Graduate or professional standing; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	495	Environmental/Occupational Health Seminar	1 hours.	Discussions of current environmental health and occupational health topics, with presentations by students, faculty members and visiting scientists.
Environmental and Occupational Health Sciences	EOHS	512	Advanced Water Quality Management Topics	4 hours.	Water quality management course examining drinking water quality and contaminant discharge topics. Risk assessment methodologies are applied for deriving optimal decisions. Extensive computer use required. Prerequisite(s): EOHS 411 or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	521	Aerosol Science and Technology	3 hours.	Advanced technical skills and theory of aerosol physics required for characterizing aerosol behavior, fate and transport, and measurement considerations in occupational/environmental settings. Prerequisite(s): EOHS 421 and EOHS 428; or consent of the instructor. Recommended background: Two semesters of college-level physics.
Environmental and Occupational Health Sciences	EOHS	529	Applied Industrial Hygiene and Safety	2 hours.	Application of methods and best practices in assessing and controlling health and safety hazards in the occupational environment. 2 hours. Prerequisite(s): EOHS 405 and EOHS 421 and EOHS 428; and consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	530	Current Topics in Occupational and Environmental Epidemiology	2 hours.	Reviews the literature on health effects of environmental and occupational exposures and integrates our current knowledge with relevant policy issues. Same as EPID 530. Meets eight weeks of the semester. Prerequisite(s): EPID 403; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	532	Air Quality Management II	2 hours.	Air quality management: Integration of diverse aspects. Data interpretation; standards setting; policy implementation; equipment design; hazardous spill modeling; indoor air pollution; case studies. Same as CME 526. Prerequisite(s): EOHS 431 or CME 419.
Environmental and Occupational Health Sciences	EOHS	535	Applied Methods in Occupational Epidemiology	2 hours.	Provides students with knowledge of the study designs, measures, and experience in applying statistical methods commonly used in occupational epidemiology. Includes didactic lectures and case studies. Same as EPID 535. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in EPID 404 and EPID 406 and BSTT 401; and graduate or professional standing; or consent of the instructor. Recommended background:
Environmental and Occupational Health Sciences	EOHS	536	Environmental Epid Methods	2 hours.	Provides students with experience in environmental epidemiology methodology through review of literature; discussion of study design and analysis; and analysis of existing data from the National Health and Nutrition Examination Survey. Same as EPID 536. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in EPID 404 and EPID 406 and Credit or concurrent registration in BSTT 401; and graduate or professional standing; or consent of the instructor. Recommended background: Credit or concurrent registration in EOHS 400.
Environmental and Occupational Health Sciences	EOHS	542	Water Chemistry	4 hours.	Chemical equilibria and kinetic principles as applied to processes occurring in natural and engineered water systems. Same as CME 524. Prerequisite(s): EOHS 440 or CME 411.
Environmental and Occupational Health Sciences	EOHS	543	Environmental Organic Chemistry	4 hours.	Properties and behavior of environmental organic pollutants. Theory and estimation techniques. Concepts of environmental fate assessment. Applications of fate models. Same as CME 523. Prerequisite(s): EOHS 440 or CME 411.
Environmental	EOHS	551	Occupational Diseases	4 hours.	Diseases caused by physical, chemical, and biological agents in the workplace: toxicology,

and Occupational Health Sciences					epidemiology, pathophysiology, diagnosis, treatment, prevention, high risk populations, early detection.
Environmental and Occupational Health Sciences	EOHS	553	Global Environmental and Occupational Health	2 hours.	Examines the major current issues in occupational and environmental health and their policy solutions. Prerequisite(s): EOHS 400; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	554	Occupational and Environmental Epidemiology	2 hours.	Methods and issues of environmental epidemiology: outbreak, clusteranalysis, cross-sectional, case-control, cohort, ecological, and time series designs; contemporary issues: cancer and reproductive hazards. Same as EPID 554. Prerequisite(s): EPID 401 and BSTT 401 and EOHS 400; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	555	Advanced Topics in Toxicology	3 hours.	An in-depth consideration of biotransformation, toxicokinetic modeling, biomarkers, and chemical carcinogenesis. The course is based on articles from the primary literature. Molecular through physiological level effects are considered. Prerequisite(s): Grade of B or better in EOHS 455; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	556	Risk Assessment in Environmental and Occupational Health	3 hours.	Methodologies for utilizing toxicological and epidemiological data to estimate health risks due to exposures to pollutants in environments. Prerequisite(s): EOHS 405 and BSTT 401 and EPID 400; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	557	Design and Analysis of Experiments	4 hours.	Detailed consideration of the mathematical, statistical and practical aspects of design and analysis of experiments that are encountered in physicochemical, biological and engineering investigations. Extensive computer use required. Prerequisite(s): Completion of one course in statistics, working knowledge of at least one statistical software package (SAS, Design Expert, Minitab, etc.), and consent of the instructor. Recommended Background: A working knowledge of linear algebra and additional advanced course work in statistics.
Environmental and Occupational Health Sciences	EOHS	563	Occupational Safety and Health Management Systems	3 hours.	Advanced theory and best practices in the design, implementation, administration, and evaluation of occupational safety and health management systems. Prerequisite(s): EOHS 421; or consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	564	Geographic Information System Application in Public Health	3 hours.	Examination of GIS applications in Public Health and the process of designing a GIS-based public health investigation. Same as HPA 564. Extensive computer use required. This is an on-line course. Prerequisite(s): HPA 465 and consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	565	Datamining Applications in Public Health	3 hours.	Presents the key public health information system sources, describes the process of datamining and introduces the student to a sample of datamining techniques. Same as HPA 565. Extensive computer use required. Prerequisite(s): BSTT 400.
Environmental and Occupational Health Sciences	EOHS	571	Injury Epidemiology and Prevention	3 hours.	Covers general principles of injury epidemiology and intervention research and will engage students in development and application of preventive activities in workplaces and in the community. Same as EPID 571. Prerequisite(s): Grade of B or better in EPID 400 or Grade of B or better in EPID 403; and graduate or professional standing; or consent of the instructor. Recommended background: Grade of B or better in EOHS 400.
Environmental and Occupational Health Sciences	EOHS	572	Environmental Risk Assessment and Management	4 hours.	Risk assessment from a public health, quantitative and environmental risk management perspective.
Environmental and Occupational Health Sciences	EOHS	580	Seminar in Environmental and Occupational Health Policy	2 hours.	Current topics in environmental and occupational health policy. Course information: Prerequisite(s): EOHS 480; and graduate or professional standing; or consent of the instructor. Recommended background: Prior policy course.
Environmental and Occupational Health Sciences	EOHS	594	Advanced Special Topics in Environmental Health	1 TO 4 hours.	Environmental/occupational topics of current importance to public health: pollution, industrial hygiene, and related topics. Variable course contents arranged to supplement the existing curriculum. Prerequisite(s): Consent of the instructor.
Environmental and Occupational Health Sciences	EOHS	595	PhD Seminar in EOHS	1 OR 2 hours.	Students will develop advanced professional and research skills to enable their transition to independent research scientists. May be repeated.
Environmental and Occupational Health Sciences	EOHS	597	Advanced Laboratory Projects in Environmental Health	1 TO 4 hours.	Application and integration of sampling and measurement techiques for characterization of inside and ambient environments. Individuals or groups supervised by EOHS faculty members. Prerequisite(s): Consent of the instructor.

Epidemiology - EPID

Epidemiology	EPID	400	Principles of Epidemiology	3 hours.	Introduction to descriptive and analytic epidemiology, determinants of health and disease in populations, and application of epidemiologic methods to disease control; includes use of basic epidemiologic software. Prerequisite(s): Credit or concurrent registration in BSTT 400 or consent of the instructor. Enrollment restricted to public health students; other graduate, professional, and advanced undergraduate students admitted by consent as space permits. To obtain consent, see the SPH registrar.
Epidemiology	EPID	403	Introduction to Epidemiology: Principles and Methods	3 hours.	Introduction to descriptive and analytic epidemiology, and determinants of health and disease in populations. Measures of occurrence, association and statistical testing will be addressed, along with study designs, bias and confounding. Prerequisite(s): Credit or concurrent registration in BSTT 400 and graduate or professional standing; or consent of the instructor.
Epidemiology	EPID	404	Intermediate Epidemiologic Methods	4 hours.	Introduction to multivariable methods in Epidemiology, including stratified analysis and regression modeling. Students will use statistical software to analyze data from epidemiologic studies. Prerequisite(s): EPID 403 and EPID 406; and credit or concurrent registration in BSTT 401; and graduate or professional standing; or consent of the instructor.
Epidemiology	EPID	406	Epidemiologic Computing	3 hours.	Hands on course for students using SAS for epidemiologic analysis. Addresses practical issues in statistical programming for epidemiology students. Satisfactory/Unsatisfactory grading only. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in BSTT 400 and Credit or concurrent registration in EPID 403; or Credit or concurrent registration in BSTT 400 and Credit or concurrent registration in EPID 400; or consent of the instructor.
Epidemiology	EPID	408	Biological, Chemical, Explosives, and Nuclear Weapons as Public Health Threats	3 hours.	Preparation, understanding of threats, and rescue & response issues pertaining to potential terrorist incidents from a public health perspective. Same as EOHS 408. Prerequisite(s): Graduate or professional standing; or consent of the instructor. Recommended background: EOHS 400 and EPID 410.
Epidemiology	EPID	409	The Epidemiology of HIV/AIDS	2 hours.	Review of the HIV/AIDS pandemic and the global response to it focusing on patterns of transmission, risk factors and prevention/ intervention. Prerequisite(s): EPID 400 or consent of the instructor.
Epidemiology	EPID	410	Epidemiology of Infectious Diseases	2 hours.	Epidemiology of selected infectious diseases, including incidence, prevalence and control of disease. Epidemic investigation is emphasized. Prerequisite(s): Credit or concurrent registration in EPID 400; or credit or concurrent registration in EPID 403.
Epidemiology	EPID	411	Epidemiology of Chronic Diseases	3 hours.	Selected topics in chronic diseases with critical analysis of current epidemiologic literature. Prerequisite(s): EPID 400 or consent of the instructor.
Epidemiology	EPID	412	Introduction to Psychosocial Epidemiology	2 hours.	Reviews landmark studies of psychosocial and psychiatric disorders in U.S. communities; evaluates research methodology, case definition, identification, and empirical findings. Prerequisite(s): EPID 400 or consent of instructor.
Epidemiology	EPID	426	Pharmacoepidemiology	2 hours.	Provides an introduction to pharmacoepidemiology and key concepts and principles that are unique to the study of medications in large populations. Same as PMAD 426. Prerequisite(s): EPID 400 or EPID 403 or consent of the instructor. Priority in enrollement is given to graduate students in the health sciences.
Epidemiology	EPID	428	Epidemiology of Violence	2 hours.	Reviews public health aspects of violence-related mortality and morbidity, examines existing data bases and conceptual frameworks focusing on etiology, epidemiology, surveillance and prevention. Prerequisite(s): EPID 400 or consent of the instructor.
Epidemiology	EPID	471	Population	3 OR 4 hours.	The measurement and study of major trends and differentials in fertility, mortality, migration, growth, and compositional characteristics of the population of the United States and other nations. Same as SOC 471. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 6 hours of upper-division sociology, including SOC 201, or consent of the instructor.
Epidemiology	EPID	494	Introductory Special Topics in Epidemiology	1 TO 4 hours.	Special topics in substantive areas of Epidemiology (including infectious disease, chronic disease, environmental/occupational, social). Course content will vary with each offering. May be repeated. Students may register in more than one section per term. Prerequisite(s): EPID 400 or EPID 403 or consent of instructor; and graduate or professional standing.
Epidemiology	EPID	501	Advanced Quantitative Methods in Epidemiology	4 hours.	Advanced quantitative methods used in the analysis of case-control studies, cohort studies and meta-analysis including computer applications. Prerequisite(s): EPID 403 and EPID 404; and BSTT 401 and BSTT 505; and consent of the instructor.
Epidemiology	EPID	509	Current Topics in HIV/AIDS Research	3 hours.	Designed to be a collaboration among advanced students in the Graduate College and the instructor to explore, critique and analyze in depth selected topics in current research and practice around HIV/AIDS prevention. Prerequisite(s): Grade of B or better in EPID 403 or grade of B or better in EPID 409; or consent of the instructor.
Epidemiology	EPID	510	Advanced Epidemiology of Infectious Diseases	2 hours.	Controversies regarding the etiology, transmission and prevention of selected infectious diseases. Literature reviews and study designs developed by students are a prominent part of course. Prerequisite(s): EPID 410 or consent of instructor.
Epidemiology	EPID	512	Molecular Epidemiology and Biomarkers of Disease	3 hours.	Major theoretical concepts and practical issues involved in research involving molecular biomarkers in human populations, emphasizing examples from the cancer research literature. Same as PATH 512. Prerequisite(s): Consent of the instructor. Recommended background:

					Some biology or medical background is recommended for epidemiology students taking this course.
Epidemiology	EPID	513	Epidemiology of Aging	2 hours.	Current methodologic and public health issues in the epidemiology of aging will be explored. Prerequisite(s): EPID 401 or EPID 411; and consent of the instructor.
Epidemiology	EPID	515	Cancer Epidemiology	3 hours.	Critical review of topics and issues relevant to cancer epidemiology, to promote synthesis of current knowledge and awareness of research issues. Prerequisite(s): EPID 401 and EPID 411; or consent of the instructor.
Epidemiology	EPID	516	Advanced Cancer Epidemiology	2 hours.	Critical review of the epidemiology of selected cancer sites to promote synthesis of knowledge, awareness of methodologic issues, and stimulate future research. Prerequisite(s): EPID 501 and EPID 515; or consent of the instructor. Recommended background: EPID 520.
Epidemiology	EPID	517	Epidemiology of Cardiovascular Diseases	2 hours.	Epidemiology and risk factors of cardiovascular diseases. Prerequisite(s): EPID 411 or consent of instructor.
Epidemiology	EPID	518	The Epidemiology of Pediatric Diseases	3 hours.	Provides students with experience in pediatric epi through review of seminal studies and available child health data. Condition-specific lectures include discussions of study design and methodological considerations specific to studying children. Same as CHSC 518. Extensive computer use required. Prerequisite(s): EPID 404 and EPID 406 and BSTT 401; and graduate or professional standing; or consent of the instructor. Recommended background:
Epidemiology	EPID	519	Research Protocol and Grant Development	1 hours.	A review of funding options and examples of developing fundable research proposals. Satisfactory/Unsatisfactory grading only. Prerequisite(s): EPID 400.
Epidemiology	EPID	520	Genetics in Epidemiology	2 hours.	Topics in genetic/molecular epidemiology, including genetics, population genetics, molecular biology, molecular genetics. Familiarizes students with laboratory/statistical concepts and applications in epidemiological studies. Prerequisite(s): EPID 401 or consent of the instructor.
Epidemiology	EPID	529	Epidemiology of Sexually Transmitted Infections	3 hours.	Students in this class will examine the epidemiology of sexually transmitted infections (STIs), the etiology of the specific diseases, and how these factors are relevant to their control. Prerequisite(s): Credit or concurrent registration in EPID 404; and graduate or professional standing; or consent of the instructor.
Epidemiology	EPID	530	Current Topics in Occupational and Environmental Epidemiology	2 hours.	Reviews the literature on health effects of environmental and occupational exposures and integrates our current knowledge with relevant policy issues. Same as EOHS 530. Meets eight weeks of the semester. Prerequisite(s): EPID 403; or consent of the instructor.
Epidemiology	EPID	535	Applied Methods in Occupational Epidemiology	2 hours.	Provides students with knowledge of the study designs, measures, and experience in applying statistical methods commonly used in occupational epidemiology. Includes didactic lectures and case studies. Same as EOHS 535. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in EPID 404 and EPID 406 and BSTT 401; and graduate or professional standing; or consent of the instructor. Recommended background: EOHS 400.
Epidemiology	EPID	536	Environmental Epid Methods	2 hours.	Provides students with experience in environmental epidemiology methodology through review of literature; discussion of study design and analysis; and analysis of existing data from the National Health and Nutrition Examination Survey. Same as EOHS 536. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in EPID 404 and EPID 406 and Credit or concurrent registration in BSTT 401; and graduate or professional standing; or consent of the instructor. Recommended background: Credit or concurrent registration in EOHS 400.
Epidemiology	EPID	545	Reproductive and Perinatal Health	3 hours.	Examines the epidemiology of key reproductive and perinatal health outcomes and cutting edge research issues. Same as CHSC 545. Prerequisite(s): BSTT 400 and EPID 403; and graduate or professional standing; or approval of the department.
Epidemiology	EPID	548	Readings in Reproductive and Perinatal Epidemiology	3 hours.	Advanced seminar in reproductive/perinatal epidemiology with particular emphasis on methodological issues. Same as CHSC 548. Prerequisite(s): CHSC 510 and EPID 403 and EPID 404; and graduate or professional standing; or approval of the department. Recommended background: Maternal and child health and epidemiology.
Epidemiology	EPID	549	Advanced Applied Methods in MCH Epidemiology	3 hours.	Gives conceptual and technical understanding of statistical and epidemiological methods, builds skills/proficiency in applying these. Attention is given to data handling tasks and to statistical/epidemiologic strategies for analysis and presentation. Same as CHSC 549. Prerequisite(s): EPID 402 or EPID 404; and BSTT 401and EPID 406; or consent of the instructor. Recommended background: Credit or concurrent registration in EPID 501.
Epidemiology	EPID	554	Occupational and Environmental Epidemiology	2 hours.	Methods and issues of environmental epidemiology: outbreak, clusteranalysis, cross-sectional, case-control, cohort, ecological, and time series designs; contemporary issues: cancer and reproductive hazards. Same as EOHS 554. Prerequisite(s): EPID 401 and BSTT 401 and EOHS 400; or consent of the instructor.
Epidemiology	EPID	571	Injury Epidemiology and Prevention	3 hours.	Covers general principles of injury epidemiology and intervention research and will engage students in development and application of preventive activities in workplaces and in the community. Same as EOHS 571. Prerequisite(s): Grade of B or better in EPID 400 or Grade of B or better in EPID 403; and graduate or professional standing; or consent of the instructor. Recommended background: Grade of B or better in EOHS 400.
Epidemiology	EPID	591	Current Epidemiologic Literature	2 hours.	Student presentation of recently published scientific papers of epidemiologic interest, to promote breadth of knowledge and critical examination of evidence.

					Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): EPID 401 or EPID 403 or consent of instructor.
Epidemiology	EPID	594	Advanced Special Topics in Epidemiology	1 TO 4 hours.	Advanced special topics in substantive areas of Epidemiology (including infectious disease, chronic disease, environmental/occupational, social, methods, etc). Course content will vary with each offering. May be repeated. Students may register in more than one section per term. Prerequisite(s): EPID 401 or EPID 403 or consent of instructor.
Epidemiology	EPID	595	Epidemiology Research Seminar	1 hours.	Current developments in theory and application of biostatistics and epidemiology with presentations by faculty and visiting scientists. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Credit or concurrent registration in EPID 400 or EPID 403 or consent of the instructor.

Finance - FIN

Finance	FIN	404	Financial Strategies and Text Analysis	3 OR 4 hours.	Learn the developments made in analyzing textual information. Discuss implications for financial regulations and trading strategies (including high frequency trading). 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IDS 371; or ECON 346. Recommended background: FIN 310; or FIN 510 for graduate students.
Finance	FIN	412	Portfolio Management	3 hours.	Development of portfolio theory; establishment of portfolio objectives for individuals, corporations, banks, pension and mutual funds; evaluation of portfolio performance. Prerequisite(s): FIN 310.
Finance	FIN	415	Fixed Income Securities	3 hours.	Valuation of fixed income securities, term structure estimation and arbitrage trading with practical application using real data. Prerequisite(s): FIN 310.
Finance	FIN	416	Options and Futures Markets	3 hours.	History and institutional structure of options and futures markets. Uses of futures and options for arbitrage, speculation and hedging by managers of domestic and multinational organizations. Analysis of factors which determine futures and options prices. Prerequisite(s): FIN 310.
Finance	FIN	418	Commodities, Energy, and Related Markets	3 OR 4 hours.	Covers markets; physicality; laws and regulations; market participants; fundamentals (ags, metals, petroleum, electricity, emissions, and shipping); spreads; options; and, risk management. 3 undergraduate hours. 4 graduate hours. Prerequisite(s) Credit or concurrent registration in IDS 371 or Credit or concurrent registration in ECON 346 or Credit or concurrent registration in STAT 481 or Credit or concurrent registration in IE 345; or graduate standing. Recommended background: Credit or concurrent registration in FIN 310 or Credit or concurrent registration in FIN 510; and Credit or concurrent registration in FIN 416 or Credit or concurrent registration in FIN 516.
Finance	FIN	430	Introduction to Money and Banking	3 hours.	Payment and banking systems; credit and market risk management; The Federal Reserve System; globalization of monetary, banking, and regulatory systems. Prerequisite(s): FIN 300.
Finance	FIN	431	Management in the Financial Services Industry	3 hours.	The principles of management of corporations in the financial services industry, emphasizing commercial bank management and risk. Methodology includes computerized bank management simulation or case studies. Prerequisite(s): FIN 300.
Finance	FIN	442	International Finance	3 hours.	Financial management within an international context. International monetary system and financial markets, management of foreign investments, working capital management, exchange risks, taxation and earnings reports. Prerequisite(s): FIN 300 and FIN 310.
Finance	FIN	444	Small Business Finance	3 hours.	Aspects of acquiring funds for small business enterprises. Topics include the trade-off of liquidity and profitability, management of working capital, and capitalization. Prerequisite(s): FIN 300.
Finance	FIN	455	Asset Management	1 TO 4 hours.	Applied course in Investments. The emphasis is on modern quantitative techniques for asset management. Students will use real data, and learn to create their own spreadsheet optimization programs in MS excel. Prerequisite(s): FIN 310 or 510; or consent of the instructor. Recommended Background: FIN 300. Students must be comfortable with linear regressions matrix algebra, basic calculus. Spreadsheet proficiency is essential.
Finance	FIN	465	Property and Liability Insurance	3 OR 4 hours.	Using property and liability insurance to manage risk. Topics may include fire, marine, consequential loss, crime, title, automobile, and workers' compensation insurance. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): FIN 300; or consent of the instructor.
Finance	FIN	466	Life and Health Insurance	3 OR 4 hours.	Types, uses, and evaluation of life and health insurance. Economics of the industry. Regulation and taxation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): FIN 300; or consent of the instructor.
Finance	FIN	472	Real Estate Finance	3 OR 4 hours.	Finance principles applied to real estate; financing of residential and income-producing real estate; real estate development finance; secondary mortgage market; taxation and real estate finance. Same as ECON 472. 3 undergraduate hours. 4 graduate hours. May not be used to satisfy the economics credit requirement for the MA in Economics and Ph.D. in Economics. Elective credit only will be applied toward these degrees. Prerequisite(s): ECON 218 or ECON 220.
Finance	FIN	473	Introduction to Risk Management	3 hours.	Introduction to risk management. Loan and credit management; credit scoring. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events and catastrophic event insurance. Financial contracts and hedging. Same as IDS 473. Prerequisite(s): FIN 300 and IDS 371.
Finance	FIN	480	Market Microstructure & E Trdg	3 OR 4 hours.	Details of how financial markets work. Market structures; models of price discovery; limit order models; liquidity and price impact; time effects; and, how electronic traders use these ideas to improve trading and research. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IDS 371 or Credit or concurrent registration in ECON 346; or 300-level undergraduate standing or graduate standing. Recommended Background: Credit or concurrent registration in FIN 310; or Credit or concurrent registration in FIN 510.
Finance	FIN	494	Special Topics in Finance	1 TO 4 hours.	An intensive study of a selected topic in finance. Topics vary by sections and by term. 1 to 3 undergraduate hours. 2 to 4 graduate hours. May be repeated if topics vary. Students may register for more than one section per term. May be repeated to a maximum of 6 hours for undergraduates; may be repeated to a maximum of 8 hourse for graduate students. Prerequisite(s): Consent of the instructor.
Finance	FIN	495	Competitive Strategy	4 hours.	Multidisciplinary analysis of organization strategy and policy using case method and/or business simulation. Assignments involve extensive library research as well as oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.

Finance	FIN	500	Introduction to Corporate Finance	4 hours.	Theory of corporate finance: goal of the firm, time value of money, investment decisions (under certainty and uncertainty), net present value, capital markets, and corporate financing decisions. Prerequisite(s): Credit or concurrent registration in ACTG 500 and FIN 500.
Finance	FIN	510	Investments	4 hours.	Theory and practice of investment analysis. Topics included are the institutional organization of security markets, and fundamental principles of asset valuation with application to specific securities. Prerequisite(s): FIN 500.
Finance	FIN	512	Portfolio Analysis	4 hours.	Development of portfolio theory; establishment of portfolio objectives; evaluation of portfolio performance; investment objectives for individuals, corporations banks, pension and mutual funds, and their interrelation with economic environment. Prerequisite(s): FIN 510.
Finance	FIN	516	Theory and Structure of Options and Futures Markets	4 hours.	History and institutional structure of options and futures markets. Uses of futures and options for arbitrage, speculation and hedging by financial and portfolio managers of domestic and multinational organizations. Prerequisite(s): FIN 510 or MATH 586.
Finance	FIN	520	Corporate Finance	4 hours.	Advanced topics in corporate finance including capital structure, dividend policy, financial restructuring, bankruptcy, and leasing. Emphasis on recent developments in corporate finance and financial economics. Prerequisite(s): FIN 500.
Finance	FIN	530	Money and Banking	4 hours.	The functions of money; monetary standards; development and operation of commercial banking and the Federal Reserve System. Theories of the supply and demand for money; effects of monetary changes on economic activity, interest rates, and income. Prerequisite(s): FIN 500.
Finance	FIN	531	Capital Markets	4 hours.	Capital markets in the private economy. Flow of funds in financial markets and financial intermediaries. Pricing of securities. Short-term money markets and the Federal Reserve System. Market for long-term securities. Financial markets and the stability and progress of the economy. Prerequisite(s): FIN 500.
Finance	FIN	542	International Finance	4 hours.	Financial management within an international context. International monetary system, exchange rates, foreign investments, working capital management, financing trade, taxation and earnings reports. Prerequisite(s): FIN 510.
Finance	FIN	544	Entrepreneurial and New Venture Financing	4 hours.	The financing of new business. Estimating cash needs and then determining sources to finance them. This course is designed for those wanting to start their own business. Prerequisite(s): FIN 500.
Finance	FIN	551	Financial Decision Making I	4 hours.	First foundation course for the study of modern financial economics. Two-period individual consumption and portfolio decisions under uncertainty and their implications for the valuation of securities. Prerequisite(s): Consent of the instructor.
Finance	FIN	570	Quantitative Methods in Finance	4 hours.	Statistical and optimization techniques for portfolio management, risk management, proprietary trading, securities regulation and market making. Prerequisite(s): ACTG 500 and ECON 520 and FIN 500 and IDS 570; or consent of the instructor.
Finance	FIN	571	Empirical Issues in Finance	4 hours.	The methodology used in analyses of market efficiency, asset pricing and capital allocation. Prerequisite(s): FIN 500 and consent of the instructor.
Finance	FIN	573	Risk Management	4 hours.	Introduction to risk management. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events, catastrophic event insurance, reinsurance. Financial contracts and hedging. Same as IDS 573. Prerequisite(s): Credit or concurrent registration in IDS 570 and FIN 500.
Finance	FIN	594	Special Topics in Finance	1 TO 4 hours.	An intensive study of a selected topic in finance. Topics vary by sections and by term. May be repeated to a maximum of 12 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Finance	FIN	596	Independent Study in Finance	1 TO 4 hours.	Independent study under the direction of a faculty member. Must be arranged before the start of the semester. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of department head or instructor.
Finance	FIN	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research on topic approved for doctoral dissertation under supervision of faculty advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

French - FR

French	FR	401	Reading French for Graduate Students	4 hours.	Grammar, vocabulary, general and specialized reading practice; for graduate students wishing to fulfill French reading requirements for the Ph.D. Credit may not be applied toward a graduate degree. Taught in English. Prerequisite(s): Graduate standing and consent of the instructor. Recommended background: Some prior experience with elementary French.
French	FR	413	French Feminist and Gender Theory	3 OR 4 hours.	An introduction to French theories of gender, including feminisms influenced by Lacanian psychoanalysis, political philosophy, and multicultural stuides. Same as GWS 413. 3 undergraduate hours. 4 graduate hours. May be used for credit in the French major only with consent of the director of undergraduate studies. Taught in English. Students who intend to use French 413 toward the major in French must complete assignments in French. Prerequisite(s): FR 301 or FR 302; or consent of the instructor.
French	FR	415	French Literature of the Middle Ages	3 OR 4 hours.	Introduction to major medieval genres (epic, romance, lyric, theater, allegory), works and authors, such as le Chanson de Roland, Tristan, Chretien de Troyes, Marie de France, Villon. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 301 or consent of the instructor.
French	FR	416	Topics in Sixteenth-Century French Literature	3 OR 4 hours.	Intensive analysis of Renaissance literature (Rabelais, Montaigne, Marguerite de Navarra, poetry of the Pleiade, etc.) in the cultural context of Humanism and the Reformation. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 301 or consent of the instructor.
French	FR	417	Topics in Seventeenth-Century French Literature	3 OR 4 hours.	Intensive study of Baroque and Classicism, with focus on major genres: theater (Corneille, Moliere, Racine); poetry (La Fontaine); prose (Pascal, de Sevigne); novel (de Lafayette). 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Students may register in more than one section per term. Prerequisite(s): FR 301 or consent of the instructor.
French	FR	418	Topics in Eighteenth-Century French Literature	3 OR 4 hours.	Introduction to the literature and philosophy of the Enlightenment through representative authors (Rousseau, Diderot, etc.) and major genres (novel, essay, conte, theatre, etc.). 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 301 or consent of the instructor.
French	FR	419	Topics in Nineteenth-Century French Literature	3 OR 4 hours.	Major genres and works from Romanticism to realism, naturalism, and symbolism will be studied within the context of the social, cultural and political movements of the century. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 301 or consent of the instructor.
French	FR	420	Topics in Twentieth-Century French Literature	3 OR 4 hours.	Study of major literary movements (surrealism, existentialism, nouveau roman, theater of the absurd) and intensive analysis of works by major authors from Proust to Beckett. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 301 or consent of the instructor.
French	FR	422	Francophone Novel	3 OR 4 hours.	Intensive analysis of a topic in Francophone literature. Scope includes Quebec, Africa, the Antilles, and French novelists outside of France. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 301 or consent of the instructor.
French	FR	433	Advanced Oral and Written French	3 OR 4 hours.	Exercises in French pronunciation; oral interpretation of different texts (familiar style and formal discourse); discussion of newspapers, magazine articles; practice in critical writing. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): FR 334 or consent of the instructor.
French	FR	440	Topics in French and Francophone Cinema	3 OR 4 hours.	This course will examine a selection of French and Francophone films chosen around a period or theme or genre. Topics will vary. 3 undergraduate hours. 4 graduate hour. May be used for credit in the French major only with consent of the director of undergraduate studies. Taught in English. Students who intend to use French 440 toward the major in French must complete assignment in French. Prerequisite(s): FR 301 or FR 302; or consent of the instructor.
French	FR	448	Foundations of Second Language Teaching	3 OR 4 hours.	Provides an introduction to second language acquisition research and its implications for communicative language teaching. Emphasis is on creating activities to develop high school students' communicative abilities in speaking and listening. Same as GER 448, and SPAN 448. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor and three courses at the 200 and 300 levels.
French	FR	449	Teaching Second Language Literacy and Cultural Awareness	3 OR 4 hours.	Examines the nature of literacy as a reciprocal relationship between readers, writers, texts and culture. Students learn the practical and theoretical foundations of classroom teaching of second language reading and writing skills. Same as GER 449, and SPAN 449. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor.
French	FR	461	French Civilization I: Medieval and Renaissance	3 OR 4 hours.	Interdisciplinary approach to French civilization of the Middle Ages and the Renaissance including history, literature, the beaux-arts, and philosophy. 3 undergraduate hours. 4 graduate hours. Lectures and discussion in French. Prerequisite(s): FR 302 or consent of the instructor.
French	FR	462	French Civilization II: Seventeenth and Eighteenth Centuries	3 OR 4 hours.	Interdisciplinary approach to French civilization of the seventeenth and eighteenth centuries including history, literature, the beaux-arts, and philosophy. 3 undergraduate hours. 4 graduate hours. Lectures and discussion in French. Prerequisite(s): FR 302 or consent of the instructor.
French	FR	463	French Civilization III: Nineteenth and	3 OR 4 hours.	An interdisciplinary approach to French civilization of the nineteenth and twentieth centuries, including history, literature, beaux-arts, and philosophy. 3 undergraduate hours. 4 graduate hours.

			Twentieth Centuries		Lectures and discussion in French. Prerequisite(s): FR 302 or consent of the instructor.
French	FR	464	Topics in French Civilization	3 OR 4 hours.	An interdisciplinary approach to French civilization, including history, literature, beaux-arts, and philosophy. Each topic focuses on a specific period between the Middle Ages and the present. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): FR 302 or consent of the instructor.
French	FR	470	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
French	FR	471	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in FR 470, and approval of the department.
French	FR	494	Special Topics	3 OR 4 hours.	Topics will vary from term to term and may cover such areas as literary theory or culture. Same as SPAN 494 and ITAL 494. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Taught in English. Prerequisite(s): Junior standing or above; and approval of the department.
French	FR	496	Independent Study	1 TO 4 hours.	Supervised study in an area not covered by regularly scheduled courses under the direction of a faculty member designated by the chairperson of the department. Prerequisite(s): French major with senior or graduate standing and consent of the department.
French	FR	510	Seminar in Literary Studies	4 hours.	Topics vary. May be repeated. Beyond 12 hours of credit earned, consent of the director of graduate studies required.
French	FR	560	Seminar in Cultural Studies	4 hours.	Topics vary. May be repeated to a maximum of 12 hours.
French	FR	570	Seminar in Literary Theory and Criticism	4 hours.	Theories of literary production and reception; their application to the practice of literary criticism. Specific themes and topics vary. Same as SPAN 570. May be repeated to a maximum of 8 hours with approval. Approval to repeat course granted by the instructor. Taught in English.
French	FR	575	French Abroad	0 TO 16 hours.	Lectures, seminars and practical work in francophone literature and civilization in France. May be repeated to a maximum of 33 hours. Prerequisite(s): Approval of the department.
French	FR	596	Independent Study	1 TO 4 hours.	Supervised study in an area not covered by regularly scheduled courses under the direction of a faculty member designated by the chairperson of the department. Prerequisite(s): Graduate standing in French and approval of the department.
French	FR	598	Thesis Research	0 TO 16 hours.	Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): Approval of the director of graduate studies.

Gender and Women's Studies - GWS

Gender and Women's Studies	GWS	403	Culture and Sexuality: Cultural History of Same-Sex Relations	3 OR 4 hours.	Lesbian/gay studies; issues in the history of (homo)sexuality; cultural and historical analysis of same-sexuality in several periods, including our own. Same as HIST 403. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or consent of the instructor.
Gender and Women's Studies	GWS	406	Politics of Race, Gender and Class	3 OR 4 hours.	Formation of social status categories, individual and collective identity construction, the mechanisms of group-based marginalization and stigmatization; relationship between social status categories. Same as AAST 406. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100 or GWS 102 or GWS 101; or graduate or professional standing; or consent of the instructor.
Gender and Women's Studies	GWS	413	French Feminist and Gender Theory	3 OR 4 hours.	An introduction to French theories of gender, including feminisms influenced by Lacanian psychoanalysis, political philosophy, and multicultural stuides. Same as FR 413. 3 undergraduate hours. 4 graduate hours. May be used for credit in the French major only with consent of the director of undergraduate studies. Taught in English. Students who intend to use French 413 toward the major in French must complete assignments in French. Prerequisite(s): FR 301 or FR 302; or consent of the instructor.
Gender and Women's Studies	GWS	419	Public Health Aspects of Sexuality and Women's Health	3 hours.	An overview of human sexuality from a public health perspective with special emphasis on family planning, sexuality and behavioral effects on women's health. Same as CHSC 419. Prerequisite(s): Graduate or professional standing; or approval of the department.
Gender and Women's Studies	GWS	424	Gender, Crime, and Justice	3 OR 4 hours.	An in-depth examination of the etiology of female crime and the involvement of females in the criminal justice system as offenders, victims, and workers/professionals. Same as CLJ 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101 and CLJ 220; or consent of the instructor.
Gender and Women's Studies	GWS	425	Sociology of Gender	3 OR 4 hours.	Variety and change in gender roles; patterns and consequences of gender inequality; gender and sexuality; gender and social institutions such as family, economy. Same as SOC 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 224, or any 100 or 200-level GWS course and an additional 200 or 300-level elective in sociology or gender and women studies; Junior standing or above; or graduate standing; or consent of the instructor.
Gender and Women's Studies	GWS	428	Asian/Asian American Women in the Global Economy	3 OR 4 hours.	Examines the racialization and feminization of a global division of labor and focuses primarily on Asian and Asian American women's participation and incorporation as workers and key actors in the development of the global economy. Same as ASAM 428 and SOC 428. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): At least one ASAM or GWS or SOC course; or consent of the instructor.
Gender and Women's Studies	GWS	438	Women in South Asian History	3 OR 4 hours.	A study of the diversity of women's experiences in South Asia in a range of social, cultural, and religious contexts from the ancient period to the present. Same as ASST 438 and HIST 438. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 3 hours of History or consent of the instructor.
Gender and Women's Studies	GWS	439	Gender and Cultural Production	3 OR 4 hours.	Issues of gender representation and gender politics examined through the use of theoretical texts or through the study of women authors. Same as CEES 439 and GER 439. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Taught in English. Students who intend to use GER 439/GWS 439 toward a degree offered by the Department in Germanic Studies will do assignments in German. Area: Literature/Culture. Prerequisite(s): GER 212 or consent of the instructor.
Gender and Women's Studies	GWS	443	Topics in Gender, Sexuality and Literature	3 OR 4 hours.	Specific study of topics in gender and literature. Content varies. Same as ENGL 443. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequiste(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102; and senior standing or above; or consent of the instructor.
Gender and Women's Studies	GWS	444	Topics in Theories of Gender and Sexuality	3 OR 4 hours.	Advanced study of topics related to theories of gender and sexuality. Same as ENGL 444. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequiste(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102; and senior standing or above; or consent of the instructor.
Gender and Women's Studies	GWS	450	Women and Mental Health Nursing	3 hours.	Theories of female psychology; women's daily lives and mental health; gender differences in mental illness; strategies for improving women's mental health. Same as NUEL 450. Prerequisite(s): Consent of the instructor. Students enrolled in the College of Liberal Arts and Sciences must have credit in PSCH 100 and either PSCH 270 or PSCH 315 or GWS 315.
Gender and Women's Studies	GWS	458	Asian America and Transnational Feminism	3 OR 4 hours.	Advanced, cross-disciplinary examination of feminism among Asian Americans from critical race and decolonizing perspectives and in a transnational context. Course information: Same as ASAM 458. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): At least one ASAM or GWS course; or consent of the instructor.
Gender and Women's Studies	GWS	462	AIDS, Politics and Culture	3 OR 4 hours.	Introduction to the study of AIDS as a medical, social, political and cultural construction. Explores the epidemiology of AIDS, the politics of the state¿s response, how activists have addressed AIDS, and media representations of AIDS. Same as HIST 462. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GWS 101 or GWS 102 or GWS 203 or GWS 214 and junior standing or above; or consent of the instructor.
Gender and	GWS	463	Politics of Gender	3 OR 4 hours.	Advanced, cross-disciplinary examination of issues related to gender and sexuality among Asian

Women's Studies			and Sexuality in Asian America		Americans, with critical attention paid to feminist and queer perspectives on the politics of representation and identity construction. Same as ASAM 463. 3 undergraduate hours. 4 graduate hours.
Gender and Women's Studies	GWS	469	Women's Literary Traditions	3 OR 4 hours.	An exploration of issues such as the female aesthetic; women's popular literature; factors that enable creativity; differences of race and class. Same as ENGL 469. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.
Gender and Women's Studies	GWS	472	Women and Film	3 OR 4 hours.	Roles and representations of women in classical Hollywood, European art and independent feminist cinemas. Same as AH 434, and ENGL 472. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 302 or ENGL 342 or ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.
Gender and Women's Studies	GWS	478	Women in Chinese History	3 OR 4 hours.	Focuses on scholarship on women in Chinese society throughout history, dealing with topics such as marriage and family, literacy, career options, women in revolution and the historiography of the field. Same as ASST 478, and HIST 478. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history or women's studies.
Gender and Women's Studies	GWS	484	Topics in the History of Women	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 484. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or gender and women's studies or consent of the instructor.
Gender and Women's Studies	GWS	485	Gender and Politics	3 OR 4 hours.	Impact of gender on basic categories of western political thought. Distinctions between reason and emotion, public and private, among others, examined from feminist perspective. Same as POLS 485. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 190 and one 200-level course in political theory; or consent of the instructor.
Gender and Women's Studies	GWS	490	Advanced Topics in the Study of Sexuality	3 OR 4 hours.	Special study at an advanced level of a topic concerning sexuality. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of gender and women's studies, or consent of the instructor.
Gender and Women's Studies	GWS	494	Advanced Topics in Gender and Women's Studies	3 OR 4 hours.	Specialized study of a problem, topic or issue relevant to the interdisciplinary area of gender and women's studies at the advanced level. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Senior or graduate standing.
Gender and Women's Studies	GWS	496	Independent Study	1 TO 3 hours.	Individual advanced reading or research in Gender and Women's Studies, under the supervision of a faculty member. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): GWS 101 and GWS 102; and consent of the instructor. Recommended background: GWS 292 and GWS 390.
Gender and Women's Studies	GWS	501	Feminist Theories	4 hours.	Significant trends in the analysis of gender and sexuality, and the intersection of those trends with analyses of power, difference, and equality. Historical and contemporary, national and non-U.S. based critiques of identity, agency, representation.
Gender and Women's Studies	GWS	502	Feminist Knowledge Production	4 hours.	Exploration of diverse feminist research approaches emphasizing interdisciplinarity in terms of method and intersectionality in terms of identity. Specific themes or topics examined from a feminist perspective across disciplines.
Gender and Women's Studies	GWS	514	Gender Issues in Cross-Cultural Perspectives	4 hours.	Selected substantive and theoretical issues in the cross-cultural study of gender roles, conceptions, and relations. Same as ANTH 514. Prerequisite(s): ANTH 500 or consent of the instructor.
Gender and Women's Studies	GWS	515	Psychology of Women and Gender	3 hours.	Critical examination of psychological theories and research on women and gender, including biological, psychoanalytic, socialization, power, and social constructionist perspectives. Same as PSCH 515. Prerequisite(s): Graduate standing in psychology; or PSCH 315 or GWS 315, and consent of the instructor.
Gender and Women's Studies	GWS	521	Violence Against Women	4 hours.	Examines the extent, causes, and consequences of sexual assault, intimate partner violence (e.g., domestic violence, dating violence), and sexual harassment, and considers the impact of culture and community on violence and its victims. Same as PSCH 521. Prerequisite(s): Consent of the instructor.
Gender and Women's Studies	GWS	523	Gender and Space	4 hours.	A gendered perspective in conceptualizing and critiquing the plan and design, representation, and form of the built and designed natural environment, the distribution of spatial and physical resources, and environmental experience. Same as ARCH 523. Credit is not given for ARCH 523 if the student has credit in ARCH 412 or GWS 412. Students in the Gender and Women's Studies Concentration should contact the School of Architecture to enroll in the course.
Gender and Women's Studies	GWS	525	Social Work with Women	3 hours.	Research, policy, and practice approaches to working with women in diverse urban settings; empowerment and diversity perspectives. Same as SOCW 525. Prerequisite(s): SOCW 410; or consent of the instructor.
Gender and Women's Studies	GWS	540	Language and Gender	4 hours.	Examination of sociolinguistic research and theories on the interrelationships between language and gender, including gender categories in linguistic systems, gender differences in language use, interaction, and cross-cultural comparisons. Same as LING 540.
Gender and Women's Studies	GWS	547	Race, Class, and Gender Dimensions of Crime and Justice	4 hours.	Theories addressing the intersections of race, class, gender, crime and justice. Specifically, students examine criminological theories, social construction of race, class, and gender, legal decision-making, and implications of this for justice in our soc Same as CLJ 547.

Gender and Women's Studies	GWS	563	Politics of Gender, Sexuality and Education	4 hours.	Cross-disciplinary examination of issues related to gender, sexuality, and sexual orientation in education, with critical attention paid to educational policy and practice. Same as EDPS 563. Prerequisite(s): Consent of the instructor.
Gender and Women's Studies	GWS	583	Women in Education	4 hours.	An overview of girl's and women's educational experiences and placement within the academic structure (as students, professionals and intellectuals). The impact of gender on the realization of educational, economic and social opportunities. Same as EDPS 583. Prerequisite(s): Consent of the instructor or enrollment in the Ph.D. in Policy Studies in Urban Education program.
Gender and Women's Studies	GWS	594	Special Topics in Gender and Women's Studies	1 TO 4 hours.	Study of a problem, topic or issue relevant to the interdisciplinary area of gender and women's studies. Content varies. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor or one course in gender and women's studies.
Gender and Women's Studies	GWS	596	Independent Study	1 TO 4 hours.	Topics and plan of study must be approved by the instructor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Geography - GEOG

Geography	GEOG	401	Topics in Regional Geography	3 OR 4 hours.	Geographic analysis of cultural and environmental systems of a political, economic, or climatic region of the world as defined by the instructor. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 6 hours. Prerequisite(s): One upper-division course in each of the areas of skills, systematic and regional/urban geography.
Geography	GEOG	418	Ethnographic and Qualitative Research Methods	3 OR 4 hours.	Practical introduction to the techniques of social scientists for research in natural social settings: participant observation/non-participant observation, interviewing, use of documentary sources, etc. Same as ANTH 418. 3 undegraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above.
Geography	GEOG	425	Field Techniques in Archaeology	4 hours.	Exposure to field methods in archaeology through participation in an actual research project. Students are instructed in field excavation techniques. Usually offered in summer session. Same as ANTH 425. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 426 or GEOG 426.
Geography	GEOG	426	Laboratory Techniques in Archaeology	4 hours.	Exposes students to laboratory methods in archaeology through the analysis of excavated materials. Students are instructed in laboratory techniques. Same as ANTH 426. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 425 or GEOG 425.
Geography	GEOG	429	Archaeological Methods	3 OR 4 hours.	This course will familiarize students with various methodologies used by archaeologists and geo-archaeologists. Course will concentrate on a different method each time it is taught. Course information: Same as ANTH 429. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Students may register for more than one section per term.
Geography	GEOG	431	Advanced Landform Geography	3 OR 4 hours.	Genesis of surficial landforms and processes that sculpt them. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 131 or EAES 101 or consent of the instructor.
Geography	GEOG	432	Geomorphology and Archaeology	3 OR 4 hours.	Relevance of geomorphic processes and landform development to archaeology; role of geomorphology in archaeological surveys, paleogeographic reconstruction, and archaeological interpretation. Elements of geoarchaeology. Same as ANTH 421. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 131 or EAES 101 or consent of the instructor.
Geography	GEOG	441	Topics in Resource Management and Policy	3 OR 4 hours.	Selected topics dealing with environmental problems at local, regional or global levels. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 6 hours. Prerequisite(s): GEOG 341 or GEOG 361 or consent of the instructor.
Geography	GEOG	442	Environmental Hazards and Risks	3 OR 4 hours.	Environmental risks of natural and technological hazards; causes and consequences to people; social theories of risks; coping mechanisms used to reduce risk. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 251 or GEOG 441 or consent of the instructor.
Geography	GEOG	444	Management of Solid and Hazardous Wastes	3 hours.	Management of solid and hazardous waste, including radioactive waste: landfills, incineration, recycling, composting, source reduction, groundwater and air pollution impacts, control, regulations, siting, health impacts. Same as CME 423, and EOHS 472.
Geography	GEOG	453	Seminar in Cultural Ecology	3 OR 4 hours.	Cultural ecology and cultural evolution, emphasizing peasant farming and other subsistence systems. Soil management under shifting and sedentary agriculture. Same as ANTH 453. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or GEOG 151 or consent of the instructor.
Geography	GEOG	455	Quantitative Methods	3 OR 4 hours.	Introductory statistics course in statistical methods for anthropological problem-solving. Primary emphasis is on univariate and bivariate statistics, such as means standard deviations, correlation, chi square, t-tests, and simple regressions. Same as ANTH 455. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above; and consent of the instructor.
Geography	GEOG	461	Location and Land Use	3 OR 4 hours.	Environmental, demographic, and institutional influences on land availability/use at global/local scales; geographies of production/use intensity; market/governmental controls over land/users. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 361 or consent of the instructor.
Geography	GEOG	464	Geographic Modeling of Transportation Systems	3 OR 4 hours.	Discussions of the principles of spatial interaction, emphasizing passenger movements, commodity flows, the practicality of network analysis, and the impact of transportation facilities on land use and regional development. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 100 and GEOG 161.
Geography	GEOG	469	Geographic Information Systems for Planning	3 OR 4 hours.	Applications of Geographic Information Systems to urban planning and policy making. Same as UPP 461. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and consent of the instructor. Priority registration will be given to students admitted to a campus certificate program in Geospatial Analysis and Visualization, graduate students in Urban Planning and Policy, or students in the Master of Arts in Real Estate program.
Geography	GEOG	470	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Geography	GEOG	471	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with

					approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in GEOG 470, and approval of the department.
Geography	GEOG	475	Thematic Cartography	4 hours.	Discussion and projects involving representation of real-world areal patterns; preservation of geodetic, locational and informational relationships; information generalization and reconstruction; computer software, and programs for computer assisted cartography. Prerequisite(s): GEOG 276 or GEOG 278 or consent of the instructor.
Geography	GEOG	477	Remote Sensing of the Environment	4 hours.	Principles and practices of processing and interpretation of remotely sensed imagery including aerial photographs, radar and multispectral satellite images. Hands-on use of image-processing software. Same as ANTH 477. Extensive computer use required.
Geography	GEOG	478	Mapping with Microcomputers	4 hours.	Micro-computer applications including computer principles for mapping, alternative design for coordinate files, kinds of devices for mapping, direct control of devices for mapping, characteristics and limitations of mapping programs. Same as ANTH 484. Prerequisite(s): GEOG 475 or consent of the instructor.
Geography	GEOG	481	Geographic Information Systems I	4 hours.	Components and performance properties of geographic information systems. Geographic hierarchies and data structures. Problems and solutions in handling large geographic files. Geocoding. Same as ANTH 481. Prerequisite(s): GEOG 100 and one from GEOG 278, GEOG 386, IDS 100; or consent of the instructor.
Geography	GEOG	482	Geographic Information Systems II	4 hours.	Application of raster (or grid) based geographic information systems to the spatial analysis of landscapes. Same as ANTH 482.
Geography	GEOG	483	Geographic Information Systems III	4 hours.	Problems encountered in the analysis and portrayal of geographic data. Topics include taxonomy, regionalization, trend surface analysis, time series, markov probabilities, and computer cartographic procedures for displaying output from analytic procedures. Same as ANTH 483. Prerequisite(s): GEOG 482 or ANTH 482 or consent of the instructor.
Geography	GEOG	484	Qualitative Methods in Geographic Research	3 OR 4 hours.	Use of qualitative methods in geographic research. Research design choices, data collection and analysis, writing. Applications in environmental and urban geography. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 481 or geography major or minor or consent of instructor.
Geography	GEOG	485	Computer Cartography	4 hours.	The fundamentals of cartography and cartographic design. The use of state-of-the-art, Windows-based computer mapping software for querying and displaying cartographic data contained in GIS databases. Same as ANTH 485.
Geography	GEOG	486	Analysis of Geographic Patterns	4 hours.	Analytical methods for evaluating arrangements of points, lines, and subareas across regions. Development of non-central measures of spatial association as an alternative to correlation analysis. Prerequisite(s): GEOG 482 or consent of the instructor.
Geography	GEOG	491	History and Philosophy of Geography	3 OR 4 hours.	The philosophy of geography, its theory and research techniques. Analysis of bibliographic sources; criticism of papers on assigned topics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Declared major or minor in geography; or consent of the instructor.
Geography	GEOG	496	Internship	1 TO 4 hours.	Professional field experience with an agency or organization in the private or public sector on projects related to the student's area of specialization. Same as ANTH 496. May be repeated to a maximum of 8 hours. Only 4 hours of credit may be applied toward the Minor in Geography. Prerequisite(s): Declared major in anthropology, minor in geography or full graduate standing in anthropology or geography and consent of the faculty advisor, head of the department, or the director of internship programs.
Geography	GEOG	505	Seminar on the Geography of Colonialism and Neocolonialism	3 hours.	Colonialism: historical, political and development geographies. Colonialism in the evolution of Europe and the Third World. Anti-colonial liberation movements. Theories of neocolonialism, underdevelopment, dependency. May be repeated to a maximum of 6 hours. Prerequisite(s): GEOG 353 or GEOG 401 or consent of the instructor.
Geography	GEOG	510	Seminar in Social Organization	4 hours.	Theoretical and substantive issue about how societies are organized. Same as ANTH 510. May be repeated to a maximum of 12 hours.
Geography	GEOG	511	Topics in Urban Geography	3 hours.	Critical analysis of selected theories, methods and problems of urban and settlement geography. May be repeated to a maximum of 9 hours. Prerequisite(s): One 400-level course in urban, economic, or transportation geography.
Geography	GEOG	530	Seminar in Physical Geography	3 hours.	General topic to be defined by instructor; specific approved topic to be defined, researched and discussed by student. May be repeated to a maximum of 6 hours. Prerequisite(s): GEOG 421 or GEOG 431 or consent of the instructor.
Geography	GEOG	541	Seminar on Resource Management and Policy	3 hours.	Social policy issues in the resolution of resource management conflicts. Topics will vary. May be repeated to a maximum of 6 hours. Prerequisite(s): GEOG 441 or GEOG 461 or consent of the instructor.
Geography	GEOG	551	Research Seminar on the Ecology of Mapping Behavior	4 hours.	Mapping behavior examined cross-culturally, historically, and developmentally. Ecological functions of mapping in macro-spatial behavior. Prerequisite(s): Consent of the instructor.
Geography	GEOG	575	Seminar in Cartography	3 hours.	Review of recent developments in computer mapping and identification of mapping needs. Research on conceptual and program solutions to computer mapping problems. May be repeated to a maximum of 6 hours. Prerequisite(s): GEOG 475 and GEOG 481; or consent of the instructor.

Geography	GEOG	589	Geographic Information Systems for Planning	4 hours.	Applications of Geographic Information Systems to urban planning and policy making. Prerequisite(s): Graduate standing; and approval of the department. Priority registration for graduate students in Urban Planning and Policy, and graduate students admitted to the campus certificate program in Geospatial Analysis and Visualization.
Geography	GEOG	592	Research Proposal Design	1 hours.	Research techniques, including problem definition, literature search, and methodological design. Prerequisite(s): GEOG 595.
Geography	GEOG	595	Departmental Seminar	3 hours.	Review of contemporary geographic theory in academic research and professional practice. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in geography.
Geography	GEOG	596	Independent Study	1 TO 4 hours.	Independent research on approved topic not related to thesis preparation. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of faculty advisor and the instructor.
Geography	GEOG	598	Master's Thesis Research	0 TO 16 hours.	Independent research on a topic approved for a graduate thesis. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 16 hours. Prerequisite(s): Consent of thesis research advisor.

Germanic Studies - GER

Germanic Studies	GER	400	German for Reading Knowledge	3 OR 4 hours.	Preparation for the Graduate Proficiency Exam. Basic components of German grammar, sentence structure, and vocabulary. Selected texts in humanities, social sciences, and natural sciences. 3 undergraduate hours. 4 graduate hours. Credit may not be applied toward a degree or minor offered by the Department of Germanic Studies. Does not satisfy the graduation requirement in foreign languages.
Germanic Studies	GER	401	Advanced Practice in German Language Skills	3 OR 4 hours.	Communicative use of German techniques for understanding written and spoken texts, practicing conversation and writing texts such as essays, compositions, letters, and email. 3 undergraduate hours. 4 graduate hours. May be repeated. Only majors and minors outside the Department of Germanic Studies may repeat this course for a maximum of 6 hours of credit. Area: language. Prerequisite(s): GER 212. or the equivalent. Recommended background: Credit or concurrent registration in GER 310.
Germanic Studies	GER	404	Yiddish for Reading Knowledge	3 OR 4 hours.	Preparation for the Graduate Proficiency Exam. Basic components of Yiddish grammar, sentence structure, and vocabulary. Selected texts in the original language will be studied. 3 undergraduate hours. 4 graduate hours. Does not satisfy the graduation requirement in foreign languages. Prerequisite(s): GER 211; or consent of the instructor or graduate standing.
Germanic Studies	GER	408	Introduction to Translation Theory	3 OR 4 hours.	The study of translation theory and its application to translating German texts of various types into English. Appropriate for students who want to become translators. 3 undergraduate hours. 4 graduate hours. Area: language. Prerequisite(s): GER 212 or the equivalent, or graduate standing.
Germanic Studies	GER	411	The City as Cultural Focus	3 OR 4 hours.	Interdisciplinary study of urban culture with focus on German-speaking countries. Same as CEES 411. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Taught in English. No knowledge of German required. Students who intend to use GER 411 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): For majors and minors in the Department of Germanic Studies only: GER 212 or the equivalent or consent of the instructor.
Germanic Studies	GER	415	Business German II	3 OR 4 hours.	Extensive practice in the writing of business correspondence and formal presentations.3 undergraduate hours. 4 graduate hours. Area: language. Prerequisite(s): GER 315 or consent of the instructor.
Germanic Studies	GER	420	Germanic Cultural Studies I: Genres	3 OR 4 hours.	Concentration on a genre, with stress on cultural analysis and theoretical inquiry. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students who intend to use GER 420 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.
Germanic Studies	GER	421	Germanic Cultural Studies II: Authors, Movements, Periods	3 OR 4 hours.	Critical analysis of texts in the biographical, social, cultural, and historical context. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students who intend to use GER 421 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.
Germanic Studies	GER	422	Germanic Cultural Studies III: Themes	3 OR 4 hours.	Explores themes in German-speaking societies, such as the family, xenophobia, crime, and science, with stress on literary analysis and interpretation. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students who intend to use GER 422 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.
Germanic Studies	GER	430	Classical German Philosophy	3 OR 4 hours.	Introduction to German philosophy and intellectual history through the critical analysis of major authors and texts. Same as CEES 430. 3 undergraduate hours. 4 graduate hours. Taught in English. Area: literature/culture. Prerequisite(s): One 300-level course in Germanic Studies or consent of the instructor.
Germanic Studies	GER	437	Contemporary Germanic Literature	3 OR 4 hours.	Literature of the German-speaking world since World War II, with emphasis on current issues and recent critical approaches to literature. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Area: literature/culture. Prerequisite(s): GER 211 or the equivalent, or graduate standing or consent of the instructor.
Germanic Studies	GER	438	The Faust Legend	3 OR 4 hours.	Discusses Goethe's Faust within the context of European and non-European literatures. Traces the origins, significance, and interpretation of the Faust figure. Same as CEES 438. 3 undergraduate hours. 4 graduate hours. Taught in English. Area: literature/culture.
Germanic Studies	GER	439	Gender and Cultural Production	3 OR 4 hours.	Issues of gender representation and gender politics examined through the use of theoretical texts or through the study of women authors. Same as CEES 439 and GWS 439. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Taught in English. Students who intend to use GER 439 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.
Germanic Studies	GER	448	Foundations of Second Language Teaching	3 OR 4 hours.	Provides an introduction to second language acquisition research and its implications for communicative language teaching. Emphasis is on creating activities to develop high school students' communicative abilities in speaking and listening. Same as FR 448, and SPAN 448. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor and three courses at the 200 and 300 levels.
Germanic	GER	449	Teaching Second	3 OR 4 hours.	Examines the nature of literacy as a reciprocal relationship between readers, writers, texts and

Studies			Language Literacy and Cultural Awareness		culture. Students learn the practical and theoretical foundations of classroom teaching of second language reading and writing skills. Same as FR 449, and SPAN 449. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor.
Germanic Studies	GER	450	Business Operations in German-Speaking Countries	3 OR 4 hours.	The political, cultural, historical, and economic environment in which business operates in the German-speaking countries; the effects of this environment on international business. 3 undergraduate hours. 4 graduate hours. Knowledge of German not required.
Germanic Studies	GER	461	German Abroad	0 TO 17 hours.	Taken in a German-speaking country. Lectures, seminars, and practical work in German language, literature, and civilization. May be repeated to a maximum of 34 hours. Prerequisite(s): GER 104 or the equivalent, a 2.75 overall grade point average, a 3.00 grade point average in Germanic Studies, and approval of the department.
Germanic Studies	GER	470	Exploring the Field of Germanic Studies	3 OR 4 hours.	Team-taught. Research in film studies, gender studies, Jewish culture, minorities, literary studies, intellectual history, applied linguistics in Germanic Studies. Each unit taught by a different faculty member from Department of Germanic Studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Undergraduate students must obtain approval of the department.
Germanic Studies	GER	480	Hegel Studies	3 OR 4 hours.	Studies in the philosophy of Hegel, including principal texts (e.g. Phenomenology), or problems (e.g. critique of metaphysics) or comparative studies (e.g. Hegel's critique of Kant). 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Taught in English. Area: literature/culture. Prerequisite(s): GER 430; or consent of the instructor. Recommended background: PHIL 224 or PHIL 425.
Germanic Studies	GER	487	Computer Assisted Language Learning	3 OR 4 hours.	An introduction to computer assisted language learning (CALL): the use of computer technology in second language reading and research. The effectiveness of CALL technology is assessed based on SLA theory and research studies. Same as LING 487 and SPAN 487. 3 undergraduate hours. 4 graduate hours. Taught in English. Extensive computer use required. Prerequisite(s): LING 483 or CIE 483 or GER 448 or FR 448 or SPAN 448 or GER 449 or FR 449 or SPAN 449; or SPAN 502 or FR 502 or the equivalent; and senior standing or above.
Germanic Studies	GER	492	Internship in International Business	0 TO 12 hours.	Student placement in an international organization or firm in a German-speaking country or its U.S. subsidiary or division. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): GER 211; and consent of the instructor and a GPA of 2.00. Recommended background: Concurrent registration in GER 493 or registration in GER 493 in the semester immediately following.
Germanic Studies	GER	493	Internship Seminar: Business	1 TO 4 hours.	Academic component of the internship experience. Studies in the field of the internship and further investigation of related topics. May be repeated with approval. Approval to repeat course granted by the department. A maximum of 3 hours of credit may be applied toward an undergraduate degree offered by the Department of Germanic Studies, and a maximum of 4 hours of credit may be applied toward a graduate degree offered by the Department of Germanic Studies. Prerequisite(s): GER 211 and credit or concurrent registration in GER 492 and consent of the instructor and a grade point average of 2.00.
Germanic Studies	GER	494	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Germanic Studies	GER	495	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in GER 494, and approval of the department.
Germanic Studies	GER	513	Germanic Culture from the Enlightenment to the 1848 Revolution	4 hours.	Representative works and authors studied in a cultural context. May be repeated if topics vary.
Germanic Studies	GER	514	Germanic Culture from the Industrial Revolution to the Present	4 hours.	Representative works and authors are studied in a cultural context. May be repeated if topics vary.
Germanic Studies	GER	515	Film and Media Culture	4 hours.	Explores the theory and history of film and other visual media. Emphasis will be given to the status of media texts in their cultural contexts, as well as to their function as components of modern social institutions. Same as CEES 515. Taught in English. Students will be asked to watch films outside of class.
Germanic Studies	GER	531	Seminar in Special Topics	4 hours.	In-depth study of a theme, genre or other element in Germanic literature and culture not confined to a single historical period. Topics vary. May be repeated to a maximum of 16 hours if topics vary.
Germanic Studies	GER	540	Topics in Contemporary Germanic Literature and Film	4 hours.	Representations of German culture and society after 1989 in cinematic and related literary texts, studied in the context of major scholarly and public discussions. May be repeated for a maximum of 8 hours of credit if topics vary.

Germanic Studies	GER	550	German Literary Studies: Texts, Contexts, Theories	4 hours.	Theory and practice of the analysis of different genres of literary texts, different theoretical approaches to literature and discussion of literature in the context of literary historical and aesthetic perspectives. Prerequisite(s): Advanced German language proficiency.
Germanic Studies	GER	572	The Role of Reading in Second Language Acquisition	4 hours.	Analyzes current theoretical and research directions in text comprehension processes as well as reading as a source of input for second language acquisition. Taught in English.
Germanic Studies	GER	593	Internship Seminar: Academic Training	4 hours.	Training in instruction of literature and culture courses at the college level. Students will be involved in a faculty-taught culture/literature course. Restricted to graduate students in Germanic studies.
Germanic Studies	GER	596	Independent Study for Graduate Students	1 TO 4 hours.	Independent study in the field of germanic studies. Prerequisite(s): Consent of the instructor.
Germanic Studies	GER	598	Master's Thesis Research	0 TO 16 hours.	Independent research under faculty supervision on a topic approved by the Graduate Program Committee. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of supervising faculty member and committee approval.
Germanic Studies	GER	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research for the Ph.D. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department and consent of the instructor.

Graduate College - GC

Graduate College	GC	401	Scientific Integrity and Responsible Research	0 hours.	Designed to meet NIH requirements for formal training in the responsible conduct of research. Ethical and legal issues in the conduct of research; University of Illinois at Chicago research standards, regulations, and procedures. Satisfactory/Unsatisfactory grading only. Meets during the first seven weeks of the term on the west side of campus, and on the east side of campus during the last seven weeks. Prerequisite(s): Graduate standing.
Graduate College	GC	470	Essentials for Animal Research	1 hours.	Will acquaint the students with the regulations, sources of information, humane principles and ethical considerations involving the appropriate use of animals for research and teaching purposes. Satisfactory/Unsatisfactory grading only.
Graduate College	GC	471	Experimental Animal Techniques	2 hours.	Noninvasive and invasive techniques commonly used in laboratory animals are performed with emphasis placed upon the proper use of anesthetic, analgesics and aseptic techniques. Satisfactory/Unsatisfactory grading only. Animals used in instruction. Prerequisite(s): GC 470.
Graduate College	GC	473	Seminar in Comparative Medicine	1 TO 2 hours.	Selected fields of interest and research in comparative medicine will be presented in the areas of comparative biology, model development and experimental techniques. Satisfactory/Unsatisfactory grading only. Prerequisite(s): GC 471 or consent of the instructor.
Graduate College	GC	491	Graduate Study Abroad	0 TO 16 hours.	Lectures, seminars, and independent travel/study abroad in conjunction with an approved graduate program. May be repeated to a maximum of 32 hours. Prerequisite(s): Graduate standing and approval of the Graduate College.
Graduate College	GC	495	Graduate Summer Interdisciplinary Seminars	3 hours.	These summer seminars provide unique opportunities for students and faculty to explore new and interdisciplinary fields of inquiry in intense periods of mutual inquiry outside the regular curriculum. Topics vary. May be repeated . Students must check with program director to apply credit toward degree. Prerequisite(s): Graduate standing and consent of the instructor.
Graduate College	GC	500	Chicago Metropolitan Exchange Program	0 TO 16 hours.	Holding course for UIC doctoral students and students under a training grant with one of the partner institutions (University of Chicago and Northwestern University) taking approved coursework through the Chicago Metropolitan Exchange Program. May be repeated. Students may register in more than one section per term. Prerequisite(s): Admission to a doctoral program or under a training grant held jointly by the partner institution and UIC, and approval of the Graduate College.

Graduate College - Life Sciences - GCLS

Graduate College - Life Sciences	GCLS	500	Physiology	3 hours.	Lectures in human physiology. Emphasis is on an integrated approach to systems physiology. Restricted to students enrolled in a graduate program offered through the College of Medicine or Pharmacy or Applied Health Sciences or in the Departments of Bioengineering or Biological Sciences, or consent of the instructor. Prerequisite(s): Mathematics, undergraduate physics, organic chemistry, or consent of the instructor.
Graduate College - Life Sciences	GCLS	501	Biochemistry	3 hours.	Fundamental properties of biomacromolecules, the thermodynamics underlying basic biochemical processes and the properties of enzymes, including the kinetics of operation, and regulation, illustrated with important examples. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor. Prerequisite(s): Recommended background: Coursework in organic and physical chemistry.
Graduate College - Life Sciences	GCLS	502	Molecular Biology	3 hours.	Core molecular biology course covering basic principles of gene expression, genome replication and molecular interactions important to biological processes in prokaryotes and eukaryotes. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	503	Cell Biology	3 hours.	Advanced course on fundamental aspects of cell biology; basic concepts will be integrated with key examples which span gene, protein, cell, and tissue function. Credit is not given for GCLS 503 if the student has credit in BCHE 561 or ANAT 585 or MIM 585 or PHYB 585. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine, Pharmacy, or Applied Health or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	504	Research Methods I	1 TO 2 hours.	Lectures, demonstrations, and discussions concerned with principles and practical aspects of modern quantitative biochemical, molecular biological, physiological and biophysical methodology such as separation techniques and studies of biomembranes. May be repeated. Students may register for more than one section per term. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	505	Research Methods II	1 TO 3 hours.	Lectures, demonstrations, and discussions concerned with principles and practical aspects of modern quantitative biochemical, molecular biological, physiological and biophysical methodology such as bioimaging and biochemical analysis. May be repeated. Students may register for more than one section per term. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	506	GEMS Research Rotation	2 TO 5 hours.	Research rotation course in which first year students from the GEMS program will undertake research projects in laboratories affiliated with this program. Satisfactory/Unsatisfactory grading only. May be repeated. Animals used in instruction. Prerequisite(s): Open only to Ph.D. degree students.
Graduate College - Life Sciences	GCLS	510	Integrative Biology	3 hours.	Advanced level, intensive course addressing fundamental topics of developmental biology, immunology, and cancer biology, with concentration on thematic issues that integrate these subjects. Prerequisite(s): GCLS 501 and GCLS 502 and GCLS 503; or demonstrated proficiency of the material covered in these courses. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	511	Molecular Genetics	3 hours.	Core molecular genetics course covering classical and molecular principles of microbial and Mendelian genetics. Systems covered include bacteria, bacteriophage, animal viruses, yeast, Drosophila, mouse, and human. Prerequisite(s): GCLS 501 and GCLS 502 and GCLS 503; or demonstrated proficiency of the material covered in these courses. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	515	Receptor Pharmacology and Cell Signaling	3 hours.	Advanced course on cell-surface and nuclear receptors and mechanisms of signaling through receptors. Provides an overview of receptor theory, hands-on data analysis and lectures and discussions on various signaling mechanisms. Credit is not given for GCLS 515 if the student has credit in PCOL 505 or PHYB 505. Prerequisite(s): GCLS 501 or approval of the department. Restricted to students enrolled in a graduate program offered through the Colleges of Medicine or Pharmacy or the departments of Bioengineering or Biological Sciences or consent of the instructor.
Graduate College - Life Sciences	GCLS	594	Special Topics in Life Sciences	1 TO 4 hours.	Systematic study of advanced selected topics in life sciences from an interdisciplinary approach. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Health Information Management - HIM

Health Information Management	HIM	410	Introduction to the Health Care System	3 hours.	Overview of the U.S. Health Services System, including its organization and management, economic support system, health care workforce, and delivery system. Previously listed as HIM 310. Extensive computer use required. Meets eight weeks of the semester. Taught partially or fully online. Students must have an active UIC NetID with valid password and access to a computer and the Internet.
Health Information Management	HIM	432	Coding and Classification Systems	3 hours.	Introduction to nomenclatures and classification systems with an emphasis on the ICD-9-CM coding system. Other selected systems also discussed. Previously listed as HIM 332. Extensive computer used required. Meets eight weeks of the semester. Taught partially or fully online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): BHIS 405 and HIM 451.
Health Information Management	HIM	433	Coding and Reimbursement Systems	4 hours.	ICD-9-CM coding for reimbursement, CPT-4/HCPCS coding, data quality management and management reporting. Previously listed as HIM 333. Extensive computer use required. Meets eight weeks of the semester. Taught partially or fully online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): BHIS 405 and HIM 432.
Health Information Management	HIM	451	Health Information Management Theory and Practice	4 hours.	Introduction to the data elements and health information systems that comprise the patient's health record in acute and alternative settings, including records management and registries. Extensive computer use required. Meets eight weeks of the semester. Taught online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): Credit or concurrent registration in HIM 410 or equivalent experience.
Health Information Management	HIM	452	Quality Management and Data Analysis	4 hours.	Examination of processes used to measure and improve the quality and effectiveness of health care, including health care and research statistics and data display. Extensive computer use required. Field work required. Meets eight weeks of the semester. Taught online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): HIM 410 and HIM 451 and HIM 454.
Health Information Management	HIM	453	Principles of Management and Human Resources	4 hours.	Principles of Management with emphasis on business functions, procedures, personnel managment, workforce development and productivity measurements as applied to health care settings. Extensive computer use required. Meets eight weeks of the semester. Taught online. Students must have an active UIC NetID with valid password and access to a computer and the Internet.
Health Information Management	HIM	454	Legal Aspects, Risk Management, and Security of Health Information	3 hours.	Principles of law, confidentiality, and ethics, and their application to health records, including risk management and security in clinical information systems. Extensive computer use required. Meets eight weeks of the semester. Taught online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): BHIS 460.
Health Information Management	HIM	455	Health Information Systems Analysis and Design	4 hours.	Advanced topics in information technology and systems in healthcare. Collection, analysis and management of healthcare data. Fundamentals and tools of systems analysis and design. Extensive computer use required. Field work required. Meets eight weeks of the semester. Taught online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): BHIS 460 and HIM 454.
Health Information Management	HIM	481	Healthcare Financial Management	2 hours.	An introduction to the principles of healthcare finance, sources of healthcare revenue, expenses, and budgeting. Previously listed as HIM 381. Extensive computer use required. Meets eight weeks of the semester. Taught partially or fully online. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): BHIS 480 or HIM 453 or equivalent experience.
Health Information Management	HIM	486	Foundations of Health Information Management	2 hours.	Provides students new to the health informatics field with knowledge of the U.S. healthcare system and health record content and practice. Extensive computer use required. Field work required. Meets eight weeks of the semester. Taught on-line, students must have an active UIC netID with valid password and access to a computer and the Internet. Prerequisite(s): Consent of the instructor and enrollment in the MS in Health Informatics program or Post Master's Certificate in Health Informatics.

Health Policy and Administration - HPA

Health Policy and Administration	HPA	400	Principles of Management in Public Health	3 hours.	A detailed discussion of the conceptual and theoretical foundations to the principles of management with an emphasis on public health and health care settings. Prerequisite(s): Enrollment restricted to public health students; other graduate, professional and advanced undergraduate students admitted by consent as space permits. To obtain consent, see the SPH registrar.
Health Policy and Administration	HPA	402	Social Ethics and Public Health	3 hours.	Application of ideas from philosophy, law, political science and economics to analyze the ethical basis of public health policies and programs.
Health Policy and Administration	HPA	403	U.S. Health Care System	3 hours.	Overview of the U.S. healthcare system, including its evolution, utilization patterns, providers - human, institutional and organizational - financing, regulating, evaluating, and reforming.
Health Policy and Administration	HPA	405	Leadership in Public Health Practice	3 hours.	Utilizing public health core functions, this course explores leadership style and practice through case studies and techniques which enhance leadership development. Same as CHSC 405. Prerequisite(s): Graduate or professional standing; or approval of the department.
Health Policy and Administration	HPA	407	Foundations of Emergency Management and Continuity Programs	3 hours.	Designed to provide the student with the core public health and emergency management practices and principles to prepare for and execute emergency management and business continuity planning and operations. Extensive computer use required. This is an online course. Prerequisite(s): Graduate or professional standing; or consent of the instructor.
Health Policy and Administration	HPA	410	Health Organizational Leadership	3 hours.	Examines the roles, responsibilities, and impact of leaders of organizations in the health industry. Critical structures and techniques of effective organizational leaders are taught.
Health Policy and Administration	HPA	417	Quality Management in Health Services	3 hours.	Surveys development of quality management and theoretical basics and diverse perspectives of quality management and regulation. Presents relevant research and management methodologies.
Health Policy and Administration	HPA	429	Introduction to Health Services Research	2 hours.	Introduction to health services research using classic studies and current trends which examine access, cost, quality, and organization of health care. Prerequisite(s): HPA 400.
Health Policy and Administration	HPA	430	Introduction to Public Health Policy Analysis	3 hours.	Identifies and discusses health status as a function of public policy; policymaking to improve the publics health; current health policy topics and methodology.
Health Policy and Administration	HPA	431	Law and Public Health	3 hours.	Surveys basic concepts and content in major areas of health law; explains the sources of legal authority; and develop familiarity with legal language and thinking.
Health Policy and Administration	HPA	432	Public Health Advocacy	3 hours.	Examination of the courts, government agencies, legislatures and public opinion and an analysis of their decisionmaking; planning an advocacy campaign using "strategic analysis."
Health Policy and Administration	HPA	434	Law and the Health Care System	3 hours.	Survey of legal topics important to the management of health care organizations. They include: relationships among the parties involved in the delivery of health care and the law of business organizations. Prerequisite(s): Graduate or professional standing and approval of the department.
Health Policy and Administration	HPA	441	Strategic Management of Healthcare Organizations	3 hours.	Introduction to strategic analysis for healthcare organizations. Topics include: Healthcare competition, entrepreneurship, technology and innovation, multi-constituent environment, and human resources. Prerequisite(s): Graduate standing and approval of the department.
Health Policy and Administration	HPA	444	Strategic Planning and Budgeting	3 hours.	Strategic planning within organizations, with constituencies and stakeholders. Introduces management control function, its activities, structure, process, and consequences, including quality measures and performance evaluation. Extensive computer use required. This is an online course. Prerequisite(s): HPA 400.
Health Policy and Administration	HPA	445	Organizational Leadership in Public Health	3 hours.	Examines classic and contemporary leadership theory and practice as applied to the diverse organizational, systems and community settings in which public health leaders function. Extensive computer use required. This is an online course. Prerequisite(s): HPA 400.
Health Policy and Administration	HPA	446	Public Health Resource Management: Methods, Ethics and Policy	3 hours.	Equips students to analyze, evaluate and address the relationships among budgets, resources, forces of change, and organizational and professional values as they pertain to managerial choices and decisions. Extensive computer use required. This is an online course. Prerequisite(s): HPA 400.
Health Policy and Administration	HPA	450	Public Health Informatics Certificate Integrative Paper	0 hours.	Student will develop an integrative paper that will synthesize and apply the knowledge acquired from the program to address a public health informatics problem. Satisfactory/Unsatisfactory grading only. Extensive computer use required. Prerequisite(s): HPA 465 and HPA 481 and HPA 563 and HPA 564 and HPA 565. Students must register for the integrative paper during the last semester of enrollment in the campus certificate program.
Health Policy and	HPA	451	Health Care Finance	3 hours.	Examines practical aspects of finance in health care and recent developments in financial management of health care organizations, and applications of financial management techniques

Administration					to specific problems facing health care managers. Prerequisite(s): Graduate or professional standing and approval of the department.
Health Policy and Administration	HPA	455	Geographic Information Systems Integrative Project	2 hours.	The integrative project aims to demonstrate a comprehensive mastery of the course materials, database theories, and GIS techniques by pursuing a project resembling those encountered by public health. Extensive computer use required. Taught Online. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Health Policy and Administration	HPA	460	Introduction to the Economics of Health and Healthcare	3 hours.	Introduces principles of economic analysis, with examples from public health and medical care. Examines how consumers and companies decide what to buy or sell, why markets determine a product' s price, and when public intervention improves welfare.
Health Policy and Administration	HPA	463	Managerial Health Economics	3 hours.	Uses managerial economics to study health care system: demand for medical services; role of health insurance; productivity/cost measurement; labor markets and competition. Prerequisite(s): HPA 400 or consent of the instructor.
Health Policy and Administration	HPA	465	Health Information and Decision Support Systems	4 hours.	Introduction to computer assisted management information and decision systems in health organizations: analysis and design of databases; data and information flow; reports; and uses microcomputers. This is an on-line course.
Health Policy and Administration	HPA	466	Critical Infrastructure and Resource Protection Planning	3 hours.	Introduces students to analysis and tools to identify critical private and public sector infrastructure and optimal protection strategies. Extensive computer use required. This is an online course. Prerequisite(s): Approval of the department.
Health Policy and Administration	HPA	470	Quantitative Methods for Healthcare Managers	2 hours.	Builds on basic statistical skills, teaching other quantitative methods within the context of specific decision-making issues encountered by healthcare managers and leaders. Prerequisite(s): BSTT 400; and approval of the department.
Health Policy and Administration	HPA	472	Clinical Research Methods I	4 hours.	Introduces experimental and quasi-experimental study designs and descriptive statistics. Online course. Extensive computer use required. Prerequisite(s): Graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	473	Clinical Research Methods II	4 hours.	Introduces OLS multivariate regression models, its assumptions, interpretation of outputs and departures, and surveys more advanced multivariate regression models. Online course. Extensive computer use required. Prerequisite(s): HPA 472; and graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	475	Contexts for Clinical Research	3 hours.	Provides an overview of the healthcare system, epidemiological and research subject protections contexts for clinical research. Online course. Extensive computer use required. Prerequisite(s): Graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	477	Data Collection and Management for Clinical Research	3 hours.	Provides basic statistical computing and data management concepts, an overview of qualitative research techniques, and a survey of survey design from sampling strategies to data collection, item and measure development and survey analysis. Online course. Extensive computer use required. Prerequisite(s): HPA 472; and graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	479	Evaluating Clinical Interventions	3 hours.	Introduces the major approaches used to evaluate clinical interventions. Online course. Extensive computer use required. Prerequisite(s): HPA 472; and graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	480	Health Related Database Design and Analysis	4 hours.	Introduces students to the design and analysis of health related relational and spatial databases. Same as EOHS 475. Extensive computer use required. Taught online only. Prerequisite(s): Consent of the instructor. Recommended Background: Strong quantitative background recommended.
Health Policy and Administration	HPA	481	Development of Public Health Surveillance Information Systems	3 hours.	Examination of the process and methods of designing and evaluating public health information surveillance systems. Extensive computer use required. Prerequisite(s): HPA 465.
Health Policy and Administration	HPA	483	Management of Communication Systems for Public Health Informatics Applications	4 hours.	Focuses on the examination and management of current information communication systems and their applications in public health informatics. Extensive computer use required. This is an online course. Prerequisite(s): HPA 465.
Health Policy and Administration	HPA	485	Legal and Ethical Issues in Public Health Informatics	3 hours.	Examination of the legal and ethical issues involved in the use of health related information in public health. Extensive computer use required. This is an online course. Prerequisite(s): HPA 465.
Health Policy and Administration	HPA	486	Survey of Public Health Information Systems	4 hours.	Focuses on survey of various public health information systems with respect to their functionalities, planning, design, development, sustainability, interoperability, and management. Extensive computer use required. This is a online course. Prerequisite(s): HPA 465; and consent of the instructor.
Health Policy and Administration	HPA	487	Public Health Informatics Methods	3 hours.	Course summarizes the three major methodological approaches for accessing and managing health information: Web-based information systems, data mining, and geographic information systems (GIS). Extensive computer use required. This is an online course. Prerequisite(s): HPA 465; and consent of the instructor.

Health Policy and Administration	HPA	488	Public Health Information Systems Evaluation and Project Management	3 hours.	Introduces students to the fundamental principles of information systems project evaluation and project management, with specific references to public health practice. Extensive computer use required. This is an online course. Prerequisite(s): HPA 465; and consent of the instructor.
Health Policy and Administration	HPA	490	Topics in Healthcare Leadership	1 hours.	Provides students with a series of explorations of various leadership specialty areas within the delivery of healthcare. The specific demands and skill of each will be covered. May be repeated to a maximum of 2 hours. Prerequisite(s): Approval of the Department.
Health Policy and Administration	HPA	494	Introductory Special Topics in Health Policy and Administration	1 TO 4 hours.	Introductory topics in health administration, policy analysis, health care financing, cost-effectiveness evaluation. Topics vary by semesters.
Health Policy and Administration	HPA	495	MHA Preceptorship	1 TO 3 hours.	Preceptor-guided field experience in health administration designed to promote critical thinking and problem solving skills, and application of management knowledge and skills in a practice setting. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. Prerequisite(s): Graduate or professional standing and approval of the department.
Health Policy and Administration	HPA	496	Master of Healthcare Administration (MHA) Capstone	1 hours.	Individual, integrative product in health administration designed to demonstrate student's mastery of health administration concepts and skills, including information access, synthesis and use in critical thinking. Prerequisite(s): Graduate or professional standing and approval of the department.
Health Policy and Administration	HPA	497	Integrative Project in Emergency Management	3 hours.	Independent investigation that draws upon the professional experience and knowledge synthesis of the student. Students investigate a topic/problem in their field and write an article. Satisfactory/Unsatisfactory grading only. Extensive computer use required. This is an online course. Prerequisite(s): Consent of the instructor.
Health Policy and Administration	HPA	511	Organization Theory Applied to Health Programs	3 hours.	Classical and modern organization theories applied to health programs. Includes organization structure and goals, management functions and processes, and managerial controls and evaluation. Prerequisite(s): HPA 400 or consent of the instructor.
Health Policy and Administration	HPA	512	Ethics in Clinical Research	1 hours.	Survey of key ethical issues involved in conducting research with human subjects, including informed consent, confidentiality, access and equity. Same as MHPE 512. Extensive computer use required. Requires completion of an online course in human subjects research, to be supplemented by classroom discussion of the topics raised in that course and others. Prerequisite(s): Approval of the department. Students must be enrolled in the Master of Science in Public Health program.
Health Policy and Administration	HPA	516	Health Personnel Management	3 hours.	Health personnel policies and programs, human resources requirements, recruitment, development, performance appraisal, salary and wage administration, and management/labor relations in the health industry. Prerequisite(s): HPA 400 and consent of the instructor.
Health Policy and Administration	HPA	522	Public Health Research Design and Methods	3 hours.	Graduate level quantitative research methods course. Utilizes social science research methods with an emphasis on experimental and quasi-experimental research designs in the study of methodologically sound public health research investigations. Prerequisite(s): BSTT 400.
Health Policy and Administration	HPA	525	Population Based Healthcare Services Planning	3 hours.	Examines the roles that health care delivery organizations can play, and methodologies used, in developing programs specific to the needs of the community they serve. Prerequisite(s): HPA 403 and HPA 410 and HPA 495.
Health Policy and Administration	HPA	527	Critical Issues in Long Term Care Policy	3 hours.	Examines the policy process and policy implications affecting the organization, financing, delivery, and utilization of long-term care services. Same as CHSC 527. Prerequisite(s): Credit or concurrent registration in CHSC 400 and Credit or concurrent registration in CHSC 425; and graduate or professional standing; or consent of the instructor.
Health Policy and Administration	HPA	534	Research Design and Grant Writing	2 hours.	Introduction to the skills necessary to plan a research project and write a research grant proposal using a systematic approach. Same as MHPE 534. Previously listed as MHPE 431. Prerequisite(s): Graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	535	Translating Research into Practice	3 hours.	Current theory and practical reality related to the adoption and use of new scientific findings in patient care. The influence of research on public policy. Same as MHPE 535. Extensive computer use required. Prerequisite(s): Graduate or professional standing; and approval of the department.
Health Policy and Administration	HPA	551	Marketing Health Programs	3 hours.	Concepts of marketing as a management tool; application of marketing to health care: the marketing process, marketing resources, and strategies for accomplishing marketing objectives. Prerequisite(s): HPA 400 or MKTG 563 or consent of the instructor.
Health Policy and Administration	HPA	556	U.S. Mental Health Policy	2 hours.	Public policies which have supported the U.S. mental health service system from 1946 to the present. Theory, development, and evaluation of mental health policy in the US. Prerequisite(s): HPA 400 and HPA 430 and either EPID 400 or BSTT 400.
Health Policy and Administration	HPA	557	Measurement in Health Services Research	3 hours.	Presents measurement, reliability and validity theory and assessment using correlation, internal consistency, factor analysis and others. Application in developing, analyzing, and reporting behavioral and/or organizational measures. Prerequisite(s): BSTT 400 and BSTT 401; or consent of the instructor.
Health Policy and Administration	HPA	563	Web-Based Public Health Information Systems	4 hours.	Examination of web based applications in public health practice and factors in the design of web based public health education and database systems. This is an on-line course. Prerequisite(s): HPA 465; and consent of the instructor. Unless otherwise permitted, limited to students in the public health informatics track of HPA.

Health Policy and Administration	HPA	564	Geographic Information System Application in Public Health	3 hours.	Examination of GIS applications in Public Health and the process of designing a GIS-based public health investigation. Same as EOHS 564. Extensive computer use required. This is an on-line course. Prerequisite(s): HPA 465 and consent of the instructor.
Health Policy and Administration	HPA	565	Datamining Applications in Public Health	3 hours.	Presents the key public health information system sources, describes the process of datamining and introduces the student to a sample of datamining techniques. Same as EOHS 565. Extensive computer use required. Prerequisite(s): BSTT 400.
Health Policy and Administration	HPA	573	Principles of Economic Evaluations of Health Care Interventions	3 hours.	Principles, models and practical methods for the economic evaluation of health care services with an emphasis on pharmaceutical care. Same as PMAD 573. Previously listed as PMAD 571. Prerequisite(s): HPA 460; and Graduate standing; and consent of the instructor.
Health Policy and Administration	HPA	590	Grant Writing	1 hours.	Students will learn how to write a grant application through the guidance of a mentoring committee. They will formulate a research proposal which will be presented to a panel of researchers who will critique the proposed study.
Health Policy and Administration	HPA	591	Grant Writing for New Investigators	3 hours.	Fosters grant writing skills, and helps students learn the mechanics of an NIH grant application, particularly K awards, and how to peer review applications. Prerequisite(s): Consent of the instructor. MS in Clinical and Translational Science students are expected to have completed the required coursework for the program and to have made significant progress in their research project.
Health Policy and Administration	HPA	594	Advanced Special Topics in Health Policy and Administration	1 TO 4 hours.	Advanced topics in health administration, policy analysis, health care financing, cost-effectiveness evaluation. Topics vary by semester. Prerequisite(s): Consent of the instructor.

Histology - HSTL

Histology	HSTL	451	Oral Histology	4 hours.	Comprehensive learning experiences in the structure and function of human tissue, organs, and organ systems with special emphasis on the oral cavity. Registration in HSTL 452 is required in the Spring term. Prerequisite(s): Approval of the Department. Students must also register for HSTL 452 in the Spring term.
Histology	HSTL	452	Histology II	4 hours.	Continuation of HSTL 451. Provides a baseline of normal structure and function of human tissues necessary for the study of Oral Pathology and advanced courses in Histology. Prerequisite(s): HSTL 451; and approval of the department or first year standing in the Doctor of Dental Surgery Program.
Histology	HSTL	503	Biology of Mineralized Tissues	2 hours.	Lectures and discussion on the formation, structure, and functions of bone, dentin, and enamel. Emphasizes the mechanisms of mineralization. Prerequisite(s): A basic course in histology and consent of the instructor.
Histology	HSTL	504	Fine Structure of Oral Soft Tissues	2 hours.	Discussions of electron microscopic research methodologies as applied to oral biology with special emphasis on structural-functional relationships in oral soft tissues. Prerequisite(s): HSTL 401 and HSTL 451 or the equivalents and consent of the instructor.
Histology	HSTL	506	Advanced Oral Histology-Lymphoid Tissues	2 hours.	Lectures and discussions on the structure and functions of lymphoid tissues with special interest in orally related diseases. Prerequisite(s): HSTL 401, a course in microbiology and consent of the instructor.
Histology	HSTL	507	Physiological Basis of Pathology	2 hours.	Subject matter allied to general pathology but going deeper into physical chemistry and physiological principles, as set forth in N.R. Joseph's "Comparative Physical Biology". Same as PATH 507. Prerequisite(s): HSTL 401 or PATH 421 and PATH 422.
Histology	HSTL	514	Oral Biology Seminar	1 hours.	Invited speakers present the progress of current research work in their field of interest related to oral tissues. Same as OMDS 527. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Histology	HSTL	515	Electron Microscopy in Dentistry	1 hours.	Principles, theory, and practice of transmission and scanning electron microscopy, and energy dispersive x-ray microanalysis. Processing, sectioning, staining and examination of tissues. Same as OMDS 529. Prerequisite(s): Consent of the instructor.

History - HIST

History	HIST	400	Topics in Ancient History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	401	Topics in Greek History	3 OR 4 hours.	Specific topics are announced each term. Same as CL 401. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of history or classics.
History	HIST	402	Topics in Roman History	3 OR 4 hours.	Specific topics are announced each term. Same as CL 402. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or classics.
History	HIST	403	Culture and Sexuality: Cultural History of Same-Sex Relations	3 OR 4 hours.	Lesbian/gay studies; issues in the history of (homo)sexuality; cultural and historical analysis of same-sexuality in several periods, including our own. Same as GWS 403. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or consent of the instructor.
History	HIST	404	Roman Law and the Civil Law Tradition	3 OR 4 hours.	Roman law and its relationship to values and social structure; social analysis through law; continental law tradition. Same as CL 404, and CLJ 404. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 200 or CL 203 or HIST 203 or consent of the instructor.
History	HIST	405	Herodotus and His World	3 OR 4 hours.	Examines the Histories of Herodotus - both the text and the culture of Classical Greece compared to the Near East and Egypt. Course information: Same as CL 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Sophomore standing or above.
History	HIST	406	Topics in Medieval History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history, or junior standing or above, or consent of the instructor.
History	HIST	409	Topics in Early Modern European History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	410	Topics in Modern European History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	415	American Indian Ethnohistory	3 OR 4 hours.	Introduction to ethnohistory, an interdisciplinary approach to researching, conceptualizing, and writing American Indian history. The course is organized topically and centers on classic and current monographs and articles. Same as NAST 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor. Recommended background: Courses in Cultural Anthropology, American Indian Anthropology, American Indian Literature.
History	HIST	418	Topics in German History	3 OR 4 hours.	Specific topics are announced each term. Same as CEES 418. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history, or consent of the instructor.
History	HIST	420	Teaching the Social Sciences	3 OR 4 hours.	This course focuses on acquiring and practicing the skills for teaching the social sciences at the secondary level within the context of history. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 9 hours of credit in the social sciences and approval of the instructor.
History	HIST	421	Topics in British and Irish History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 6 hours of history or consent of the instructor.
History	HIST	424	Topics in French History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): One 200-level course in French or European history or consent of the instructor.
History	HIST	429	Topics in Italian History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	433	Topics in Eastern European History	3 OR 4 hours.	Specific topics are announced each term. Same as CEES 433. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history or consent of the instructor.
History	HIST	435	Topics in Russian History	3 OR 4 hours.	Specific topics are announced each term. Same as CEES 435. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history or consent of the instructor.
History	HIST	438	Women in South Asian History	3 OR 4 hours.	A study of the diversity of women's experiences in South Asia in a range of social, cultural, and religious contexts from the ancient period to the present. Same as ASST 438 and GWS 438. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 3 hours of History or consent of the instructor.
History	HIST	441	Topics in African History	3 OR 4 hours.	Specific topics are announced each term. Same as AAST 441. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of African history, African American studies, or consent of the instructor.

History	HIST	445	History of Islam in the African World	3 OR 4 hours.	A comprehensive study of the history of Islam and its role among the people of African descent in sub-Saharan Africa and the United States. Same as AAST 445. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
History	HIST	451	Topics in Colonial American History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of U.S. history or consent of the instructor.
History	HIST	452	Topics in Revolutionary and Early National United States History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	453	Topics in Nineteenth-Century United States History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	454	Topics in Twentieth-Century United States History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of U.S. history or consent of the instructor.
History	HIST	455	Topics in Southern History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	456	Topics in the History of Communications	3 OR 4 hours.	This course introduces students to major developments in the history of communications, with a focus on the political and cultural dimension of technologies. Same as COMM 456. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor. Recommended background: At least one history course at the 100 level.
History	HIST	461	Topics in Latin American History	3 OR 4 hours.	Specific topics are announced each term. Same as LALS 461. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history, Latin American and Latino studies, or consent of the instructor.
History	HIST	462	AIDS, Politics and Culture	3 OR 4 hours.	Introduction to the study of AIDS as a medical, social, political and cultural construction. Explores the epidemiology of AIDS, the politics of the state¿s response, how activists have addressed AIDS, and media representations of AIDS. Same as GWS 462. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GWS 101 or GWS 102 or GWS 203 or GWS 214 and junior standing or above; or consent of the instructor.
History	HIST	472	Issues and Events in Twentieth-Century China	3 OR 4 hours.	Covers the events, places, people, political movements, ideologies, and issues that shaped twentieth-century China, and considers different approaches to the writing of that history. Same as ASST 472. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history at the 100 or 200 level.
History	HIST	473	Topics in East Asian History	3 OR 4 hours.	Specific topics are announced each term. Same as ASST 473. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of East Asian history or consent of the instructor.
History	HIST	475	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
History	HIST	476	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in HIST 475, and approval of the department.
History	HIST	477	Topics in Middle Eastern History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	478	Women in Chinese History	3 OR 4 hours.	Focuses on scholarship on women in Chinese society throughout history, dealing with topics such as marriage and family, literacy, career options, women in revolution and the historiography of the field. Same as ASST 478, and GWS 478. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history or women's studies.
History	HIST	479	Culture and Colonialism in South Asia	3 OR 4 hours.	Examines the emergence of colonial cultures of domination and resistance on the Indian subcontinent from the 18th century to 1947. Same as ANTH 479, and ASST 479. 3 undergraduate hours. 4 graduate hours.
History	HIST	480	Topics in Economic History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.
History	HIST	481	Topics in Social History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	482	Topics in Migration	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be

			History		repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	483	Topics in the History of Public Policy	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	484	Topics in the History of Women	3 OR 4 hours.	Specific topics are announced each term. Same as GWS 484. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or gender and women's studies or consent of the instructor.
History	HIST	485	Topics in African and African American History	3 OR 4 hours.	African and/or African American history for students with significant background in the field. Topics vary. Same as AAST 481. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): AAST 247 or AAST 248 or HIST 104 or HIST 247 or HIST 248 or consent of the instructor.
History	HIST	486	Topics in the History of Science	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 credit hours of history.
History	HIST	487	Topics in the History of Sexuality	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours in history or consent of the instructor.
History	HIST	488	Topics in Urban History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	489	Topics in Military History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	490	Topics in Diplomatic History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	491	Topics in Constitutional History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 Hours of history.
History	HIST	492	Topics in Intellectual History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 Hours of history.
History	HIST	493	Topics in Historiography	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	494	Topics in Political History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
History	HIST	495	Topics in Religious History	3 OR 4 hours.	Specific topics are announced each term. Same as RELS 495. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.
History	HIST	496	Topics in Race, Ethnic and Minority History	3 OR 4 hours.	Specific topics are announced each term. Same as AAST 496. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of history or consent of the instructor.
History	HIST	497	Topics in Cultural History	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.
History	HIST	498	Topics in Quantitative Methods	3 OR 4 hours.	Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.
History	HIST	500	Colloquium on the Teaching of History	1 TO 4 hours.	Reading in Topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	501	Introduction to Graduate Study in History	4 hours.	Introduction to history as a discipline and profession. Approach is comparative and by topic. Required for graduate students in the M.A. and Ph.D. in History programs. Prerequisite(s): Graduate standing in history.
History	HIST	502	Seminar on Ancient History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	503	Colloquium on World History	4 hours.	Graduate introduction to theories and historiography of the new world history. Prerequisite(s): Open only to Ph.D degree students; and approval of the department.
History	HIST	508	Seminar on Medieval History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	511	Colloquium on	4 hours.	Reading in topics. May be repeated. Students may register in more than one section per term.

			European History		Prerequisite(s): Consent of the instructor.
History	HIST	512	Seminar on European History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	521	Colloquium on British History	4 hours.	Reading in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	522	Seminar on British History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	532	Seminar on Russian History	4 hours.	Research in topics. Same as CEES 532. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	541	Colloquium on African History	4 hours.	Readings on select topics in African history. May be repeated. Students may register in more than one section per term.
History	HIST	542	Seminar on African History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	551	Colloquium on American History	4 hours.	Reading in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	552	Seminar on American History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	561	Colloquium on Latin American History	4 hours.	Topics on themes in Latin American history. Specific topics are announced each term. Same as LALS 561. May be repeated. Students may register in more than one section per term.
History	HIST	562	Seminar on Latin American History	4 hours.	Research in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	591	Preliminary Examination and Dissertation Prospectus Preparation	1 TO 8 hours.	Under the supervision of a faculty mentor, the student will prepare for the preliminary examination and prepare the dissertation prospectus required by the department. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): Approval of the department or completion of all didactic course work in the Ph.D. in History program.
History	HIST	592	Colloquium on Approaches to History	4 hours.	Reading in topics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	593	Special Topics in the History of Work, Race, and Gender in the Urban World	4 hours.	Special topics related to the concentration in the History of Work, Race, and Gender in the Urban World. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing and consent of the instructor.
History	HIST	594	Special Topics in the History of Encounters, Ethnographies, and Empires	4 hours.	Special topics related to the concentration in Encounters, Ethnographies, and Empires. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing and consent of the instructor.
History	HIST	596	Independent Study	1 TO 4 hours.	Independent study in selected areas in history. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
History	HIST	599	Ph.D. Thesis Research	0 TO 16 hours.	Thesis research for the Ph.D. in History. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Preliminary examination.

Honors College Courses - HON

Honors College Courses	HON	401	Advanced Honors Seminar	3 hours.	Student, faculty, and invited guests act as partners in the in-depth exploration of a focused topic. This interaction is fostered though common readings, written assignments, and open discussions. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Sophomore standing or above and consent of the instructor. Graduate students may obtain instructor consent. Recommended background: HON 201.

Human Nutrition - HN

Human Nutrition	HN	420	Clinical Nutrition II	2 hours.	Principles of nutrition, biochemistry, physiology, pathology, education, and psychology related to management of selected diseases (renal disease, AIDS and cancer, and pediatrics). Prerequisite(s): HN 320; or consent of the instructor.
Human Nutrition	HN	422	Clinical Nutrition III	2 hours.	Principles of nutrition, biochemistry, physiology, and pathology related to the management of critically ill patients. Prerequisite(s): HN 309 and HN 420; or consent of the instructor.
Human Nutrition	HN	440	The Research Process	3 hours.	Covers methods for reading and critiquing current scientific literature, overview of study designs used to address different types of research questions, basic overview of study design, data analysis and interpretation of results. Prerequisite(s): HN 320.
Human Nutrition	HN	455	Supervised Practice II	1 TO 11 hours.	An advanced supervised practicum in a professional setting to prepare for entry-level dietetics practice. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 15 hours. Prerequisite(s): Grade of C or better in HN 420 and senior standing or above; and approval of the department.
Human Nutrition	HN	480	Field Study	2 hours.	Provides practical experience to develop/strengthen the student's knowledge and skills in an area of nutrition practice. Prerequisite(s): HN 410; or consent of the instructor.
Human Nutrition	HN	503	Advanced Pathophysiology of Chronic Diseases	3 hours.	Focuses on an in-depth evaluation of the most important mechanisms of pathogenesis, with an emphasis on chronic conditions with a nutritional component. Prerequisite(s): KN 251 and KN 252. Recommended background: HN 318.
Human Nutrition	HN	510	Nutrition - Physiological Aspects	3 hours.	A thorough discussion of the absorption, transport, and metabolism of macronutrients, plus factors affecting these processes. Treats in an integrated fashion how various organs participate. Prerequisite(s): HN 410 and PHYB 341 or the equivalent, or consent of the instructor.
Human Nutrition	HN	516	Advanced Vitamins and Minerals	3 hours.	A critical analysis of current research in the areas of vitamin and mineral requirements in human nutrition; nutrient interactions; and interrelationships of vitamins and minerals within various disease states. Prerequisite(s): HN 309; and HN 440; or consent of the instructor.
Human Nutrition	HN	530	Research Methods in Human Nutrition	3 hours.	Research designs in human nutrition; conceptual issues in clinical and population studies; problems in collection and analysis of dietary, behavioral, and self-reported data. Prerequisite(s): AHS 510; or consent of the instructor.
Human Nutrition	HN	532	Evaluation of Nutritional Status	3 hours.	Community and clinical considerations in nutrition status surveillance and monitoring systems; characterization in the collection, standards and reference population development. Prerequisite(s): HN 410; or consent of the instructor.
Human Nutrition	HN	535	Nutrition and Human Performance	2 hours.	Nutrition which impacts on human performance; impaired performance due to nutritional problems; aspects relevant to the professional athlete. Same as KN 535. Prerequisite(s): HN 410; and PHYB 341 or KN 352; or consent of the instructor.
Human Nutrition	HN	541	Research on Clinical Nutrition Problems	2 hours.	Development and conduct of research on clinical nutrition problems, patient outcomes, or nutrition or food service delivery systems within a hospital or ambulatory care setting. Prerequisite(s): Consent of the instructor.
Human Nutrition	HN	550	Quantitative Methods in Nutritional and Epidemiological Studies	3 hours.	Address methodological issues of nutritional/epidemiologic studies; discuss concepts, principles, study designs, statistical methods, & specific issues such as measurement error/remedies, energy adjustment; practice data management/analysis. Extensive computer use required. Prerequisite(s): HN 200 and BSTT 400 and 410 and EPID 400; or consent of the instructor.
Human Nutrition	HN	560	Advanced Topics in Public Health Nutrition: Development and Evaluation of Community-Based Nutrition	3 hours.	Focuses on understanding the role and application of both theory and empirical data in the development and evaluation of community-based nutrition interventions. Field work required. Prerequisite(s): HN 413 or consent of the instructor.
Human Nutrition	HN	570	Advances in Clinical Nutrition I	2 hours.	Selected topics in clinical nutrition, emphasizing current theory, research and practice in such areas as cardiovascular disease, obesity, diabetes and iatrogenic malnutrition. Prerequisite(s): HN 422; or consent of the instructor.
Human Nutrition	HN	580	Advanced Field Practicum	2 hours.	Advanced practical experience in a specialized area of human nutrition and dietetics. The practicum may be carried out in a clinical setting, business, industry or government agency. Prerequisite(s): HN 410; or consent of the instructor.
Human Nutrition	HN	581	Dietetics/Nutrition Instructional Practicum	2 hours.	Teaching practicum in clinical dietetics and/or nutrition. Prerequisite(s): HN 201 and HN 410 and HN 570 or the equivalent, or consent of the instructor.
Human Nutrition	HN	594	Special Topics in Human Nutrition	1 TO 4 hours.	Advanced course dealing with selected topics. Topics vary from year to year and may include drug/nutrient interaction, protein metabolism, nutrition and behavior, nutrition and exercise. May be repeated. Prerequisite(s): HN 410; or consent of the instructor.
Human Nutrition	HN	595	Seminar in Human Nutrition	1 hours.	Topics of current interest in human nutrition. Includes discussions of current journal articles and important new developments in the specific disciplines. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): HN 410; or consent of the instructor.

Human Nutrition	HN	596	Independent Study in Human Nutrition	1 TO 4 hours.	Study in selected areas of human nutrition is carried out under the direction of a faculty member. Modes of investigation are determined by the nature of the problem selected. May be repeated. Students may register in more than one section per term. Prerequisite(s): Admission to the human nutrition graduate program and consent of the instructor.
Human Nutrition	HN	597	Project Research	1 TO 4 hours.	For graduate students who wish to pursue a project other than thesis research. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Human Nutrition	HN	598	Research in Human Nutrition	0 TO 16 hours.	Independent research in one area of human nutrition. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Human Nutrition	HN	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent dissertation research by the student, under the guidance of the advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the faculty adviser.

Industrial Engineering - IE

Industrial Engineering	IE	411	Mechatronics I	0 TO 4 hours.	Elements of mechatronic systems, sensors, actuators, microcontrollers, modeling, hardware in the loop simulations, real time software, Electromechanical systems laboratory experiments. Same as ME 411. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Senior standing or above or approval of the department.
Industrial Engineering	IE	412	Dynamic Systems Analysis I	3 OR 4 hours.	Classical control theory, concept of feedback, laplace transform, transfer functions, control system characteristics, root locus, frequency response, compensator design. Same as ME 412. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.
Industrial Engineering	IE	441	Ergonomics and Human Factors	3 OR 4 hours.	The study of principles and techniques associated with ergonomic problems. Topics include human information input and processing, human output and control, and ergonomic considerations in safety. Same as EOHS 441. Previously listed as IE 341. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IE 342 or consent of the instructor.
Industrial Engineering	IE	442	Design and Analysis of Experiments in Engineering	4 hours.	Covers different methods for statistical design of engineering experiments, executing them and analyzing their results. Course information: Prerequisite(s): IE 342.
Industrial Engineering	IE	444	Interdisciplinary Product Development I	3 OR 4 hours.	Cross-functional teams (w/students from AD 420/423 and MKTG 594) research and develop new product concepts. Focus on the identification of technologically appropriate product design problems. Same as ME 444. 3 undergraduate hours. 4 graduate hours. Year-long (with IE/ME 445) project course. Prerequisite(s): Senior standing or above; and consent of the instructor.
Industrial Engineering	IE	445	Interdisciplinary Product Development 2	4 hours.	Cross-functional teams (w/students from AD 420 and MKTG 594) research and develop new product concepts. Focus on solutions to the opportunities identified in IE/ME 444 to functional prototypes. Serves as a replacement for IE/ME 396. Same as ME 445. Year-long (with IE/ME 444) project course. Prerequisite(s): IE 444 or ME 444; and senior standing or above; and consent of the instructor.
Industrial Engineering	IE	446	Quality Control and Reliability	3 OR 4 hours.	Principles of statistical quality control including control by variable and by attribute, construction and use of control charts for variables, fraction defectives and number of defects and use of standard plans, reliability and life cycle testing. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342.
Industrial Engineering	IE	461	Safety Engineering	3 OR 4 hours.	Human protection systems; accident and emergency handling; manufacturing and service hazard systems. Same as EOHS 460. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342 or consent of the instructor.
Industrial Engineering	IE	463	Plant Layout and Materials Handling	3 OR 4 hours.	Facilities design functions, computer-aided plant layout, facility location, warehouse layout Minimax location, deterministic and probabilistic conveyor models. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 201, IE 345, IE 365, IE 467, IE 472 and IE 473.
Industrial Engineering	IE	464	Virtual Automation	0 TO 4 hours.	Fundamentals of manufacturing and automation modeling using CAD/CAM and computer-integrated manufacturing methods; concepts of virtual manufacturing; industrial robots and automated factory models within virtual environments. Same as ME 464. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 107 or CS 108.
Industrial Engineering	IE	465	Manufacturing Information Systems	0 TO 4 hours.	Design and implementation of supervisory control and data acquisition systems; manufacturing systems controller and communication networks. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior or graduate standing, or consent of the instructor; and familiarity with computer programming.
Industrial Engineering	IE	466	Production Planning and Inventory Control	3 OR 4 hours.	Principles of production planning, master scheduling, job sequencing, design and control of deterministic and stochastic inventory systems, material requirement planning. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 345, IE 472, IE 473.
Industrial Engineering	IE	467	Discrete Event Computer Simulation Application	3 OR 4 hours.	The solution of industrial application problems by means of discrete event computer simulation. Simulation model building. Input analysis. Output analysis. In depth study of some specific simulation programming languages, with projects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342.
Industrial Engineering	IE	468	Virtual Manufacturing	3 OR 4 hours.	Virtual reality applications in manufacturing systems design, manufacturing applications of networked virtual reality, virtual reality modeling of occupational safety engineering. Same as ME 468. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 107 or CS 108.
Industrial Engineering	IE	471	Operations Research I	3 OR 4 hours.	Introduction to operations research, formulation of linear programming problems, simplex methods, duality theory, sensitivity analysis, network models, and integer linear programming. 3 undergraduate hours. 4 graduate hours. No graduate credit for industrial engineering majors. Prerequisite(s): MATH 310.
Industrial Engineering	IE	472	Operations Research II	3 OR 4 hours.	Nonlinear programming problems, unconstrained optimization search techniques. Kuhn-Tucker theorems, quadratic programming, separable programming, meta heuristics, goal programming, and dynamic programming. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 107 or CS 109, and IE 471 or graduate standing.
Industrial Engineering	IE	473	Stochastic Processes and Queuing Models	3 OR 4 hours.	Stochastic dynamic systems, queuing networks, probabilistic state transition models and nondeterministic decision making models. Course information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342 and IE 471 and MATH 220.

Industrial Engineering	IE	494	Special Topics in Industrial Engineering	3 OR 4 hours.	Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): Consent of the instructor.
Industrial Engineering	IE	499	Professional Development Seminar	0 hours.	Students are provided general information about their role as UIC alumni in society and the role of the University in their future careers. Students provide evaluations of their educational experience in the MIE department. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to seniors; and approval of the department. Must be taken in the student's last semester of study.
Industrial Engineering	IE	511	Mechatronics II	4 hours.	Microcontrollers used in electro-mechanical systems for measurement and control purposes, interface hardware, real time software and development tools, applications in robotic motion control and factory automation. Same as ME 511. Prerequisite(s): ME 411 and consent of the instructor.
Industrial Engineering	IE	525	Technology to Promote Physical Activitiy Among Persons with Disabilities	3 hours.	Applications of new and emerging technologies to promote participation in and adherence to healthful physical activity by people with disabilities. Considers ways of redesigning physical, social and attitudinal environments to achieve these outcomes. Same as DHD 525. Recommended background: DHD 515 or an equivalent course on interpreting research findings.
Industrial Engineering	IE	542	Advanced Computational Methods for Product and Process Design	4 hours.	Deterministic and statistical methods for modeling and optimizing engineering systems, in the broad context of product design, manufacturing process development, and designing for life cycle issues. Same as ME 542. Prerequisite(s): Programming language experience.
Industrial Engineering	IE	552	Applied Stochastic Processes	4 hours.	Stationary point processes; Markov renewal theory; semi-Markov processes; regenerative processes; computational methods and applications to queues, inventories, dams, and reliability. Prerequisite(s): IE 342.
Industrial Engineering	IE	562	Supervisory Control of Discrete Event Systems	4 hours.	Discrete event systems; languages and automata, supervisory control, timed models, supervisory control applications. Extensive computer use required.
Industrial Engineering	IE	565	Expert Systems in Manufacturing	4 hours.	Industrial uses of expert systems; applicability to industrial processes; availability of commercial expert systems; design and implementation of expert systems; knowledge engineering, research uses of expert systems. Prerequisite(s): CS 102 or CS 107 or the equivalent.
Industrial Engineering	IE	567	Data Mining for Machine Health Diagnosis and Prognosis	4 hours.	Theories and techniques of data mining to machinery health diagnosis and prognosis, case studies on rotor shafts, bearing, gearboxes fault diagnois and remaining useful life prognosis.
Industrial Engineering	IE	569	Advanced Virtual Manufacturing	4 hours.	Manufacturing systems design optimization using virtual environments, optimization of manufacturing decision support using virtual reality interfaces, analysis and evaluation of virtual environments. Same as ME 569. Prerequisite(s): Consent of the instructor.
Industrial Engineering	IE	571	Statistical Quality Control and Assurance	4 hours.	The importance of quality in products and services, quality surveillance, Deming's management method, Ishikawa's seven tools, control charts, acceptance sampling, quality improvement using directed experiments. Same as IDS 571. Prerequisite(s): At least one term of statistics.
Industrial Engineering	IE	575	Integer and Combinatorial Optimization	4 hours.	Modeling, computational complexity, polyhedral theory, valid inequalities, duality and relaxation, branch-and-bound algorithms, cutting plane algorithms, heuristic algorithms, and real-world application. Prerequisite(s): IE 471.
Industrial Engineering	IE	576	Nonlinear Optimization	4 hours.	Convex analysis, line search techniques, unconstrained and constrained optimization, optimality conditions, duality, convex and nonconvex optimization, large-scale optimization, and real-world applications. Prerequisite(s): IE 471 or the equivalent.
Industrial Engineering	IE	594	Current Topics in Industrial Engineering	4 hours.	Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor. May be repeated. Prerequisite(s): Consent of the instructor.
Industrial Engineering	IE	595	Industrial Engineering Seminar	0 hours.	Advances in Industrial Engineering research will be discussed in a seminar setting. Satisfactory/Unsatisfactory grading only. Must be taken every semester by all registered MS and PhD student in Industrial Engineering. Prerequisite(s): Graduate standing in industrial engineering.
Industrial Engineering	IE	596	Independent Study	1 TO 4 hours.	Individual study under close supervision of a faculty member. May be repeated to a maximum of 4 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Industrial Engineering	IE	598	M.S. Thesis Research	0 TO 16 hours.	Individual research in specialized problems under close faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Industrial Engineering	IE	599	Ph.D. Thesis Research	0 TO 16 hours.	Individual research on specialized problems under close faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Information and Decision Sciences - IDS

Information and Decision Sciences	IDS	400	Advanced Business Programming Using Java	0 TO 4 hours.	Visual extended business language capabilities, including creating and using controls, menus and dialogs, objects and instances, mouse events, graphics, file-system controls. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331 or a programming course in mathematics or computer science, or consent of the instructor.
Information and Decision Sciences	IDS	401	Business Object Programming using Java	0 TO 4 hours.	Basic concepts in object-oriented programming such as objects, classes, class inheritance and interfaces, data abstraction and encapsulation, polymorphism, and dynamic binding. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331 or the equivalent.
Information and Decision Sciences	IDS	403	Information Security	3 OR 4 hours.	Examine the field of information security to prepare students for their future roles as business decision-makers. Presents a balance of the managerial and technical aspects of information security. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 200 or the equivalent.
Information and Decision Sciences	IDS	405	Business Systems Analysis and Design	3 OR 4 hours.	Theory of analysis, design and development of information systems; information management and database management systems; data management and analysis; case studies in systems implementation and evaluation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331.
Information and Decision Sciences	IDS	406	Business Systems Project	3 OR 4 hours.	Project experience in a business setting. Analysis, design, development and evaluation of computer-based business information systems. Project planning, scheduling and management. Project work at an outside company or University office. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Knowledge of programming and databases; or consent of the instructor. Recommended background: Familiarity with systems analysis and design (IDS 405).
Information and Decision Sciences	IDS	410	Business Database Technology	3 OR 4 hours.	Computer software techniques used in business with emphasis on information management and database management systems. Data management and analysis. Major types of database management systems, query languages. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331.
Information and Decision Sciences	IDS	412	Distributed Business Systems	3 OR 4 hours.	Organizational aspects and underlying concepts of distributed business systems, decentralization versus centralization issues, costs of distributed computing, and performance evaluation measures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 330; and credit or concurrent registration in IDS 410.
Information and Decision Sciences	IDS	413	Internet Technology and Management	3 hours.	The technologies of World Wide Web development. Topics include: TCP/IP, HTTP, HTML, HTML authoring, XML, ASP programming, client-side programming, and Web 2.0, web servers, database servers, business application servers and Internet. Credit is not given for IDS 413 if the student has credit for IDS 424. Extensive computer use required. Prerequisite(s): IDS 201 or IDS 331; and IDS 410.
Information and Decision Sciences	IDS	420	Business Model Simulation	3 OR 4 hours.	Simulation analysis of strategic business decision models for investment, marketing, product introduction, and operational policies concerning inventory, production planning, quality assurance and supply chain management. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IDS 355; or credit or concurrent registration in IDS 331 or the equivalent.
Information and Decision Sciences	IDS	422	Knowledge Management Systems	3 OR 4 hours.	Computer-based methods for decision support. It aims at providing exposure and insights into a range of approaches and tools for decision aiding, and how they can be utilized in supporting various managerial decision processes. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 410 or consent of the instructor.
Information and Decision Sciences	IDS	435	Optimization Models and Methods	3 OR 4 hours.	Linear , nonlinear, dynamic programming, combinatorial methods. Use of spreadsheet and other software tools. Duality, sensitivity analysis. Models for business operationss and planning, computer systems, transportation, finance. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 355; and IDS 371 or the equivalent. Business Administration students must have declared a major.
Information and Decision Sciences	IDS	437	Stochastic Methods	3 OR 4 hours.	Stochastic processes and other applications of probability theory. Use of spreadsheet and other software tools for analysis, simulation and decision theory. Models for business operations and planning, computer systems, transportation, finance. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 355 and IDS 371.
Information and Decision Sciences	IDS	446	Decision Analysis	3 OR 4 hours.	Prior and posterior distributions; conjugate priors; value of information; applications to decision making in business. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.
Information and Decision Sciences	IDS	450	Advanced Operations Management	0 TO 4 hours.	Application of management science to the operation and control of production, distribution, and service systems. Emphasis on inventory management, production planning, capacity expansion, and demand forecasting. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): IDS 355 or the equivalent. Business administration students must have declared a major.
Information and Decision Sciences	IDS	454	Introduction to Supply Chain Management	3 OR 4 hours.	Supply Chain Management is studied as an information-intensive, integrated system for managing material flows, logistics and inter-organizational partnership to deliver products and services. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 355.
Information and Decision	IDS	460	Survey Sampling: Theory and	3 OR 4 hours.	Planning and analyzing surveys. Topics include simple random sampling, stratified sampling, systematic sampling, ratio estimation, and cluster sampling. Case studies with applications to real

Sciences			Methods		situations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.
Information and Decision Sciences	IDS	462	Statistical Software for Business Applications	3 OR 4 hours.	Statistical software in business applications and data mining. SAS and other packages such as SPSS, MATLAB, Maple, Splus, B34S, SCA. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or consent of the instructor.
Information and Decision Sciences	IDS	470	Multivariate Analysis	3 OR 4 hours.	Introduction to the structure and analysis of multivariate data. Emphasis on the multivariate normal model. Regression; tests concerning multivariate means, classification; discriminant analysis, principal components. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371; or MATH 310; or MATH 320.
Information and Decision Sciences	IDS	472	Business Data Mining	3 OR 4 hours.	Searching for relationships between variables in databases. Decision trees, cluster analysis, logistic regression, path analysis. Applications to marketing, quality assurance, operations management, human resources. 3 undergraduate hours. 4 graduate hours. Credit is not given for IDS 472 if the student has credit for IDS 572. Prerequisite(s): IDS 371 or the equivalent.
Information and Decision Sciences	IDS	473	Introduction to Risk Management	3 hours.	Introduction to risk management. Loan and credit management; credit scoring. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events and catastrophic event insurance. Financial contracts and hedging. Same as FIN 473. Prerequisite(s): FIN 300 and IDS 371.
Information and Decision Sciences	IDS	474	Quality and Productivity Improvement Using Statistical Methods	3 OR 4 hours.	Directed experimentation for quality and productivity improvement, quality surveillance, design and analysis of two-level factorial experiments and multi-level experiments, data transformation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or consent of the instructor.
Information and Decision Sciences	IDS	475	Database Accounting Systems	3 OR 4 hours.	Concepts and principles of designing database systems to perform accounting functions, applications of microcomputer accounting software packages systems design tools, and computerized transaction cycles. Same as ACTG 475. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 211 and IDS 200.
Information and Decision Sciences	IDS	476	Business Forecasting Using Time Series Methods	3 OR 4 hours.	Autoregressive, moving average, and seasonal models for time series analysis and business forecasting. Forecasting using multi-variable transfer function models is also included. Same as ECON 450. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or ECON 346 or consent of the instructor.
Information and Decision Sciences	IDS	478	Regression Analysis	3 OR 4 hours.	Data collection and exploration; model building; variable least squares; residual analysis; variable selection; multicollinearity; ridge regression; nonlinear regression; nonparametric regression. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.
Information and Decision Sciences	IDS	494	Topics in Information and Decision Sciences	3 OR 4 hours.	Topics vary; selected readings; case analysis. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Information and Decision Sciences	IDS	495	Competitive Strategy	4 hours.	Multidisciplinary analysis of organizational strategy and policy using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.
Information and Decision Sciences	IDS	499	Research Experience	1 TO 3 hours.	Research experience under the supervision of a faculty member. The faculty member and student will determinne the research project. Each student must submit a written report and each student must participate at a research event on campus. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the department and the instructor.
Information and Decision Sciences	IDS	500	Information Systems in Organizations	4 hours.	Use of information technology in business; planning, management, and strategic use of information technology including the role of enterprise-wide systems, the Internet, and electronic commerce.
Information and Decision Sciences	IDS	504	Introduction to Electronic Commerce	4 hours.	Addresses issues on electronic commerce for businesses and consumers, considering topics such as competition, distribuiton, infrastructure on the Internet, shopping, and product characteristics.
Information and Decision Sciences	IDS	505	Business Information Systems Analysis and Design	4 hours.	Analysis, design and development of information systems. Management concerns in systems design, development, and evaluation. A student who has taken IDS 405 must see an adviser to determine whether another graduate course from IDS, MATH, or CS must be substituted for IDS 505. Prerequisite(s): IDS 500; or consent of the instructor.
Information and Decision Sciences	IDS	506	Survey of Healthcare and Information Technology	4 hours.	Impact, use and trends of information technology in healthcare. Healthcare systems technology and stakeholders. Analysis of strategic, economic, operational, ethical, privacy and security considerations. Prerequisite(s): Introductory information systems course is required. Recommended background: Advanced information system courses such as databases and system analysis.
Information and Decision Sciences	IDS	507	Advanced Systems Analysis and Design Project	4 hours.	Principles and concepts of analysis, design and development of information systems including project management. Includes a project at an outside company or University office. Prerequisite(s): Consent of the instructor. and completion of three MS in MIS courses.
Information and Decision Sciences	IDS	508	E-Commerce Project	4 hours.	Electronic commerce project initiated by local small and medium enterprises, teaming students with technical or entrepreneurial skills/ interests, supervised by faculty on board of directors. Prerequisite(s): IDS 504 or MGMT 558 or MKTG 558; and consent of the instructor.
Information	IDS	509	Business Process	4 hours.	Principles and concepts for the analysis and design of business processes and for the

and Decision Sciences			Analysis and Modeling		development of information systems that support such processes. Prerequisite(s): IDS 401 or consent of the instructor.
Information and Decision Sciences	IDS	510	Organizational Data Resources	4 hours.	Data as a competitive resource. Understanding, organizing and utilizing data in enterprises. Data resource development and management. Leveraging data assets. Exploiting the power of data. Understanding regulatory requirements. A student who has taken IDS 410 must see an advisor to determine whether another graduate course from IDS, MATH, or CS must be substituted for IDS 510. Prerequisite(s): IDS 500.
Information and Decision Sciences	IDS	511	Query Processing in Database Systems	4 hours.	Query processing in deductive databases and in distributed/parallel databases systems. Same as CS 580. Prerequisite(s): CS 480.
Information and Decision Sciences	IDS	512	Information Systems Project & Program Management	4 hours.	Theory and practice of managing IS projects based on a life-cycle management model. Technology, organizational behavior, team dynamics and economic analysis in the context of larger organizational strategies. Project plans, budgets, and schedules. Extensive computer use required. Prerequisite(s): Introductory information systems course. Recommended background: Advanced information system courses such as databases and system analysis.
Information and Decision Sciences	IDS	513	Enterprise Components and Web Services	4 hours.	Exposes students to advances in the technical aspects of electronic business. Topics include WSDL, UDDI, SOAP, Service Quality, Security, and Queuing Models. Extensive computer use required.
Information and Decision Sciences	IDS	514	Management of Information Systems	4 hours.	Administration, control, and management of computer-based information systems, projects, and relationships with the organization. Scheduling of operations; management of computer professionals; planning and control of the systems activity. Prerequisite(s): IDS 505 or IDS 510.
Information and Decision Sciences	IDS	515	Information Systems Strategy and Policy	4 hours.	Examines how businesses can leverage IT and digital technologies to maximize business performance. Covers IS strategy formulation, strategy implementation, e-business transformation, Inter-organizational and multi-organizational IS strategies. Prerequisite(s): Consent of the instructor.
Information and Decision Sciences	IDS	516	Data Warehousing and Decision Support	4 hours.	Analysis, design and development of data warehousing. Related methods and tools in the provision of decision support and business analytics/intelligence. Prerequisite(s): IDS 505 or IDS 510 or consent of the instructor.
Information and Decision Sciences	IDS	517	Enterprise Application Development	4 hours.	The course explores the choices available for building an enterprise application. Topics such as advanced applications design and development tools, methodologies and technologies are covered. Extensive computer use required. Prerequisite(s): IDS 201 or IDS 400 and IDS 401 and IDS 410 or the equivalent.
Information and Decision Sciences	IDS	518	Electronic Marketing	4 hours.	Overview of the electronic marketing value chain. Internet and web technologies, system design, payment systems, business requirements for e-marketing, design and ethical issues. Same as MKTG 518. Prerequisite(s): MKTG 500 or MBA 506 or consent of the instructor.
Information and Decision Sciences	IDS	519	Topics in Information Systems	4 hours.	Selected topics in information systems, information management and information technology. Content varies. Topics will be announced. May be repeated if topics vary. Prerequisite(s): IDS 505 or IDS 510; and consent of the instructor.
Information and Decision Sciences	IDS	520	Enterprise Information Infrastructure Planning & Security	4 hours.	This course introduces students with methods and practices involved in the planning, design and security of information infrastructure commonly found in large and medium enterprises. Recommended background: IDS 401, IDS 410 and IDS 405 or equivalent.
Information and Decision Sciences	IDS	521	Advanced Database Management	4 hours.	Data analysis for database design; logical data modeling, transaction modeling; implementation models; physical database design; database tuning and performance evaluation; database decomposition; distributed database; database security.
Information and Decision Sciences	IDS	523	Audit and Control of Information Systems	4 hours.	Modeling and analysis of information systems application in organizations; measurement of effectiveness; strategies for implementation and updating; interface with other management control systems.
Information and Decision Sciences	IDS	524	Strategic Emergency Management and Continuity Planning	3 hours.	Introduction to frameworks and methods for designing, developing, implementing, and evaluating for emergency management and business continuity strategies in the public and private sectors. Course information: No graduation credit given to students enrolled in the Master of Business Administration program. Students who are not in the EMCP program should contact External Education at emcp@uic.edu for approval to register for this course.
Information and Decision Sciences	IDS	526	Computer Performance Evaluation and Modeling	4 hours.	Probabilistic, simulation and statistical techniques for modeling computer systems with a view to evaluating their performance. Models of multi-programming systems, multi-access systems input/output systems, priority queues, and paging systems. A student who has taken IDS 426 must see an adviser to determine whether another graduate course from IDS, MATH, or CS must be substituted for IDS 526. Prerequisite(s): IDS 532; and IDS 505 or IDS 510.
Information and Decision Sciences	IDS	529	Seminar on Management Information Systems	4 hours.	Special research topics in management information systems. Topics vary from term to term depending on the interests of the instructor and students. May be repeated if topics vary.
Information and Decision Sciences	IDS	532	Introduction to Operations Management	4 hours.	The management of operations for the production and delivery of goods and services. Topics include the management of projects, production, supply chain, inventory,and quality. Credit is not given for IDS 532 if the student has credit in MBA 507 and MBA 509. Prerequisite(s): Admission to

					the MBA Program.
Information and Decision Sciences	IDS	541	Disaster Response and Recovery Operations	3 hours.	Designed to provide the student with the requisite skils to create effective operations, preparedness, and response plans to manage and coordinate private, institutional, and public health emergencies and complex disasters. Course information: Extensive computer use required. No graduation credit given to students enrolled in the Master of Business Administration program. Students who are not in the EMCP program should contact External Education at emcp@uic.edu for approval to register for this course.
Information and Decision Sciences	IDS	551	Operations Management in the Service Sector	4 hours.	Comparison of service and manufacturing operations; analysis of effects of capacity, quality, and service firm life cycle on operations. Prerequisite(s): Credit or concurrent registration in IDS 532 or the consent of the instructor.
Information and Decision Sciences	IDS	552	Supply Chain Management	4 hours.	Structure of inventory decision and operating procedures; single event and continuous systems for both single and multiple products; order quantity and periodic review models; demand forecasting. Prerequisite(s): Credit or concurrent registration in IDS 532 or the consent of the instructor.
Information and Decision Sciences	IDS	553	Production Process Management and Control	4 hours.	Project scheduling and resource allocation; capacity planning; aggregate planning, scheduling and dispatching; plant layout; material requirement planning; production flow and line balancing. Prerequisite(s): IDS 532.
Information and Decision Sciences	IDS	570	Statistics for Management	4 hours.	Survey of statistical methods with applications for business and management. Prerequisite(s): Admission to any business graduate program or consent of the instructor.
Information and Decision Sciences	IDS	571	Statistical Quality Control and Assurance	4 hours.	The importance of quality in products and services, quality surveillance, Deming's management method, Ishikawa's seven tools, control charts, acceptance sampling, quality improvement using directed experiments. Same as IE 571. Prerequisite(s): At least one term of statistics.
Information and Decision Sciences	IDS	572	Data Mining for Business	4 hours.	Introduction to data mining for business. Applications to marketing, credit scoring, quality assurance, operations management and human resources management. Credit is not given for IDS 572 if the student has credit for IDS 472. Recommended background: Backgound knowledge in statistics and databases.
Information and Decision Sciences	IDS	573	Risk Management	4 hours.	Introduction to risk management. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events, catastrophic event insurance, reinsurance. Financial contracts and hedging. Same as FIN 573. Prerequisite(s): Credit or concurrent registration in IDS 570 and FIN 500.
Information and Decision Sciences	IDS	577	Research Methodology I	4 hours.	Use of statistics and computers in research. Data collection and organization, survey sampling, questionnaire design, experimental design. Prerequisite(s): IDS 532 or the equivalent and admission to the Ph.D. program in Business Administration.
Information and Decision Sciences	IDS	578	Research Methodology II	4 hours.	Data analysis, including estimation, hypotheses testing, non-parametric methods, analysis of variance, regression analysis, economic forecasting, and time series. Prerequisite(s): IDS 577 or the equivalent.
Information and Decision Sciences	IDS	582	Business Research and Forecasting I	4 hours.	The role of research in business; forecasting methods and techniques, including models and their applications. Same as ECON 537. Prerequisite(s): ECON 534 and at least one statistics course with regression analysis at the 300-level or above.
Information and Decision Sciences	IDS	583	Business Research and Forecasting II	4 hours.	The role of research in business; forecasting methods and techniques, including multivariate time series models and their applications. Same as ECON 538. Prerequisite(s): IDS 476 or IDS 582 or ECON 537.
Information and Decision Sciences	IDS	594	Special Topics in Information and Decision Sciences	4 hours.	Intensive study of a selected topic. Content varies. Topics are announced. Prerequisite(s): Consent of the instructor.
Information and Decision Sciences	IDS	595	Seminar in Information and Decision Sciences	1 TO 4 hours.	Topics vary from term to term depending on the interests of the instructor. May be taken for up to four credit hours depending on the outline of the seminar as determined by the instructor. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the PhD program in Business Administration or the PhD program in Management Information Systems.
Information and Decision Sciences	IDS	596	Independent Study in Information and Decision Sciences	1 TO 4 hours.	Independent study under the direction of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Information and Decision Sciences	IDS	599	Ph.D. Thesis Research	0 TO 16 hours.	Research on topic of the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Interdisciplinary Public Health Sciences - IPHS

Interdisciplinary Public Health Sciences	IPHS	409	Global Public Health Challenges	3 hours.	An ecological approach to public health to provide a broad overview of current health problems around the world, with an emphasis on low income countries.
Interdisciplinary Public Health Sciences	IPHS	410	Global Public Health Solutions	3 hours.	Utilizes readings and case studies of successful health interventions in the developing world to orient students to the field of global public health. Prerequisite(s): Graduate standing.
Interdisciplinary Public Health Sciences	IPHS	415	Foundations in Anthropology and Global Health I	3 OR 4 hours.	Explores the field of cultural medical anthropology and provides a theoretical foundation allowing for understanding and exploration of anthropology's role in international health. Same as ANTH 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in ANTH 216; and junior standing or above; or consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	416	Foundations in Anthropology and Global Health II	3 OR 4 hours.	Provides an evolutionary and biocultural approach to human biology, physiology, health and disease. Same as ANTH 416. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in ANTH 232; and junior standing or above; or consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	494	Introductory Special Topics - Interdepartmental	1 TO 4 hours.	Introductory special topics in public health. Course content will vary from semester to semester. May be repeated. Students may register in more than one section per term.
Interdisciplinary Public Health Sciences	IPHS	501	Public Health Leadership Seminar I	3 hours.	Intended to build organizational and systems leadership skills for public health professionals who are expected to be in leadership positions at the highest levels within the public health system. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	502	Public Health Leadership Seminar II	3 hours.	Application of strategic management as a leadership tool to drive change and foster innovation within public health organizations and public health systems. Prerequisite(s): IPHS 501. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	503	DrPH Integrative Methods Seminar I	3 hours.	Explores principles of research study design which integrate analytic methods for public health analysis to solve problems and conduct practice based research. Methods include epidemiology, needs assessment, and evaluation. Prerequisite(s): IPHS 502 and EPID 403 and BSTT 401; or consent of the instructor. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	505	DrPH Integrative Methods Seminar II	3 hours.	Alternative research designs featuring case study methods, action research, and systems analysis, for problem-solving and to support evidence-based public health practice research. Prerequisite(s): IPHS 503. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	510	Leadership in Public Health Policy Development	3 hours.	Policy development or policy planning is a leadership activity and part of the DrPH competency framework. This course covers the policy process and role of policy analysis in policy development from a leadership perspective. Prerequisite(s): IPHS 501. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	511	Personal Leadership Development	3 hours.	Examines the personal dimensions of leadership and is intended to give students a basis for understanding their leadership styles, those of others, and to further professional leadership development. Prerequisite(s): IPHS 501. Recommended Background: Senior level management experience in the government or non-profit sector. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	512	Public Health Leadership Tools	3 hours.	Covers some of the most commonly used and practical leadership process management tools from both a theoretical and applied perspective. Prerequisite(s): IPHS 501. Recommended Background: Senior level management experience in the government or non-profit sector. Enrollment is restricted to students in the DrPH program; other students may register with consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	516	Anthropolgy and Global health Integrative Seminar	4 hours.	Critical examination of global health issues from social science and public health perspectives. Includes consideration of cultural underpinnings, geo-political influences, design of appropriate and effective interventions, and policy formation. Same as ANTH 516. Prerequisite(s): Graduate or professional standing; and consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	590	Practical Training in Public Health Sciences	1 TO 3 hours.	Practical training in public health within industry, governmental agency, or other relevant entity for Master of Science and Doctor of Philosophy students. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Completion of the first year of the program; and approval of the department . International students must obtain permission from the Office of International Services to register for this course.
Interdisciplinary Public Health Sciences	IPHS	591	Readings in Anthropology and Global Health	1 TO 8 hours.	Student along with his/her advisor will develop a series of readings focused on a specific topic of interest to the student. Same as ANTH 591. May be repeated up to 1 time(s). Prerequisite(s): Consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	592	Research in Anthropology and Global Health	1 TO 8 hours.	Research and methods class combined with practical fieldwork in Anthropology and Global Health. Same as ANTH 592. May be repeated to a maximum of 8 hours. Field work required. Prerequisite(s): Consent of the instructor.
Interdisciplinary	IPHS	593	Special Topics in	4 hours.	Special topics in Anthropology and Global Health. Same as ANTH 593. May be repeated if topics

Public Health Sciences			Anthropology and Global Health		vary. Prerequisite(s): Graduate or professional standing; and consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	594	Advanced Special Topics - Interdepartmental	1 TO 4 hours.	Advanced special topics in public health. Course content will vary from semester to semester. May be repeated. Students may register in more than one section per term.
Interdisciplinary Public Health Sciences	IPHS	595	Seminar in Interdisciplinary Public Health Sciences	1 TO 3 hours.	Analysis of current research in public health. Course content will vary from semester to semester. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	596	Independent Study in Public Health	1 TO 4 hours.	Selected aspects of specific public health problems; independents study under close supervision of faculty. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of instructor who has supervised at least one course in the area of the independent study.
Interdisciplinary Public Health Sciences	IPHS	598	Research in Public Health Sciences - M.S.	0 TO 16 hours.	Individual research in public health directed by a faculty member. Directed toward the thesis requirements for the Master of Science degree. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Interdisciplinary Public Health Sciences	IPHS	599	Research in Public Health Sciences - Ph.D.	0 TO 16 hours.	Individual research in public health directed by a faculty member. Directed toward the dissertation for the Doctor of Philosophy degree. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Interdisciplinary Studies in the Arts - ISA

Interdisciplinary Studies in the Arts	ISA	400	Advanced Topics in Interdisciplinary Arts	3 OR 4 hours.	Exploration of advanced topics in interdisciplinary arts which include architecture, art and design, art history, music and theatre. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s).
Interdisciplinary Studies in the Arts	ISA	490	International Student Exchange Program	0 TO 18 hours.	The Student Exchange Program enables the reciprocal exchange of students between UIC and colleges or universities in other countries. There are a variety of program tailored to meet the needs of both graduate and undergraduate students. May be repeated for a maximum of 48 hours of credit. May be repeated for a maximum of 36 hours per academic year or for a total of 48 hours, all of which must be earned within one calendar year. Determination of the number of credits to be granted is part of the proposal approval process. Students from other UIC Colleges and Schools are eligible for the program. For more information, visit the website at http://www.uic.edu/depts/oia/resources-student/studentexchange.html. Prerequisite(s): Junior standing or above and approval of the student's major department, the AA College office, and the Office of International Affairs.
Interdisciplinary Studies in the Arts	ISA	500	Topics in Interdisciplinary Studies in the Arts	4 hours.	Provides the opportunity for students to explore interdisciplinary methods in research in specific the arts and historical related topics not covered in a regular course curriculum. May be repeated to a maximum of 8 hours. Course can also be used as a continuing education module in the visual and performing arts, as well as preservation studies, museology, architectural and art history. Prerequisite(s): Consent of the instructor.

Italian - ITAL

Italian	ITAL	411	Literary Forms in Early Renaissance	3 OR 4 hours.	The development of Epic Poetry (Pulci, Boiardo, Ariosto) within the literary, political, and social context (Machiavelli and Castiglione). 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Any Italian course at the 300 level or above or consent of the instructor.
Italian	ITAL	412	Literary Forms in Late Renaissance and Baroque	3 OR 4 hours.	Representative literary works of the genres of the late sixteenth and seventeenth centuries: Epic poem of Tasso and poetry of Marino. The birth of the Commedia dell'Arte form. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Any Italian course at the 300 level or above or consent of the instructor.
Italian	ITAL	421	Advanced Modern Italian Literature	3 OR 4 hours.	From Romanticism to Decadentism: emphasis on the work of Leopardi and Manzoni; analysis of poems by Carducci, Pascoli, D'Annunzio, Gozzano. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Any Italian course at the 300 level or above or consent of the instructor.
Italian	ITAL	422	Contemporary Italian Literature	3 OR 4 hours.	The Novel from Verismo to Umberto Eco: readings from Verga, Svevo, Moravia, Calvino. Hermetic poetry: emphasis on Ungaretti, Montale, Sereni, Luzi. Theater: From Pirandello to Fo. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Any Italian course at the 300 level or above or consent of the instructor.
Italian	ITAL	450	Divina Commedia I	3 OR 4 hours.	An in-depth study of the Divine Comedy against the philosophical and theological background of the Middle Ages. Covers Inferno and half of Purgatorio. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Any Italian course at the 300 level or above or consent of the instructor.
Italian	ITAL	451	Divina Commedia II	3 OR 4 hours.	An in-depth study of the Divine Comedy against the philosophical and theological background of the Middle Ages. Covers Paradiso and half of Purgatorio. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Any Italian course at the 300 level or above or consent of the instructor.
Italian	ITAL	461	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Italian	ITAL	462	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in ITAL 461, and approval of the department.
Italian	ITAL	494	Special Topics	3 OR 4 hours.	Topics will vary from term to term and may cover such areas as literary theory or culture. Same as FR 494 and SPAN 494. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Taught in English. Prerequisite(s): Junior standing or above; and approval of the department.

Jewish Studies - JST

Jewish Studies	JST	402	Jewish-Christian Relations before the Modern Era	3 OR 4 hours.	Social and intellectual relationships between Jewish communities and medieval Christendom, with attention to Jewish understandings of diaspora and redemption; and the roles Jewish scholars played in the rise of Christian humanism. 3 undergraduate hours. 4 graduate hours. Recommended background: JST 102 or JST 103.
Jewish Studies	JST	403	Advanced Topics in Israel Studies	3 OR 4 hours.	Focused study of specific topics in Israeli literature, culture, or history. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Prerequisite(s): Any Jewish Studies course or consent of the instructor. Recommended background: JST 102 or JST 103.
Jewish Studies	JST	410	Advanced Studies in Jewish Literature, Art and Culture	3 OR 4 hours.	Selected topics in Jewish literature and/or arts, in one or more places and time periods. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Prerequisite(s): One course in Jewish Studies. Recommended background: JST 102.
Jewish Studies	JST	420	Advanced Studies in Jewish Religion	3 OR 4 hours.	In-depth study of a period or mode of Jewish religious development or textual production, or an examination of a religious tenet or practice across various historical periods. Topics will vary.3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Prerequisite(s): JST 101; and JST 230 or JST 242 or JST 254.
Jewish Studies	JST	430	Advanced Studies in Jewish Thought	3 OR 4 hours.	Advanced topics in Jewish theology, philosophy, ethics or political thought. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): One 100-level and one 200-level course in Jewish Studies.
Jewish Studies	JST	478	The Bible as Literature	3 OR 4 hours.	Literary analysis of the English Bible (including the Apocrypha) in its historical and religious contexts; study of the King James Version and successive revisions of it. Same as ENGL 478, and RELS 478. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in ENGL 240; and Grade of C or better in ENGL 241or Grade of C or better in ENGL 242 or Grade of C or better in ENGL 243; or consent of the instructor.
Jewish Studies	JST	494	Topics in Jewish Studies	3 OR 4 hours.	Selected topics in Jewish studies. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 6 hours if topics vary. Prerequisite(s): JST 101 or JST 102 or consent of the instructor.

Kinesiology - KN

Kinesiology	KN	400	Business Principles for the Fitness Professional	3 hours.	Provides a survey of basic requisite business principles and the application of these principles for students pursuing careers in corporate and community fitness. Prerequisite(s): KN 100; and junior standing or above.
Kinesiology	KN	401	Clinical Skills in Kinesiology	0 TO 4 hours.	Reviews and assesses the clinical proficiencies in the areas of exercise assessment, testing, and programming; strength and conditioning training; health and nutritional coaching; and basic care of musculoskeletal injuries. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): HN 296 and KN 331 and KN 335 and KN 345.
Kinesiology	KN	410	Aging and the Neuromusculoskeletal System	3 hours.	Introduction to aging with a focus on its impact on the physical structure and function of the neural, muscular and skeletal systems; the mechanics through which the trajectory of aging can be potentially modified. Prerequisite(s): KN 252; and junior standing or above.
Kinesiology	KN	435	Psychology and Physical Activity	3 hours.	Analysis and application of psychological concepts related to process and outcomes of sport and exercise programs.
Kinesiology	KN	438	Exercise Adherence	3 hours.	Exercise behavior as it relates to habitual physical activity. Encompasses health outcomes, exercise adherence factors, intervention, strategies, and exercise settings.
Kinesiology	KN	441	Muscle Physiology	3 hours.	Examination of skeletal muscle function during physical activity and adaptations of skeletal muscle that occur with exercise training, inactivity and aging. Prerequisite(s): KN 352 and junior standing or above; or consent of the instructor.
Kinesiology	KN	442	Principles of ECG Interpretation	3 hours.	Introduction to the basic principles and interpretation of the electrocardiogram (ECG) as it relates to fitness programs involving the apparently healthy as well as cardiac rehabilitation patients. Prerequisite(s): Grade of C or better in KN 352; and junior standing or above; or consent of the instructor.
Kinesiology	KN	448	Modifications in Exercise Programming	3 hours.	This course examines the criteria for exercise and fitness participation and the modifications necessary to benefit people with limiting physical conditions. Previously listed as KN 348. Prerequisite(s): KN 345 and junior standing or above.
Kinesiology	KN	452	Advanced Exercise Physiology	3 hours.	Review of research in exercise physiology on topics currently addressed in the research literature. The first half of the semester will address factors affecting performance. The second half will address health and disease factors. Prerequisite(s): KN 352; and junior standing or above and one college-level course in chemistry.
Kinesiology	KN	460	Neuromechanical Basis of Human Movement	3 hours.	Biomechanics of single and multi-joint systems, and its role in neural control of movement. Mechanisms of acute adaptations including warm-up, fatigue and potentiation, and chronic adaptations arising from reduced use or training. Prerequisite(s): KN 252 and KN 361 and junior standing or above; or consent of the instructor.
Kinesiology	KN	465	Biomechanics of the Neuromusuloskeletal Systems	3 hours.	Introduces the non-engineering/physics student to the biomechanics of the neural, muscular and skeletal systems. The course focuses on normal structure-function of tissues and joints, injury and prevention. Previously listed as KN 365. Prerequisite(s): KN 361 or one year of college physics; or consent of the instructor.
Kinesiology	KN	472	Movement Neuroscience	3 hours.	Overview of the human nervous system. Emphasis is placed on the basic functional anatomical and physiological concepts relevent to the organization and execution of movement. Prerequisite(s): KN 251 and KN 252 and KN 352 and KN 372; and junior standing or above; or consent of the instructor.
Kinesiology	KN	475	Movement Disorders	3 hours.	Examines basic and applied understanding of the neural changes in motor function in disease and disorders of movement. This will include peripheral and central motor deficits. Prerequisite(s): KN 352 and KN 372; and junior standing or above.
Kinesiology	KN	481	Workshop in Kinesiology	1 TO 3 hours.	Intensified study of selected activities, topics, processes or areas in kinesiology. Topic will be announced. May be repeated if topics vary. Students may register in more than one section per term.
Kinesiology	KN	489	Seminars in Kinesiology	1 TO 3 hours.	Weekly seminars devoted to research in kinesiology and related fields, followed by a one-hour discussion. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Junior standing or above.
Kinesiology	KN	493	Practicum in Undergraduate Teaching	1 TO 2 hours.	Peer instruction experience for undergraduate students. May be repeated for credit. Students may register for more than one section per term. Prerequisite(s): Students must have successfully completed the course, or its equivalent, that they are teaching with a grade of B or better, in addition to obtaining consent of the instructor. Recommended Background: Junior or senior standing and an overall GPA of 3.00.
Kinesiology	KN	494	Special Topics in Kinesiology	1 TO 3 hours.	Flexible course structure designed to accommodate relevant topics beyond the scope of the current course offerings, with more in-depth analysis of primary literature. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Depending on topic, specific prerequisites may be required.
Kinesiology	KN	496	Special Projects in Kinesiology	1 TO 3 hours.	Independent research on special projects. Prerequisite(s): Approval by graduate faculty member and graduate director.
Kinesiology	KN	500	Evidence-Based Practice in Kinesiology	3 hours.	Training in the research approaches pertaining to specific areas of study in kinesiology and nutrition. Emphasis is placed on accessing, evaluating and applying findings in the primary

			and Nutrition		literature as critical steps in evidence-based practice.
Kinesiology	KN	501	Current Research in Kinesiology	1 hours.	In-depth analysis of current original research. May be repeated to a maximum of 10 hours with approval. Approval to repeat course granted by the department. Prerequisite(s): Consent of the instructor.
Kinesiology	KN	502	Movement Science	4 hours.	Synthesis of the body of knowledge in kinesiology using various diseases as a teaching model. Prerequisite(s): Consent of instructor.
Kinesiology	KN	520	Disability and Physical Activity	3 hours.	Examination of the foundations of physical activity for persons with disabilities. Emphasis on strategies for promoting physical activity among persons with disabilities in community settings. Same as DHD 520.
Kinesiology	KN	523	Exercise Biology in Health and Disease	3 hours.	Interrelationships between exercise and various pathological conditions. Current research focusing on molecular and cellular mechanisms in healthy and diseased states. Same as PHYB 523. Prerequisite(s): Consent of the instructor.
Kinesiology	KN	527	Molecular Biology of Muscle Genes and Proteins	2 hours.	Regulatory mechanisms which govern gene expression relevant to the function of skeletal and cardiac muscle. Prerequisite(s): BIOS 524 and BIOS 525 and consent of instructor.
Kinesiology	KN	528	Cellular Response to Exercise	3 hours.	Examines cellular structure/function relationships important for acute and chronic adaptations to exercise. Emphasis on understanding cellular basis of physiological response to exercise. Prerequisite(s): BIOS 422 or consent of the instructor.
Kinesiology	KN	529	Exercise Genomics	3 hours.	Molecular mechanisms by which cells adapt to increases and decreases in physical activity. Emphasis on understanding genomic, transcriptional, translational and post-translational sites of control. Prerequisite(s): Consent of the instructor.
Kinesiology	KN	535	Nutrition and Human Performance	2 hours.	Nutrition which impacts on human performance; impaired performance due to nutritional problems; aspects relevant to the professional athlete. Same as HN 535. Prerequisite(s): PHYB 341 or KN 352; or consent of the instructor.
Kinesiology	KN	545	Advanced Exercise Programming and Assessment	3 hours.	Emphasis on current recommendations for exercise prescription and assessment methods for adult populations. Diagnostic and prescriptive procedures will be delineated. Prerequisite(s): KN 452 or consent of the instructor.
Kinesiology	KN	570	Neural Mechanisms Underlying Motor Control	4 hours.	Neurophysiological mechanisms that underlie the control and regulation of movement. Prerequisite(s): Consent of the instructor.
Kinesiology	KN	571	Biomechanics of Normal and Abnormal Movement	3 hours.	Principles of statics and dynamics exemplified by human movements. Examination of muscle mechanics, joint forces, stability. Redundancy and intersegmental interactions in multijoint movements. Same as PT 571. Prerequisite(s): Consent of the instructor.
Kinesiology	KN	572	Psychology of Motor Control and Learning	3 hours.	Advanced principles of the control and acquisition of complex, voluntary skills. Same as PT 572. Prerequisite(s): KN 372; or consent of the instructor.
Kinesiology	KN	573	Advanced Topics in Motor Control and Learning	3 hours.	Contemporary theories and models in motor control and learning.
Kinesiology	KN	574	Instrumentation for Motor Control Research	3 hours.	Introduction to oscilloscopes, amplifiers, filters, and transducers. Origin and processing of electromyograms. Motion capture and processing techniques. Same as PT 574. Prerequisite(s): KN 571 or PT 571.
Kinesiology	KN	581	Exercise Leadership Field Instruction	3 hours.	Students are assigned to fitness classes where, under the supervision of a field instructor, they prepare lessons, give instruction and administer written and physical fitness exams. Prerequisite(s): KN 545.
Kinesiology	KN	590	Seminar in Kinesiology	1 hours.	Final experience for 40-hour MS student. Student must demonstrate ability to synthesize material obtained in program and relate it to their area of concentration. Prerequisite(s): 32 semester hours of graduate credit and consent of major advisor.
Kinesiology	KN	592	Clinical Rotations in Exercise Physiology	1 TO 4 hours.	The clinical rotation serves as an avenue to introduce students to various experiences in clinical exercise physiology and as a precursor to a clinical internship. Field work is required. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours. Prerequisite(s): Approval of the department.
Kinesiology	KN	593	Internship in Kinesiology	1 TO 12 hours.	Supervised internship in a laboratory or field setting. A written report is required. Normally open only to candidates in the Applied Exercise Physiology MS area of concentration. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Credit is not given for KN 593 if the student has credit in KN 597 or KN 598. Field work required. Prerequisite(s): Students must pass the comprehensive examination before placement at an internship site.
Kinesiology	KN	594	Selected Topics in Kinesiology	1 TO 3 hours.	Topic to be announced. Analysis of selected problems and concerns in specified concentrations. Topics vary from semester to semester, depending on the needs and interests of the graduate students. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Kinesiology	KN	596	Independent Research in Kinesiology	1 TO 4 hours.	Topics vary. Students design, implement, and analyze a research problem in their individual area of concentration under the supervision of a faculty member. Prerequisite(s): KN 500.
Kinesiology	KN	597	Project in Kinesiology	0 TO 8 hours.	Supervised practicum in laboratory or field setting in which recent research findings are applied,

					tested, and evaluated. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): KN 500 and consent of the advisor and director of graduate studies.
Kinesiology	KN	598	Master's Thesis Research	0 TO 16 hours.	Thesis work under the supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): KN 500 and consent of the advisor and director of graduate studies.
Kinesiology	KN	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research by the student under the supervision of the thesis advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Students must have passed the preliminary exam.

Latin - LAT

Latin	LAT	499	Independent Reading	3 OR 4 hours.	Individual study under faculty direction. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 4 hours in Latin at the 200 level or the equivalent.

Latin American and Latino Studies - LALS

Latin American and Latino Studies	LALS	403	Interdisciplinary Research Methods in Latin American and Latino Studies	3 OR 4 hours.	Examination of research methods in social sciences and current trends in Latin American and Latino Studies. Emphasis on critical analysis of research methods, use of analytical approaches for particular kinds of investigation, and hands on application to case studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LALS 301 and LALS 302; or graduate standing. Recommended Background: Credit or concurrent registration in LALS 501.
Latin American and Latino Studies	LALS	409	Ancient Maya Writing, Language and Culture	3 OR 4 hours.	Recent trends in Maya epigraphy, information gained from Maya hieroglyphs, linguistics, and historical ethnographies are applied to anthropological analyses of past lifeways. Same as ANTH 409. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and consent of the instructor.
Latin American and Latino Studies	LALS	423	Andean Prehistory	3 OR 4 hours.	An overview of the cultural evolution of the Andean region from the arrival of the first inhabitants to the development of the Inca empire. Same as ANTH 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 228 or ANTH 269 or consent of the instructor.
Latin American and Latino Studies	LALS	427	Studies in Language Policy and Cultural Identity	3 OR 4 hours.	Examines the development, articulation, and effects of language policies on identity formation and culture. Focuses on the United States and the Spanish language, although other countries and languages are included. Same as SPAN 427. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above.
Latin American and Latino Studies	LALS	433	Latin American Migration to the U.S.	3 OR 4 hours.	Latin American migration to the U.S. International migration theories, family remittances, transnational linkages, dual citizenship, and past and current U.S. immigration policy debates. Same as SOC 433. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Latin American and Latino Studies	LALS	461	Topics in Latin American History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 461. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history, Latin American and Latino studies, or consent of the instructor.
Latin American and Latino Studies	LALS	475	Indians of the Andes and the Amazon	3 OR 4 hours.	Intensive research in theoretical and ethnographic problems in South American Indian social structures and cultures. Special attention will be given Levi-Strauss' ideas on the formulation of cultural theory in South America. Same as ANTH 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 213 or consent of the instructor.
Latin American and Latino Studies	LALS	491	Interdisciplinary Seminar in Latin American Studies.	3 OR 4 hours.	Specific topics as announced each semester. In-depth study of selected topics such as: process of state formation, education, populism, the family, democratization, industrialization and ideological currents. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Any two 200-level Latin American and Latino Studies courses or consent of the instructor.
Latin American and Latino Studies	LALS	495	Interdisciplinary Seminar in Latino Studies	3 OR 4 hours.	In-depth study of Latino communities and current issues from an interdisciplinary perspective, with emphasis on the learning and use of investigative methodologies. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Any two 200-level Latin American and Latino Studies courses or consent of the instructor.
Latin American and Latino Studies	LALS	497	Community Research Internship	3 OR 4 hours.	Work in community-based organizations and cultural institutions to develop experiential knowledge about social, political and cultural issues facing Latinos and Latin Americans. Placements introduce issues of ethnicity, identity, and transnationalism. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor. Concurrent registration in LALS 498. Recommended Background: LALS 403.
Latin American and Latino Studies	LALS	498	Community Research	3 OR 4 hours.	Community-based internship and development of a research proposal. Students are introduced to policy papers, research memos and research grant proposals, and are expected to develop their own research proposals. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor. Concurrent registration in LALS 497. Recommended Background: LALS 403.
Latin American and Latino Studies	LALS	499	Advanced Independent Study	1 TO 4 hours.	Individual advanced reading or research project in Latin American or U.S. Latino studies, with instructor's consent and supervision. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Open, with consent of the instructor, to graduate students and Latin American and Latino studies majors with at least a 3.00 grade point average. Students in other programs or with lower than a 3.00 grade point average are admitted at the instructor's discretion only.
Latin American and Latino Studies	LALS	501	Latinos and Latin America in Transnational Context	4 hours.	Analysis of transnational processes linking Latin America and Latinos in the U.S. The impact of globalization on migration, culture, identity, work, health, education, family, politics.
Latin American and Latino Studies	LALS	502	Topics in Latin American and Latino Studies	4 hours.	In-depth study of selected research topics related to Latin America and/or U.S. Latinos that reflect the major and most current debates in these fields. May be repeated if topics vary. Prerequisite(s): Graduate or professional standing; or consent of the instructor.
Latin American and Latino Studies	LALS	504	Proseminar in Latin American and Latino Studies	1 hours.	Introduction to the profession, discussion of lectures, course work, readings, and student research. Students attend various lectures, conferences, and community events relating to Latin America and/or Latinos/as, and share their own work. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Credit or cocurrent registration in LALS 501 or Credit or concurrent registration in LALS 502.

Latin American and Latino Studies	LALS	561	Colloquium on Latin American History	4 hours.	Topics on themes in Latin American history. Specific topics are announced each term. Same as HIST 561. May be repeated. Students may register in more than one section per term.
Latin American and Latino Studies	LALS	590	Directed Research	1 TO 4 hours.	Students complete research and composition of the final paper project under the direction of a supervising professor. Satisfactory/Unsatifactory grading only. May be repeated. Prerequisite(s): LALS 501 and LALS 502.
Latin American and Latino Studies	LALS	596	Independent Study	1 TO 4 hours.	Investigation of special problems under the direction of a faculty member. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Learning Sciences - LRSC

Learning Sciences	LRSC	500	Introduction to the Learning Sciences	4 hours.	Key principles of learning, development, and language. Cognitive, social, and affective dimensions of learning. Applicability to diverse learners and contexts of learning. Prerequisite(s): Admission to the Ph.D. program in Learning Sciences or consent of the instructor.
Learning Sciences	LRSC	501	Research Methods in the Learning Sciences	4 hours.	Focuses on understanding the components of research design and scientific arguments as they apply to the diverse research issues investigated in the learning sciences. Prerequisite(s): LRSC 500 and admission to the Ph.D. program in the Learning Sciences or consent of the instructor.
Learning Sciences	LRSC	503	Foundations of Scientific Inquiry	4 hours.	Explores different meanings attached to the idea of inquiry teaching and learning, including how this varies by the age of the student and academic discipline. Prerequisite(s): LRSC 500 and admission to the Ph.D. program in the Learning Sciences or consent of the instructor.
Learning Sciences	LRSC	511	Analysis of Teaching and Learning Interactions	4 hours.	Tools and techniques for the capture and analysis of multi-modal interaction among learners, teachers, and environments. Discourse, gesture, media, instrumentation. Prerequisite(s): LRSC 500 and LRSC 501 and admission to the Ph.D. program in Learning Sciences; or consent of the instructor.
Learning Sciences	LRSC	512	Design of Learning Environments	4 hours.	This course explores design and evaluation of formal and informal learning environments, with respect to learners, knowledge, assessment, and community. Prerequisite(s): LRSC 500 and LRSC 501.
Learning Sciences	LRSC	513	Change in Individuals and Organizations: Implementing and Institutionalizing Change for Learning	4 hours.	This course examines the relationships between processes of learning and the ways in which organizations can be changed to foster learning in individuals or groups. Prerequisite(s): LRSC 500 and LRSC 501.
Learning Sciences	LRSC	540	Learning Sciences Journal Club	2 hours.	Helps students establish guidelines and criteria by which to judge the efficacy of a research effort as presented in published scholarly literature. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Admission to the Ph.D. program in the Learning Sciences or consent of the instructor.
Learning Sciences	LRSC	590	Research Apprenticeship	0 TO 16 hours.	Designed as a supervised research course. Students enroll in for between 2 and 16 hours per semester dependent upon the time they are spending on research projects, supervised by the faculty member with whom they enroll. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): LRSC 500 and admission to the Ph.D. program in the Learning Sciences and consent of the faculty member with whom the student enrolls.
Learning Sciences	LRSC	599	Thesis Research	0 TO 16 hours.	Designed for students engaged in research that constitutes the dissertation. Hours of enrollment per semester is dependent upon the stage in of dissertation research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Advancement to candidacy in the Ph.D. program in the Learning Sciences.

Liberal Arts and Sciences - LAS

Liberal Arts and Sciences	LAS	490	International Student Exchange Program	0 TO 18 hours.	The Student Exchange Program enables the reciprocal exchange of students between UIC and colleges or universities in other countries. There are a variety of programs tailored to meet the needs of both graduate and undergraduate students. May be repeated for a maximum of 36 hours per academic year or for a total of 48 hours, all of which must be earned within one calendar year. Determination of the number of credits to be granted is part of the proposal approval process. Students from other UIC Colleges and Schools are eligible for the program. For more information, visit the website at http://www.uic.edu/depts/oia/resources-student/studentexchange.html. Prerequisite(s): Junior standing or above and approval of the student's major department, the LAS College Office and the Office of International Affairs.
Liberal Arts and Sciences	LAS	493	Topics in Sustainability and Energy	3 OR 4 hours.	An interdisciplinary approach to issues of sustainable energy. Topics will vary, but will include sustainable energy technology, economics of energy, life cycle analysis, carbon emissions, environmental impact, and energy and environmental policy. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Consent of the instructor.
Liberal Arts and Sciences	LAS	494	Topics in Cultural Studies	3 OR 4 hours.	An interdisciplinary approach to a current cultural debate. Topics will vary. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Taught at the Field Museum.
Liberal Arts and Sciences	LAS	495	The Newberry Library Undergraduate Seminar	6 hours.	Seminar with a topic related to the holdings of the Newberry Library. Classes held in Newberry Library. Topics vary. May be repeated if topics vary. Previously listed as LAS 395. Students are required to conduct research at the Newberry Library beyond designated class hours. Pre-tour of the Newberry is recommended. Prerequisite(s): Consent of UIC's Newberry Library seminar coordinator.

Linguistics - LING

Linguistics	LING	402	Trial Interaction	3 OR 4 hours.	Language use, culture, and law in the trial process. Analysis of qualitative methods applied to legal processes and change. Same as CLJ 402. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 261 and CLJ 350; or consent of the instructor.
Linguistics	LING	405	Introduction to General Linguistics	3 OR 4 hours.	Linguistics, the scientific study of language as knowledge, structure, and use, involves Phonetics, Phonology, Morphology, Syntax, Semantics, and Pragmatics. Introduction to Linguistics explores these disciplines. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing.
Linguistics	LING	406	History of European Standard Languages	3 OR 4 hours.	The phenomenon of the "standard language" in Western and Eastern Europe. Same as CEES 406. 3 undergraduate hours. 4 graduate hours. Taught in English. In cases where students speak languages other than English, they might receive tasks to research literature in that language (and on that language) and to present their research results. Prerequisite(s): Junior standing or above; and consent of the instructor.
Linguistics	LING	415	Linguistic Structures I	3 OR 4 hours.	Introduction to key concepts in the field, including descriptive and perscriptive grammars, competence and performance, and human language as a system; articulatory phonetics; phonology; morphology. 3 undergraduate hours. 4 graduate hours.
Linguistics	LING	425	Linguistic Structures II	3 OR 4 hours.	Fundamentals of semantics and syntax within the broad frameworks of generative and functional linguistics, including key concepts such as sense reference, utterance, sentence, form and function. 3 undergraduate hours. 4 graduate hours.
Linguistics	LING	459	Topics in Linguistics	3 OR 4 hours.	Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Linguistics	LING	474	Cognitive Psychology of Language	3 hours.	Provides students with a survey of methods, theory and research in language and discourse processing. Same as COMM 454, and PSCH 454. Prerequisite(s): Graduate standing or consent of the instructor.
Linguistics	LING	480	Sociolinguistics	3 OR 4 hours.	The study of language structure and use involving socially-informed pragmatics, ethnography of communication, sociolinguistic variation and dialectology, and issues of bilingualism. Same as ANTH 480. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LING 405 or junior standing and consent of the instructor.
Linguistics	LING	483	Methodology of Second Language Teaching	3 OR 4 hours.	Approaches, methods, and techniques for teaching second languages with a focus on speaking, listening, writing, reading, and on assessment and curriculum/syllabus design. Same as CI 483 and LCSL 483. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.
Linguistics	LING	487	Computer Assisted Language Learning	3 OR 4 hours.	An introduction to computer assisted language learning (CALL): the use of computer technology in second language reading and research. The effectiveness of CALL technology is assessed based on SLA theory and research studies. Same as GER 487 and SPAN 487. 3 undergraduate hours. 4 graduate hours. Taught in English. Extensive computer use required. Prerequisite(s): LING 483 or CIE 483 or GER 448 or FR 448 or SPAN 448 or GER 449 or FR 449 or SPAN 449; or SPAN 502 or FR 502 or the equivalent; and senior standing or above.
Linguistics	LING	496	Independent Study	1 TO 4 hours.	Students are assigned to this course at the discretion of the department. Independent study in an area of linguisitics not normally covered by regular course offerings. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. A maximum of 6 hours is allowed for undergraduate students, and 8 hours of credit for graduate students. Prerequisite(s): 9 hours of linguistics and approval of the head of the department.
Linguistics	LING	506	Cross-Cultural Communication	4 hours.	Analysis of different theoretical approaches to cross-cultural communication (sociolinguistic, attributional); contrastive analysis of Western and non-Western cultural systems (interactional etiquette, discourse rules). Same as COMM 506.
Linguistics	LING	531	Grammar for TESOL	4 hours.	Survey of major grammatical structures and patterns as they relate to TESOL instruction.
Linguistics	LING	540	Language and Gender	4 hours.	Examination of sociolinguistic research and theories on the interrelationships between language and gender, including gender categories in linguistic systems, gender differences in language use, interaction, and cross-cultural comparisons. Same as GWS 540.
Linguistics	LING	551	Research Practicum in Sociolinguistics	4 hours.	Strategies and methods for studying language use in communities: participant-observation, interviewing, elicitation, using public-domain data, note-taking vs. tape recording, and issues of transcription and ethics. Same as SPAN 551. May be repeated to a maximum of 12 hours. Prerequisite(s): LING 480; or consent of the instructor.
Linguistics	LING	556	Second Language Learning	4 hours.	An introduction to research findings and methods in second language learning. Same as SPAN 556. Prerequisite(s): Consent of the instructor.
Linguistics	LING	559	Seminar in Linguistics	4 hours.	Advanced study in Linguistics. Topics vary. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Linguistics	LING	582	Qualitative Methods in Communication	4 hours.	Qualitative methods course analyzing language and culture patterns. Same as COMM 580. Prerequisite(s): COMM 501 or consent of the instructor.
Linguistics	LING	583	Materials and Curriculum Development in TESOL	4 hours.	Facilitates development of a systematic understanding and practical knowledge of materials and curriculum development which focus on the teaching of English as a second/foreign language. Prerequisite(s): LING 483.

Linguistics	LING	586	Classroom Testing for TESOL	4 hours.	Theory and practice in the creation and evaluation of classroom tests for TESOL.
Linguistics	LING	594	Internship in TESOL	0 TO 12 hours.	Observation of English as a second or foreign language class. Peer teaching and discussion, followed by supervised teaching experience. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 13 hours. Students register for 1 to 12 hours. Prerequisite(s): LING 531 and LING 583 and consent of the instructor.
Linguistics	LING	596	Independent Study in Linguistics	1 TO 6 hours.	Students are assigned to this course at the discretion of the department. Independent study and research on a topic other than that approved for a graduate thesis. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and approval of the head of the department.
Linguistics	LING	597	Research in Linguistics	0 TO 16 hours.	Independent research in linguistics. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the department. A maximum of 4 hours of credit may be applied toward the M.A. in Linguistics degree. Prerequisite(s): Consent of the instructor and the director of graduate studies. Open only to degree candidates.
Linguistics	LING	598	Master's Thesis Research	0 TO 16 hours.	Students engaged in thesis research and writing are assigned to this course at the discretion of the department. Independent research on a topic approved for a graduate thesis. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the thesis supervisor and approval of the head of the department. Open only to degree candidates.

Literatures, Cultural Studies, and Linguistics - LCSL

Literatures, Cultural Studies, and Linguistics	LCSL	483	Methodology of Second Language Teaching	3 OR 4 hours.	Approaches, methods, and techniques for teaching second languages with a focus on speaking, listening, writing, reading, and on assessment and curriculum/syllabus design. Same as CI 483 and LING 483. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.
Literatures, Cultural Studies, and Linguistics	LCSL	502	Theoretical and Research Foundations of Communicative Language Teaching	4 hours.	Introduces students to contemporary theory and research on second language acquisition. Emphasis is on understanding the research and examining classroom practice. Credit is not given for LCSL 502 if the student has credit for SPAN 450, FR 450, GER 407, SPAN 502, FR 502, or GER 502. Previously listed as SPAN 502. Taught in English. Prerequisite(s): Appointment as a teaching assistant. For students outside the department: consent of the instructor.
Literatures, Cultural Studies, and Linguistics	LCSL	503	Professional Development Workshop I	1 hours.	Introduction to the academic profession for students of foreign languages and literatures. Satisfactory/Unsatisfactory grading only. Previously listed as SPAN 503. Taught in English.
Literatures, Cultural Studies, and Linguistics	LCSL	504	Professional Development Workshop II	1 hours.	Introduction to the academic profession for students of foreign languages and literatures. Focus on presentational skills and preparation for the job market. Satisfactory/Unsatisfactory grading only. Previously listed as SPAN 504. Taught in English. Prerequisite(s): LCSL 503 or consent of the instructor.
Literatures, Cultural Studies, and Linguistics	LCSL	505	Teaching Professional Development Workshop	1 hours.	Development of teaching pedagogy, methodology, and technology methods. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 3 hours.
Literatures, Cultural Studies, and Linguistics	LCSL	567	Discourse Analysis	4 hours.	Discourse Analysis addresses issues of intentional communication, inference, the structure of texts or talk-in-interaction, and the interactive construction of social actions or identities in discourse. Same as ENGL 567.

Lithuanian - LITH

Lithuanian	LITH	499	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Graduate students may register for more than one section per term; undergraduates may only register for one section per term. Prerequisite(s): Senior or graduate standing, consent of the instructor and the head of the department.
Lithuanian	LITH	515	Lithuanian Linguistics and Poetics	4 hours.	Linguistic and stylisic analysis of Lithuanian texts based on contemporary theories of style.
Lithuanian	LITH	520	Topics in Historical Lithuanian Linguistics	4 hours.	Covers major topics and trends in historical Lithuanian linguistics: linguistic history, sociolinguistic history, history of grammars and dictionaries. Will also cover historical sites of various linguistic schools. May be repeated to a maximum of 12 hours. Taught in Lithuanian. Prerequisite(s): Consent of the instructor.
Lithuanian	LITH	550	Studies in Lithuanian Romanticism	4 hours.	Study of a genre, movement, or topic. Content varies. May be repeated to a maximum of 12 hours.
Lithuanian	LITH	560	Studies in Lithuanian Realism	4 hours.	Study of a topic, author, or movement. Content varies. May be repeated to a maximum of 12 hours.
Lithuanian	LITH	565	Studies in Twentieth-Century Lithuanian Literature	4 hours.	Study of a topic, author or movement. Content varies. May be repeated to a maximum of 12 hours.
Lithuanian	LITH	570	Studies in Lithuanian Literary Criticism	4 hours.	Function of literary criticism in all epochs of Lithuanian literature. May be repeated to a maximum of 12 hours.
Lithuanian	LITH	596	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and the head of the department.

Management - MGMT

Management	MGMT	445	Organizational Theory	3 hours.	Emphasis on organizational theories and models to analyze and improve functioning and performance of organizations. Structure, technology, environmental adaptation, and managerial control systems. Prerequisite(s): MGMT 340 and junior standing.
Management	MGMT	447	Organizations	3 OR 4 hours.	Characteristics of business, government, and not-for-profit organizations; approaches used to study organizations; theoretical and empirical analysis of organizational processes. Same as SOC 447. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 241 or MGMT 340 or SOC 244; and junior standing or above and an additional 200 or 300-level elective in sociology; or consent of the instructor.
Management	MGMT	452	Organizational Behavior	3 hours.	Emphasis on understanding and managing people at work. Analysis of individual, group and organization topics including leadership, motivation, attitudes, group dynamics, and organizational culture. Prerequisite(s): Junior standing and MGMT 340.
Management	MGMT	453	Human Resource Management	3 hours.	Examination of the activities involved in attracting, retaining, and motivating employees. Topics include planning, selection, compensation, performance appraisal, succession, and legal issues. Prerequisite(s): MGMT 340 and MGMT 350 and junior standing.
Management	MGMT	454	Labor-Management Relations	3 hours.	Labor unions and their impact on business firms and society. Labor-management relationships and collective bargaining practices. Public policy, union structure and bargaining theory. Prerequisite(s): MGMT 340 and MGMT 350 and junior standing.
Management	MGMT	460	Business, Society, and the Global Economy	3 hours.	Managing in a free enterprise system. Market, regulatory, ethical, and cultural norms. Internationalization of business; urban problems of business; landmark and contemporary case analyses. Prerequisite(s): MGMT 340 and MGMT 350.
Management	MGMT	463	Negotiation and Conflict Resolution	3 hours.	Strategies and techniques for successful agreement negotiation and business conflict resolution. Includes applications to classic situations such as collective bargaining, interpersonal relations, and stakeholder concerns. Prerequisite(s): MGMT 340.
Management	MGMT	465	Compensation and Reward Systems	3 hours.	Examination of compensation and reward systems designed to enhance employee motivation and performance. Topics include pay structure design, incentive systems, and benefits. Prerequisite(s): MGMT 453 and MGMT 454.
Management	MGMT	466	Managerial Effectiveness Through Diversity	3 hours.	Management of diverse work forces. Discrimination, affirmative action, career development, socialization and social change policies; historical, psychological, sociological, legal and managerial viewpoints. Prerequisite(s): MGMT 340.
Management	MGMT	467	Impact of Technological Change	3 hours.	Examines the impact of technological change upon the business environment and the managerial process. Emphasis on alternative futures and the planning necessary to attain desired ends. Prerequisite(s): MGMT 340 and MGMT 350.
Management	MGMT	470	Career Planning and Development	3 hours.	Individual and organizational perspectives in career planning. Self-direction, networking, support facilities, and corporate management systems are considered. Prerequisite(s): MGMT 340 or the equivalent and junior standing.
Management	MGMT	471	Organizational Design	3 hours.	Strategies for promoting the creativity, flexibility, and productivity of the organization and its management personnel. Readings and case studies from the public and private sectors. Prerequisite(s): MGMT 340 and MGMT 452, or consent of the instructor.
Management	MGMT	480	Transportation Systems Management	3 hours.	Provides a fundamental knowledge of problems and practices encountered in the management of transportation systems. Includes impact of public policy; capital facilities; industry structure; costs; operations pricing and environmental relationships. Prerequisite(s): MGMT 340 and MGMT 350, or consent of the instructor.
Management	MGMT	481	Managerial Logistics	3 hours.	Management of activities governing flow of materials and products through stages of production and distribution. Includes design of logistical systems and use of mathematical techniques. Prerequisite(s): IDS 355 or consent of the instructor.
Management	MGMT	485	Business Ethics	3 hours.	Leading theories of ethics and moral choice. Analysis of ethical problems in business. Guidelines for ethical decision-making. Case studies in business ethics. Prerequisite(s): MGMT 340 and MGMT 350.
Management	MGMT	494	Special Topics in Management	3 hours.	Exploration of areas not covered in existing course offerings or study of selected topics in greater depth. Subject matter will vary from semester to semester. Prerequisite(s): Senior standing and 9 hours of 400-level management courses, or consent of the instructor.
Management	MGMT	495	Competitive Strategy	4 hours.	Multidisciplinary analysis of organization strategy and policy, using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.
Management	MGMT	499	Independent Study in Management	1 TO 3 hours.	Independent study of an approved topic in management. Student must prepare a written report under the guidance of the instructor. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the department head.
Management	MGMT	530	Family Business Management	4 hours.	Special issues facing family-owned and closely-held firms. Emphasis on behavioral, operational, and strategic issues, family dynamics, and interpersonal issues in professional settings; succession planning. Prerequisite(s): Admission to the MBA Program. Recommended background: MGMT 502 or MKTG 502.

Management	MGMT	540	Organizational Analysis and Practice	4 hours.	Organizational analysis and applications based on key organization theories; structure, technology, evironmental adaptation, management functions and controls, formal and informal organization. Prerequisite(s): Admission to the MBA or M.S. in Accounting program.
Management	MGMT	541	Organizational Behavior	4 hours.	The organization as a social system. Topics include leadership, interpersonal effectiveness, group behavior, managing change, conflict management, motivation and behavior, and interpersonal communications. Credit is not given for MGMT 541 if the student has credit for MBA 505. Prerequisite(s): Admission to MBA or M.S. in Accounting program.
Management	MGMT	553	Human Resource Management	4 hours.	Human resource management programs and policies. Staffing, training and development; historical evolution of personnel policies, modern labor force and technological trends; supervision, salary administration, human resource research and utilization. Prerequisite(s): MGMT 541 or consent of the instructor.
Management	MGMT	557	International Management	4 hours.	Management practices and problems in major nations. Legal and cultural factors affecting managerial policies and decisions; organization planning and manpower utilization; comparative management systems and ideologies. Prerequisite(s): MGMT 541.
Management	MGMT	564	Negotiations	4 hours.	Strategies and techniques for successful agreement negotiation and business conflict resolution. Includes applications to classic situations such as collective bargaining, interpersonal relations, and stakeholder concerns. Credit is not given for MGMT 564 if the student has credit for MGMT 594. Special topics: Negotiations. Prerequisite(s): MGMT 541.
Management	MGMT	568	Compensation Administration	4 hours.	Compensation theory policies and practices, including job analysis and evaluation, compensation surveys, wage and salary structures, merit and incentive compensation employee benefits and pension plans. Prerequisite(s): MGMT 553.
Management	MGMT	570	Social and Legal Environment of the Firm	4 hours.	Exploration of current ethical, social, political, technological, economic, and global issues as they relate to business and management in setting goals, making decisions, and creating policy. Prerequisite(s): ECON 520.
Management	MGMT	573	Research Methods in Organizational Behavior and Human Resource	4 hours.	Methodologies and industrial design appropriate for research in human resource and relations management, and organizational behavior. Students expected to complete a theoretically based research paper. Prerequisite(s): Ph.D. student status or consent of instructor.
Management	MGMT	575	Seminar: Topics in Personnel Practices and Relations	4 hours.	Relationships among work environment, compensation, unions and workers performance. Emphasis on legislation affecting employee selection, rewards, and the quality of work life. Prerequisite(s): Ph.D. student status or consent of instructor.
Management	MGMT	576	Behavioral Science Applications in Human Resource Management	4 hours.	Applies concepts, structures, theories and methods of organizational behavior to develop techniques useful for research and practice at the micro level of human resource management. Prerequisite(s): Ph.D. student status or consent of the instructor.
Management	MGMT	579	Contemporary American and International Management	4 hours.	Student teams evaluate case studies, present findings and recommendations for business strategies and research corporations of visiting executives, prepare presentations, and critique lectures.
Management	MGMT	581	Administrative Structure and Organizational Design	4 hours.	An advanced exploration of theories of administrative structure and organizational design. Course topics include: conceptual models; macro, middle and micro level variables and principles and strategies of organizational change and development. Prerequisite(s): MGMT 541.
Management	MGMT	582	Management of Innovation and Technological Change	4 hours.	Analysis of the role of organization structure and management processes in fostering innovation. Emphasis on issues in research and development, flexible manufacturing, government policy, and technology transfer. Prerequisite(s): MGMT 541.
Management	MGMT	587	Seminar: Topics in Organizational Behavior and Human Resources	4 hours.	Topics of current research interest in human resource systems and organizational behavior. Focuses on current issues in published literature and unpublished research. Prerequisite(s): Ph.D. student status or consent of the instructor.
Management	MGMT	588	Seminar: Topics in Strategic Management	4 hours.	Selected topics and current problems in organizational strategy. Research and field work in strategic planning. Application of theory and concepts to problems in strategic management. Prerequisite(s): Admission to the PhD in Business Administration Program.
Management	MGMT	589	Seminar: Topics in Human Resource Management	4 hours.	Recent literature including parameters of the field, system designs and applications, information systems, and studies of work systems, quality of work life, productivity and career management. Prerequisite(s): Ph.D. student status or consent of the instructor.
Management	MGMT	590	Strategic Management	4 hours.	Study of strategies and policies that influence the long-term survival, growth, and character of business firms; strategy formulation and implementation in domestic and international organizations. Prerequisite(s): Enrollment in the final year of the MBA program.
Management	MGMT	591	Research Apprenticeship	2 TO 4 hours.	Directed training in conducting research in specific areas of management, and in developing skills related to the research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Management	MGMT	594	Special Topics in Management	1 TO 4 hours.	An intensive study of a selected topic in management. Topics vary by section and by term. May be repeated to a maximum of 12 hours if topics vary. Students may register in more than one

					section per term. Prerequisite(s): Consent of the instructor.
Management	MGMT	596	Independent Study in Management	1 TO 4 hours.	Independent study under direction of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the head of the department.
Management	MGMT	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research on topic approved for the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Marketing - MKTG

Marketing	MKTG	452	Principles of Retailing	3 hours.	The theory and practice of making retailing decisions regarding pricing, product, place and promotion, and the development of strategy based on market competition and trends. Prerequisite(s): MKTG 360.
Marketing	MKTG	460	Marketing Analytics	3 hours.	Introduction to data-centered analysis for critical aspects of marketing, such as sales forcasting, profitibility analysis, market segmentation, promotion budgeting, and database marketing. Prerequisite(s): MKTG 360 and IDS 270.
Marketing	MKTG	461	Consumer Market Behavior	3 hours.	Understanding consumer decision processes; steps in decision making, including need recognition, perception, cognition and attitude formation; effect of environmental social, psychological, and individual difference factors on consumer decision making. Prerequisite(s): MKTG 360 or consent of the instructor.
Marketing	MKTG	462	Marketing Research	3 hours.	An investigation of the gathering, analyses and interpretation of information used in solving marketing problems. Both qualitative and quantitative methods are employed in developing an analytical framework. Prerequisite(s): MKTG 360 and IDS 270.
Marketing	MKTG	463	Marketing Channels and E-Commerce	3 hours.	Develop an integrated distribution system; relationship to firm's marketing structure (logistics); evaluation of decisions on sources, plant and warehouse location, domestic and int'l outlets. Analysis by marketing channels & e-commerce role in distribution. Prerequisite(s): MKTG 360. Business Administration students must have declared a major, or have received consent of the instructor.
Marketing	MKTG	465	Strategic Marketing Planning and Management	3 hours.	Development of marketing plans for strategic and tactical programs to achieve the firm's marketing objectives. Prerequisite(s): 15 hours of marketing.
Marketing	MKTG	466	Comparative Marketing Systems	3 hours.	Treats the topic of domestic marketing systems in other countries, their structures and processes, in a framework of comparative cultural, political, economic, and social systems. Prerequisite(s): MKTG 360 or consent of the instructor. Business Administration students must have declared a major.
Marketing	MKTG	469	Global Marketing	3 hours.	The strategic and tactical marketing of goods and services to countries beyond domestic or current markets. Distinct economic, socio-cultural, and political-legal-regulatory environments are considered. Prerequisite(s): MKTG 360 and BA 200; or consent of the instructor.
Marketing	MKTG	471	Services Marketing	3 hours.	An exploration of the special challenges of services marketing, including analyzing and developing solutions for new services, services quality, design and delivery of services, and services recovery. Prerequisite(s): MKTG 360.
Marketing	MKTG	473	The Personal Selling Effort in Marketing	3 hours.	Analysis of selling strategies and tactics in different situations; problems of managing sales force. Cultural differences in selling techniques as well as ethical concerns will be discussed. Prerequisite(s): MKTG 461 or consent of the instructor.
Marketing	MKTG	474	Advertising and Sales Promotion	3 hours.	The management, planning, creation, evaluation and use of advertising and sales promotion. Evaluation and critique of an ad campaign. Prerequisite(s): MKTG 461 or consent of the instructor.
Marketing	MKTG	475	Product Management	3 hours.	Development and review of new and existing products during their life cycles; the evolution of products and services from a creative idea to their withdrawal from the market. Prerequisite(s): MKTG 462 or consent of the instructor.
Marketing	MKTG	476	Business-to-Business (B2B) Marketing	3 hours.	Unique concepts and strategies applied when businesses market to other organizations and institutions. Derived demand, systems selling, bid pricing, national account programs, and using distributors. Prerequisite(s): MKTG 360.
Marketing	MKTG	477	IPD I	3 hours.	An interdisciplinary team-based course developing new product concepts from ideation to commercialization. Students complete a product development project in conjunction with students enrolled in ME 444 and AD 420. Prerequisite(s): MKTG 360; and consent of the instructor. This is the first half of a year-long course. Students will be required to take MKTG 478 in the following semester.
Marketing	MKTG	478	IPD II	3 hours.	An interdisciplinary team-based course developing new product concepts from ideation to commercialization. Students complete a product development project in conjunction with students enrolled in ME 445 and AD 421. Prerequisite(s): MKTG 360 and MKTG 477. This is the second half of a year-long course. Students will be required to take MKTG 477 in the previous semester.
Marketing	MKTG	494	Special Topics in Marketing	1 TO 4 hours.	Intensive study of selected problems. Reading assignments from scholarly and professional journals; emphasis on covering relatively few areas in great depth. Prerequisite(s): Business administration students must have declared a major.
Marketing	MKTG	499	Research Experience	1 TO 3 hours.	Research experience under the supervision of a faculty member. The faculty member and student will determine the research project. Each student must submit a written report and each student must participate at a research event on campus. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Major in marketing. Consent of the head of the department and the instructor required.
Marketing	MKTG	500	Introduction to Marketing	4 hours.	Client/consumer behavior and the way institutions respond to such behavior through the planning, pricing, promotion, and distribution of goods and services. Credit is not given for MKTG

					500 if the student has credit for MBA 506. Prerequisite(s): Graduate standing in the College of Business Administration or consent of the instructor.
Marketing	MKTG	518	Electronic Marketing	4 hours.	Overview of the electronic marketing value chain. Internet and web technologies, system design, payment systems, business requirements for e-marketing, design and ethical issues. Same as IDS 518. Prerequisite(s): MKTG 500 or MBA 506 or consent of the instructor.
Marketing	MKTG	560	Marketing Management	4 hours.	The structural system for the management of marketing: environmental considerations; goal determinations; the sequential process; marketing planning; product-market integration; channel components; demand stimulation; evaluation and audit. Prerequisite(s): MKTG 500 or consent of the instructor.
Marketing	MKTG	561	Consumer Behavior	4 hours.	Application of knowledge from the behavioral sciences to the study of consumer behavior. Individual and group influences on consumer preferences and purchasing patterns are considered. Both theory and application are stressed. Prerequisite(s): MKTG 500.
Marketing	MKTG	563	Information for Marketing Decisions	4 hours.	Definition and selection of appropriate research techniques for solving specific marketing problems. Establishment and administration of information systems giving firms a systematic, continuing appraisal of its market position. Prerequisite(s): MKTG 500.
Marketing	MKTG	565	Marketing Communication and Promotional Strategy	4 hours.	How a firm uses advertising, public relations, sales promotion and personal selling to communicate with its customers. Functional characteristics of each of these is assessed in terms of varying marketing situations in the process of formulating the firm's strategy. Prerequisite(s): MKTG 500.
Marketing	MKTG	571	International Business Operations	4 hours.	Centers attention on the policies and problems of firms operating across international frontiers and the social questions they generate. Attention is directed at investing overseas, licensing agreements, joint ventures and contracting. Prerequisite(s): MKTG 500.
Marketing	MKTG	572	International Marketing	4 hours.	Focuses on firms which operate internationally from their home country base. Attention is directed toward working with overseas distributors, promotion and pricing problems, governmental export assistance, and physical distribution matters. Prerequisite(s): MKTG 500.
Marketing	MKTG	573	Marketing Channels Management	4 hours.	Operations of various institutions that constitute the channel(s) for marketing goods and services. Emphasis on the practices of institutions at each level in the distribution system and the interaction that occurs among them. Prerequisite(s): MKTG 500.
Marketing	MKTG	574	Product Planning	4 hours.	In-depth coverage of all aspects of the product, service, and program planning process. Conceptual aspects as applied to new and existing product entries. Prerequisite(s): MKTG 500.
Marketing	MKTG	576	Advanced Business-to-Business (B2B) Marketing	4 hours.	Buyer behavior, market segmentation, derived demand, national account programs, system selling, big pricing. Industrial promotion mix, mass communications and management of sales force. Prerequisite(s): MKTG 500.
Marketing	MKTG	577	Interdisciplinary Product Development I	4 hours.	An interdisciplinary team-based course developing new product concepts from ideation to commercialization. Prerequisite(s): MKTG 500 and consent of the instructor. This is the first half of a year-long course. Students will be required to take MKTG 578 in the following semester.
Marketing	MKTG	578	Interdisciplinary Product Development II	4 hours.	An interdisciplinary team-based course developing new product concepts from ideation to commercialization. Prerequisite(s): MKTG 500 and MKTG 577; and consent of the instructor. This is the second half of a year long course. Students will be required to take MKTG 577 in the previous semester.
Marketing	MKTG	581	Seminars in Consumer Behavior	4 hours.	Theories and concepts relevant to consumer behavior; the decision making process for both profit and non-profit goods and services. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	583	Seminar in Marketing Theory	4 hours.	Emphasis on marketing literature evolution and development of marketing practices that reflect /influence the basic literature. Attention devoted to how other fields have contributed to marketing thought. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	584	Product Innovation and Development	4 hours.	An in-depth investigation of the factors affecting the new product strategy of the firm and its management of product innovation. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	585	Seminar: Topics in Quantitative Models in Marketing	4 hours.	Formulation of conceptual and quantitative models which relate marketing activities and behaviors to other behaviors or sales or profits. Examines methods which researchers have used to test hypothesized marketing models. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	586	Advanced International Marketing	4 hours.	Concepts and problems pertaining to export marketing with emphasis on multinational businesses. Includes product modification, differential pricing, national social and commercial policies, promotion, logistical issues. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	587	Advanced Marketing Research	4 hours.	Multi-dimensional scaling, conjoint analysis including hybrid analysis, choice models including multinomial logit and probit models, selectivity models. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	588	Marketing Communications	4 hours.	The firm's use of the elements of the promotion mix; advertising, personal selling, sales promotion, publicity and public relations for effective communication with its markets. Prerequisite(s): Prerequisite(s): Admission to the Ph.D. in Business Administration program and consent of the instructor.

Marketing	MKTG	589	Services Marketing	4 hours.	Distinctive aspects of services marketing examined from both a conceptual and managerial perspective with focus on the research frontiers and questions in services marketing. Prerequisite(s): Admission to the Ph.D. in Business Administration program.
Marketing	MKTG	594	Special Topics in Marketing	4 hours.	An intensive study of a selected topic in marketing. Topics vary. Students should contact the instructor to find out what topics will be covered. Prerequisite(s): MKTG 500.
Marketing	MKTG	596	Independent Study in Marketing	1 TO 4 hours.	Independent study under the direction of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Enrollment by petition to the Director of the MBA program.
Marketing	MKTG	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research on topic approved for the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Master of Business Administration - MBA

Master of Business Administration	MBA	500	Corporate Strategy	2 hours.	Analysis of major strategic decisions affecting the long-term performance of a firm and its ability to sustain competitve advantage. Meets eight weeks of the semester. Prerequisite(s): Admission to the MBA Program.
Master of Business Administration	MBA	501	Business Concepts and Skills	2 hours.	Introduction to concepts and skills required for success in the MBA program including: institutions and vocabluary of US business, game theory; mathematics and statistics; spreadsheets and databases; and business writing and presentation. Satisfactory/Unsatisfactory grading only. Credit will not be given for MBA 501 if the student has already completed 12 or more hours of MBA coursework. Meets 8 weeks of the semester.
Master of Business Administration	MBA	502	Teamwork and Creativity	2 hours.	Basics of guiding classroom and workplace teams to successful productivity and of leading deliberate efforts to more creatively apply knowledge, especially in cross-functional contexts. Meets eight weeks of the semester.
Master of Business Administration	MBA	570	Enterprise Decision Making	4 hours.	Provides content and frameworks to integrate prior course work to address business problems from a cross-functional and enterprise perspective. Prerequisite(s): Completion of all other core courses in the MBA Program. This course should be taken during the final semester in the program.
Master of Business Administration	MBA	590	Professional Topics	2 TO 4 hours.	A series of skills workshops designed to develop critical management skills and to explore timely management issues not directly related to core business functional areas. May be repeated to a maximum of 6 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Admission to the MBA program.
Master of Business Administration	MBA	591	Study Abroad-Master of Business Administration Program	0 TO 16 hours.	Lectures, seminars, and independent travel/study abroad in conjunction with admission to the MBA program. May be repeated to a maximum of 24 hours. Prerequisite(s): Admission to the MBA program and consent of the director.
Master of Business Administration	MBA	592	Master of Business Administration Project	8 hours.	Multi-disciplinary team project at an outside company or University office. A written report and an oral presentation of the project is required. Prerequisite(s): Admission to the MBA program and consent of the MBA program director.
Master of Business Administration	MBA	594	Special Topics-Master of Business Administration Program	1 TO 4 hours.	An intensive study of a selected business topic not available in current course offerings. Subject matter will vary by section and semester. May be repeated to a maximum of 16 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Admission to the MBA program.
Master of Business Administration	MBA	596	Independent Study	0 TO 8 hours.	Indpendent study under the direction of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Enrollment by petition to the director of the MBA program.

Master of Engineering - MENG

Master of Engineering	MENG	400	Engineering Law	3 OR 4 hours.	Overview of the legal system. Legal principles affecting the engineering profession. Professional ethics in engineering. Intellectual property law. Basic contract and tort principles. Environmental law. Same as ENGR 400. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Master of Engineering	MENG	401	Engineering Management	3 OR 4 hours.	Theory, strategy, and tactics of the use of project management including project planning, matrix management concept, and team meetings. Same as ENGR 401. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Master of Engineering	MENG	402	Intellectual Property Law	3 OR 4 hours.	Patent, copyright, trade secret, mask work, and cyber-squatting legal and procedural principles; protection for novel software, biotech inventions, and business methods; and trademark protection for domain names. Same as ENGR 402. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Master of Engineering	MENG	403	Reliability Engineering	3 OR 4 hours.	Probability overview; statistics overview; system reliability modeling and prediction-static methods; system reliability modeling and prediction-dynamic methods; maintainability and availability; reliability optimization; and risk analysis. Same as ENGR 403. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above.
Master of Engineering	MENG	410	Transport Phenomena	3 OR 4 hours.	Continuum theory of momentum, energy, and mass transfer. Viscous behavior of fluids. Laminar and turbulent flow. Thermal conduction and convection, diffusion and coupled operations. Same as CHE 410. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 312 or consent of the instructor.
Master of Engineering	MENG	411	Non-Newtonian Fluids	3 OR 4 hours.	Fluid mechanics and transport processes involving non-Newtonian fluids. Purely viscous and viscoelastic behavior. Viscometric functions and rheometry. Heat and mass transfer in non-Newtonian fluids. Same as CHE 440. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 410 or MENG 410 or consent of the instructor.
Master of Engineering	MENG	412	Computational Molecular Modeling	3 OR 4 hours.	Provide students with a fundamental understanding of the methods, capabilities and limitations of molecular simulations. Same as CHE 438. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CHE 301. Recommended background: Engineering/Science.
Master of Engineering	MENG	413	Fundamentals and Design of Microelectronics Processes	3 OR 4 hours.	Design and practical aspects of the most advanced state of micro- and nano-electronics processing with emphasis on thin film deposition, substrate passivation, lithography and etching with thermodynamics, kinetics, reactor design, and optimization. Same as CHE 456. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Graduate standing or consent of the instructor. Recommended background: Engineering/Science.
Master of Engineering	MENG	436	Wireless Data	3 OR 4 hours.	Data communications, existing Wireless Data Networks, planning, topology, performance, and operation. Same as ENGR 436. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online web-based course. Prerequisite(s): Senior standing or above and a course in digital communications and an introductory course in wireless communications.
Master of Engineering	MENG	512	Microhydrodynamics, Diffusion and Membrane Transport	4 hours.	Theoretical and numerical fluid mechanics of microstructure: potential flow and virtual mass, quasistatic versus transient Stokes flow, integral theorems, multipole expansions, singularity solutions, fluctuations, and current applications. Same as CHE 512. Prerequisite(s): CHE 410 or MENG 410 and CHE 445 or consent of the instructor.

Mathematical Computer Science - MCS

Mathematical Computer Science	MCS	401	Computer Algorithms I	3 OR 4 hours.	Design and analysis of computer algorithms. Divide-and-conquer, dynamic programming, greedy method, backtracking. Algorithms for sorting, searching, graph computations, pattern matching, NP-complete problems. Same as CS 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 360; or Grade of C or better in CS 202.
Mathematical Computer Science	MCS	411	Compiler Design	3 OR 4 hours.	Language translation: lexical analysis, parsing schemes, symbol table management, syntax and semantic error detection, and code generation. Development of fully-functional compiler. Same as CS 473. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CS 301 or grade of C or better in MCS 441; and grade of C or better in CS 202 or grade of C or better in MCS 360; and grade of C or better in CS 266.
Mathematical Computer Science	MCS	415	Programming Language Design	3 OR 4 hours.	Definition, design, and implementation of programming languages. Syntactic and semantic description; variable bindings, control and data structures, parsing, code generation, optimization; exception handling; data abstraction. Same as CS 476. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MCS 360 or CS 340.
Mathematical Computer Science	MCS	421	Combinatorics	3 OR 4 hours.	The pigeonhole principle, permutations and combinations, binomial coefficients, inclusionexclusion principle, recurrence relations and generating functions, special counting sequences, Polya theory of counting. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215; and Grade of C or better in MATH 310 or Grade of C or better in MATH 320; or consent of the instructor.
Mathematical Computer Science	MCS	423	Graph Theory	3 OR 4 hours.	Basic concepts of graph theory including Eulerian and hamiltonian cycles, trees, colorings, connectivity, shortest paths, minimum spanning trees, network flows, bipartite matching, planar graphs. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215; and Grade of C or better in MATH 310 or Grade of C or better in MATH 320; or consent of the instructor.
Mathematical Computer Science	MCS	425	Codes and Cryptography	3 OR 4 hours.	Mathematics of communications theory, basic information theory necessary to understand both coding theory and cryptography, basic ideas and highlights for both coding theory and cryptography, including public-key cryptosystems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215; and Grade of C or better in MATH 310 or Grade of C or better in MATH 320; or consent of the instructor.
Mathematical Computer Science	MCS	441	Theory of Computation I	3 OR 4 hours.	Introduction to formal languages; relations between grammars and automata; elements of the theory of computable functions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 215.
Mathematical Computer Science	MCS	451	Object-Oriented Programming in C++	3 OR 4 hours.	C++ as an object-oriented language, classes and member functions, access control, class scope, constructors, destructors, overloading, conversions, streams, derived classes, polymorphism through virtual functions, templates, class libraries. 3 undergraduate hours. 4 graduate hours. Credit is not given for MCS 451 if the student has credit for CS 474. Extensive computer use required. Prerequisite(s): Grade of C or better in MCS 360 or the equivalent or consent of the instructor.
Mathematical Computer Science	MCS	471	Numerical Analysis	3 OR 4 hours.	Introduction to numerical analysis; floating point arithmetic, computational linear algebra, iterative solution to nonlinear equations, interpolation, numerical integration, numerical solution of ODEs, computer subroutine packages. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 275 or grade of C or better in CS 102 or grade of C or better in CS 108; or consent of instructor.
Mathematical Computer Science	MCS	472	Introduction to Industrial Math and Computation	3 OR 4 hours.	Technical writing and oral presentations in preparation for industrial projects. Topics include quality control, operations research, cost-benefit analysis, differential equations, using scientific software. Extensive computer use required. Prerequisite(s): Grade of C or better in MCS 471 or consent of the instructor. Recommended background: Designed for students with a desire to explore mathematics via practical field work.
Mathematical Computer Science	MCS	481	Computational Geometry	3 OR 4 hours.	Algorithmic problems on sets of points, rectangles, intervals, arcs, chords, polygons. Counting, reporting, location, intersection, pairing; static and dynamic data structures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 401 or consent of the instructor.
Mathematical Computer Science	MCS	494	Special Topics in Computer Science	3 OR 4 hours.	Topics in mathematical computer science, such as symbolic compution, automated reasoning, cryptography or geometric algorithms. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematical Computer Science	MCS	496	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.
Mathematical Computer Science	MCS	501	Computer Algorithms II	4 hours.	Continuation of MCS 401 (same as CS 401). Advanced topics in algorithms. Lower bounds. Union-find problems. Fast Fourier transform. Complexity of arithmetic, polynomial, and matrix calculations. Approximation algorithms. Parallel algorithms. Same as CS 501. Prerequisite(s): MCS 401 or CS 401.
Mathematical Computer	MCS	503	Mathematical Methods for	4 hours.	Discrete mathematical techniques useful in algorithm analysis: summation methods, floor/ceiling expressions, modular arithmetic techniques, harder binomial identities, special numbers,

Science			Algorithm Analysis		generating functions, asymptotics. Prerequisite(s): Grade of C or better in MCS 401 and grade of C or better in MCS 421.
Mathematical Computer Science	MCS	504	Mathematics and Information Science for Industry Workshop	4 hours.	A project-based course on one or more topics in applied mathematics, statistics, or computer science, motivated by industrial problems. The topics vary from year to year. May be repeated. Students may register in more than one section per term. Prerequisite(s): Grade of B or better in MCS 401 and grade of B or better in MCS 471 and grade of B or better in MCS 507.
Mathematical Computer Science	MCS	507	Mathematical, Statistical and Scientific Software	4 hours.	The design, analysis, and use of mathematical, statistical, and scientific software. Prerequisite(s): Grade of B or better in MCS 360 or the equivalent or consent of instructor.
Mathematical Computer Science	MCS	521	Combinatorial Optimization	4 hours.	Combinatorial optimization: network flows, bipartite matching, Edmonds algorithm for non-bipartite matching, the matching polytope, matroids, greedy algorithm, matroid union and intersection algorithms, matroid polyhedra, polymatroids. Prerequisite(s): MCS 423 and STAT 471.
Mathematical Computer Science	MCS	531	Error-Correcting Codes	4 hours.	Finite fields, cyclic codes, quadratic residue codes, BCH codes, decoding schemes. Reed-Muller codes, weight distributions, codes and designs. Prerequisite(s): Grade of C or better in MCS 261, and grade of C or better in MATH 310 or grade or C or better in MATH 330.
Mathematical Computer Science	MCS	541	Computational Complexity	4 hours.	Time and space complexity of computations, classification of mathproblems according to their computational complexity, P not equal NP problem. Prerequisite(s): Consent of the instructor.
Mathematical Computer Science	MCS	548	Mathematical Theory of Artificial Intelligence	4 hours.	Valiant's learning model, positive and negative results in learnability, automation inference, perceptrons, Rosenblatt's theorem, convergence theorem, threshold circuits, inductive inference of programs, grammars and automata. Prerequisite(s): MCS 541.
Mathematical Computer Science	MCS	551	Generic Programming and the C++ Standard Template Library	4 hours.	Generic programming in C++. Templates, namespaces, smart pointers, reference counting. Algorithms, ranges, concepts and modeling. Iterators, function objects, adaptors, and containers. Algorithms and container classes in the STL. Extensive computer use required. Prerequisite(s): Grade of C or better in MCS 451 or grade of C or better in an equivalent course in C++.
Mathematical Computer Science	MCS	563	Analytic Symbolic Computation	4 hours.	Analytic computation, including integration algorithms, differential equations, perturbation theory, mixed symbolic-numeric algorithms, and other related topics. Prerequisite(s): Grade of C or better in MCS 460 or the equivalent, and MATH 480 or consent of the instructor.
Mathematical Computer Science	MCS	565	Mathematical Theory of Databases	4 hours.	Abstract systems for databases, sysntax and semantics of operational languages, dependencies and normal forms, axiomizations, queries and query optimization, null values, algebraic interpretations.
Mathematical Computer Science	MCS	571	Numerical Analysis of Partial Differential Equations	4 hours.	Numerical analysis of Finite Difference methods for PDE of mathematical physics: Wave, heat, and Laplace equations. Introduction to numerical analysis of the Finite Element method. Prerequisite(s): MATH 481 and MCS 471 or consent of the instructor.
Mathematical Computer Science	MCS	572	Introduction to Supercomputing	4 hours.	Introduction to supercomputing on vector and parallel processors; architectural comparisons, parallel algorithms, vectorization techniques, parallelization techniques, actual implementation on real machines. Prerequisite(s): MCS 471 or MCS 571 or consent of the instructor.
Mathematical Computer Science	MCS	573	Topics in Numerical Analysis of Partial Differential Equations	4 hours.	Topics in numerical analysis of partial differential equations which may include: High-order Finite Element methods, Discontinuous Glerkin methods, Spectral methods, or Integral Equation methods. May be repeated if topics vary. Prerequisite(s): MATH 481 and MCS 471; and consent of the instructor.
Mathematical Computer Science	MCS	590	Advanced Topics in Computer Science	4 hours.	Topics in areas such as: mathematical aspects of artificial intelligence, symbolic methods in mathematics, mathematical cryptography, automated reasoning. Topics may vary from term to term. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematical Computer Science	MCS	591	Advanced Topics in Combinatorial Theory	4 hours.	Some of the following topics: combinatorial enumeration, designs, graph theory, matroid theory, combinatorial matrix theory, Ramsey theory. Contents vary from year to year. May be repeated. Prerequisite(s): MCS 423.
Mathematical Computer Science	MCS	592	Advanced Topics in Error-Correcting Codes	4 hours.	Topics of current interest in coding theory including codes which are of practical value and which shed light on various mathematical areas. Prerequisite(s): MCS 531 or consent of the instructor.
Mathematical Computer Science	MCS	593	Graduate Student Seminar	1 hours.	For graduate students who wish to receive credit for participating in a learning seminar whose weekly time commitment is not sufficient for a reading course. This seminar must be sponsored by a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematical Computer Science	MCS	595	Graduate Seminar	1 hours.	Current developments in research with presentations by faculty, students, and visitors. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematical Computer Science	MCS	596	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.
Mathematical Computer	MCS	597	MISI Master's Project	2 TO 4 hours.	Specialized project under close faculty supervision to satisfy the project requirement for the M.S. in Mathematics and Information Science for Industry degree. Satisfactory/Unsatisfactory grading

Science					only. May be repeated to a maximum of 4 hours. Prerequisite(s): MCS 504 and approval of the department.
Mathematical Computer Science	MCS	598	Master's Thesis	0 TO 16 hours.	Research work under the supervision of a faculty member leading to the completion of a master's thesis. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the department.
Mathematical Computer Science	MCS	599	Thesis Research	0 TO 16 hours.	Research work under the supervision of a faculty member leading to the completion of a doctoral thesis. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

Mathematics - MATH

Mathematics	MATH	410	Advanced Calculus I	3 OR 4 hours.	Functions of several variables, differentials, theorems of partial differentiation. Calculus of vector fields, line and surface integrals, conservative fields, Stokes's and divergence theorems. Cartesian tensors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 210.
Mathematics	MATH	411	Advanced Calculus II	3 OR 4 hours.	Implicit and inverse function theorems, transformations, Jacobians. Point-set theory. Sequences, infinite series, convergence tests, uniform convergence. Improper integrals, gamma and beta functions, Laplace transform. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 410.
Mathematics	MATH	414	Analysis II	3 OR 4 hours.	Sequences and series of functions. Uniform convergence. Taylor's theorem. Topology of metric spaces, with emphasis on the real numbers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 313.
Mathematics	MATH	417	Complex Analysis with Applications	3 OR 4 hours.	Complex numbers, analytic functions, complex integration, Taylor and Laurent series, residue calculus, branch cuts, conformal mapping, argument principle, Rouche's theorem, Poisson integral formula, analytic continuation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade C or better in MATH 210.
Mathematics	MATH	419	Models in Applied Mathematics	3 OR 4 hours.	Introduction to mathematical modeling; scaling, graphical methods, optimization, computer simulation, stability, differential equation models, elementary numerical methods, applications in biology, chemistry, engineering and physics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 220 and grade of C or better in MCS 260.
Mathematics	MATH	425	Linear Algebra II	3 OR 4 hours.	Canonical forms of a linear transformation, inner product spaces, spectral theorem, principal axis theorem, quadratic forms, special topics such as linear programming. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 320.
Mathematics	MATH	430	Formal Logic I	3 OR 4 hours.	First order logic, syntax and semantics, completeness-incompleteness. 3 undergraduate hours. 4 graduate hours. Credit is not given for MATH 430 if the student has credit for PHIL 416. Prerequisite(s): Grade of C or better in CS 202 or grade of C or better in MCS 261 or grade of C or better in MATH 215.
Mathematics	MATH	431	Abstract Algebra II	3 OR 4 hours.	Further topics in abstract algebra: Sylow Theorems, Galois Theory, finitely generated modules over a principal ideal domain. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 320 and grade of C or better in MATH 330.
Mathematics	MATH	435	Foundations of Number Theory	3 OR 4 hours.	Primes, divisibility, congruences, Chinese remainder theorem, primitive roots, quadratic residues, quadratic reciprocity, and Jacobi symbols. The Euclidean algorithm and strategies of computer programming. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215.
Mathematics	MATH	436	Number Theory for Applications	3 OR 4 hours.	Primality testing methods of Lehmer, Rumely, Cohen-Lenstra, Atkin. Factorization methods of Gauss, Pollard, Shanks, Lenstra, and quadratic sieve. Computer algorithms involving libraries and nested subroutines. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 435.
Mathematics	MATH	442	Differential Geometry of Curves and Surfaces	3 OR 4 hours.	Frenet formulas, isoperimetric inequality, local theory of surfaces, Gaussian and mean curvature, geodesics, parallelism, and the Guass-Bonnet theorem. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 320.
Mathematics	MATH	445	Introduction to Topology I	3 OR 4 hours.	Elements of metric spaces and topological spaces including product and quotient spaces, compactness, connectedness, and completeness. Examples from Euclidean space and function spaces. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 313.
Mathematics	MATH	446	Introduction to Topology II	3 OR 4 hours.	Topics in topology chosen from the following: advanced point set topology, piecewise linear topology, fundamental group and knots, differential topology, applications to physics and biology. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 445.
Mathematics	MATH	480	Applied Differential Equations	3 OR 4 hours.	Linear first-order systems. Numerical methods. Nonlinear differential equations and stability. Introduction to partial differential equations. Sturm-Liouville theory. Boundary value problems and Green's functions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 220.
Mathematics	MATH	481	Applied Partial Differential Equations	3 OR 4 hours.	Initial value and boundary value problems for second order linear equations. Eiqenfunction expansions and Sturm-Liouville theory. Green's functions. Fourier transform. Characteristics. Laplace transform. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 220.
Mathematics	MATH	494	Special Topics in Mathematics	3 OR 4 hours.	Course content is announced prior to each term in which it is given. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	496	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.
Mathematics	MATH	502	Mathematical Logic	4 hours.	First order logic, completeness and incompleteness theorems, introduction to model theory and computability theory. Same as PHIL 562. Prerequisite(s): MATH 430 or consent of the instructor.

Mathematics	MATH	504	Set Theory	4 hours.	Naive and axiomatic set theory. Independence of the continuum hypothesis and the axiom of choice. Same as PHIL 565. Prerequisite(s): MATH 430 or MATH 502 or PHIL 562.
Mathematics	MATH	506	Model Theory I	4 hours.	Elementary embeddings, quantifier elimination, types, saturated and prime models, indiscernibles, Morley's Categoricity Theorem. Same as PHIL 567. Prerequisite(s): MATH 502 or PHIL 562.
Mathematics	MATH	507	Model Theory II	4 hours.	Stability theory: forking and indpendence, stable groups, geometric stability. Same as PHIL 568. Prerequisite(s): MATH 506 or PHIL 567.
Mathematics	MATH	511	Descriptive Set Theory	4 hours.	Polish spaces and Baire category; Borel, analytic and coanalytic sets; infinite games and determinacy; coanalytic ranks and scales; dichotomy theorems. Course information: Recommended background: MATH 445 or MATH 504 or MATH 533 or MATH 539.
Mathematics	MATH	512	Advanced Topics in Logic	4 hours.	Advanced topics in modern logic; e.g. large cardinals, infinitary logic, model theory of fields, o-minimality, Borel equivalence relations. Same as PHIL 569. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	514	Number Theory I	4 hours.	Introduction to classical, algebraic, and analytic, number theory. Euclid's algorithm, unique factorization, quadratic reciprocity, and Gauss sums, quadratic forms, real approximations, arithmetic functions, Diophantine equations.
Mathematics	MATH	515	Number Theory II	4 hours.	Introduction to classical, algebraic, and analytic number theory. Algebraic number fields, units, ideals, and P-adic theory. Riemann Zeta-function, Dirichlet's theorem, prime number theorem. Prerequisite(s): MATH 514.
Mathematics	MATH	516	Second Course in Abstract Algebra I	4 hours.	Structure of groups, Sylow theorems, solvable groups; structure of rings, polynomial rings, projective and injective modules, finitely generated modules over a PID. Prerequisite(s): MATH 330 and MATH 425.
Mathematics	MATH	517	Second Course in Abstract Algebra II	4 hours.	Rings and algebras, polynomials in several variables, power series rings, tensor products, field extensions, Galois theory, Wedderburn theorems. Prerequisite(s): MATH 516.
Mathematics	MATH	518	Representation Theory	4 hours.	Major areas of representation theory, including structure of group algebras, Wedderburn theorems, characters and orthogonality relations, idempotents and blocks. Prerequisite(s): MATH 517.
Mathematics	MATH	519	Algebraic Groups	4 hours.	Classical groups as examples; necessary results from algebraic geometry; structure and classification of semisimple algebraic groups. Prerequisite(s): MATH 517.
Mathematics	MATH	520	Commutative and Homological Algebra	4 hours.	Commutative rings; primary decomposition; integral closure; valuations; dimension theory; regular sequences; projective and injective dimension; chain complexes and homology; Ext and Tor; Koszul complex; homological study of regular rings. Prerequisite(s): MATH 516 and MATH 517; or consent of the instructor.
Mathematics	MATH	531	Advanced Topics in Algebra	4 hours.	Researchlevel topics such as groups and geometries, equivalencies of module categories, representations of Lie-type groups. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	533	Real Analysis I	4 hours.	Introduction to real analysis. Lebesgue measure and integration, differ entiation, L-p classes, abstract integration. Prerequisite(s): MATH 411 or MATH 414 or the equivalent.
Mathematics	MATH	534	Real Analysis II	4 hours.	Continuation of MATH 533. Prerequisite(s): MATH 417.
Mathematics	MATH	535	Complex Analysis I	4 hours.	Analytic functions as mappings. Cauchy theory. Power Series. Partial fractions. Infinite products. Prerequisite(s): MATH 411.
Mathematics	MATH	536	Complex Analysis II	4 hours.	Normal families, Riemann mapping theorem. Analytic continuation, Harmonic and subharmonic functions, Picard theorem, selected topics. Prerequisite(s): MATH 535.
Mathematics	MATH	537	Introduction to Harmonic Analysis I	4 hours.	Fourier transform on L(p) spaces, Wiener's Tauberian theorem, Hilbert transform, Paley Wiener theory. Prerequisite(s): MATH 533; and MATH 417 or MATH 535.
Mathematics	MATH	539	Functional Analysis I	4 hours.	Topological vector spaces, Hilbert spaces, Hahn-Banach theorem, open mapping, uniform boundedness principle, linear operators in a Banach space, compact operators. Prerequisite(s): MATH 533.
Mathematics	MATH	541	Partial Differential Equations I	4 hours.	Theory of distributions; fundamental solutions of the heat equation, wave equation, and Laplace equation. Harmonic functions. Cauchy problem for the wave equation. Prerequisite(s): MATH 417.
Mathematics	MATH	542	Partial Differential Equations II	4 hours.	Cauchy problem for hyperbolic equations. Propagation of singularities. Boundary value problems for elliptic equations. Prerequisite(s): MATH 541.
Mathematics	MATH	546	Advanced Topics in Analysis	4 hours.	Subject may vary from semester to semester. Topics include partial differential equations, several complex variables, harmonic analysis and ergodic theory. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	547	Algebraic Topology I	4 hours.	The fundamental group and its applications, covering spaces, classification of compact surfaces, introduction to homology, development of singular homology theory, applications of homology. Prerequisite(s): MATH 330 and MATH 445.
Mathematics	MATH	548	Algebraic Topology II	4 hours.	Cohomology theory, universal coefficient theorems, cohomology products and their applications, orientation and duality for manifolds, homotopy groups and fibrations, the Hurewicz theorem, selected topics. Prerequisite(s): MATH 547.

Mathematics	MATH	549	Differentiable Manifolds I	4 hours.	Smooth manifolds and maps, tangent and normal bundles, Sard's theorem and transversality, embedding, differential forms, Stokes's theorem, degree theory, vector fields. Prerequisite(s): MATH 445; and MATH 310 or MATH 320 or the equivalent.
Mathematics	MATH	550	Differentiable Manifolds II	4 hours.	Vector bundles and classifying spaces, lie groups and lie algbras, tensors, Hodge theory, Poincare duality. Topics from elliptic operators, Morse theory, cobordism theory, deRahm theory, characteristic classes. Prerequisite(s): MATH 549.
Mathematics	MATH	551	Riemannian Geometry	4 hours.	Riemannian metrics and Levi-Civita connections, geodesics and completeness, curvature, first and second variation of arc length, comparison theorems. Prerequisite(s): MATH 442 and MATH 549.
Mathematics	MATH	552	Algebraic Geometry I	4 hours.	Basic commutative algebra, affine and projective varieties, regular and rational maps, function fields, dimension and smoothness, projective curves, schemes, sheaves, and cohomology, posiive characteristic.
Mathematics	MATH	553	Algebraic Geometry II	4 hours.	Divisors and linear systems, differentials, Riemann-Roch theorem for curves, elliptic curves, geometry of curves and surfaces. Prerequisite(s): MATH 552.
Mathematics	MATH	554	Complex Manifolds I	4 hours.	Holomorphic functions in several variables, Riemann surfaces, Sheaf theory, vector bundles, Stein manifolds, Cartan theorem A and B, Grauert direct image theorem. Prerequisite(s): MATH 517 and MATH 535.
Mathematics	MATH	555	Complex Manifolds II	4 hours.	Dolbeault Cohomology, Serre duality, Hodge theory, Kadaira vanishing and embedding theorem, Lefschitz theorem, Complex Tori, Kahler manifolds. Prerequisite(s): MATH 517 and MATH 535.
Mathematics	MATH	568	Topics in Algebraic Topology	4 hours.	Homotopy groups and fibrations. The Serre spectral sequence and its applications. Classifying spaces of classical groups. Characteristic classes of vector bundles. May be repeated. Students may register in more than one section per term. Prerequisite(s): MATH 548 or consent of the instructor.
Mathematics	MATH	569	Advanced Topics in Geometric and Differential Topology	4 hours.	Topics from areas such as index theory, Lefschetz theory, cyclic theory, KK theory, non-commutative geometry, 3-manifold topology, hyperbolic manifolds, geometric group theory, and knot theory. Prerequisite(s): Approval of the department.
Mathematics	MATH	570	Advanced Topics in Differential Geometry	4 hours.	Subject may vary from semester to semester. Topics may include eigenvalues in Riemannian geometry, curvature and homology, partial differential relations, harmonic mappings between Riemannian manifolds hyperbolic geometry, arrangement of hyperplanes. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	571	Advanced Topics in Algebraic Geometry	4 hours.	Various topics such as algebraic curves, surfaces, higher dimensional geometry, singularities theory, moduli problems, vector bundles, intersection theory, arithematical algebraic geometry, and topologies of algebraic varieties. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	574	Applied Optimal Control	4 hours.	Introduction to optimal control theory; calculus of variations, maximum principle, dynamic programming, feedback control, linear systems with quadratic criteria, singular control, optimal filtering, stochastic control. Prerequisite(s): MATH 411 or consent of the instructor.
Mathematics	MATH	575	Integral Equations and Applications	4 hours.	Fredholm and Volterra equations, Fredholm determinants, separable and symmetric kernels, Neumann series, transform methods, Wiener-Hopf method, Cauchy kernels, nonlinear equations, perturbation methods. Prerequisite(s): MATH 411 and MATH 417 and MATH 481; or consent of instructor.
Mathematics	MATH	576	Classical Methods of Partial Differential Equations	4 hours.	First and second order equations, method of characteristics, weak solutions, distributions, wave, Laplace, Poisson, heat equations, energy methods, regularity problems, Green functions, maximum principles, Sobolev spaces, imbedding theorems. Prerequisite(s): MATH 410 and MATH 481 and MATH 533; or consent of instructor.
Mathematics	MATH	577	Advanced Partial Differential Equations	4 hours.	Linear elliptic theory, maximum principles, fixed point methods, semigroups and nonlinear dynamics, systems of conservation laws, shocks and waves, parabolic equations, bifurcation, nonlinear elliptic theory. Prerequisite(s): MATH 533 and MATH 576 or consent of the instructor.
Mathematics	MATH	578	Asymptotic Methods	4 hours.	Asymptotic series, Laplace's method, stationary phase, steepest descent method, Stokes phenomena, uniform expansions, multi-dimensional Laplace integrals, Euler-MacLaurin formula, irregular singular points, WKBJ method. Prerequisite(s): MATH 417 and MATH 481; or consent of instructor.
Mathematics	MATH	579	Singular Perturbations	4 hours.	Algebraic and transcendental equations, regular perturbation expansions of differential equations, matched asymptotic expansions, boundary layer theory, Poincare-Lindstedt, multiple scales, bifurcation theory, homogenization. Prerequisite(s): MATH 481 or consent of the instructor.
Mathematics	MATH	580	Mathematics of Fluid Mechanics	4 hours.	Development of concepts and techniques used in mathematical models of fluid motions. Euler and Navier Stokes equations. Vorticity and vortex motion. Waves and instabilities. Viscous fluids and boundary layers. Asymptotic methods. Prerequisite(s): Grade of C or better in MATH 410 and grade of C or better in MATH 417 and grade of C or better in MATH 481.
Mathematics	MATH	581	Special Topics in Fluid Mechanics	4 hours.	Geophysical fluids with applications to oceanography and meteorology, astrophysical fluids, magnetohydrodynamics and plasmas. Prerequisite(s): Grade of C or better in MATH 580.

Mathematics	MATH	582	Linear and Nonlinear Waves	4 hours.	Derivation and analysis of models for linear and nonlinear wave propagation, including acoustic, hydrodynamic, and eletromagnetic waves. Analytical techniques include exact formulas and asymptotic methods. Prerequisite(s): MATH 480 and MATH 481; or consent of the instructor.
Mathematics	MATH	583	Topics in Wave Propagation	4 hours.	Rigorous, asymptotic, and numerical analysis of mathematical models for linear and nonlinear waves. Techniques include inverse scattering, asymptotic analysis, and finite-difference and spectral methods. Prerequisite(s): MATH 480 and MATH 481; consent of the instructor.
Mathematics	MATH	584	Applied Stochastic Models	4 hours.	Applications of stochastic models in chemistry, physics, biology, queueing, filtering, and stochastic control, diffusion approximations, Brownian motion, stochastic calculus, stochastically perturbed dynamical systems, first passage times. Prerequisite(s): MATH 417 and MATH 481 and STAT 401, or consent of the instructor.
Mathematics	MATH	586	Computational Finance	4 hours.	Introduction to the mathematics of financial derivatives; options, asset price random walks, Black-Scholes model; partial differential techniques for option valuation, binomial models, numerical methods; exotic options, interest-rate derivatives. Prerequisite(s): Grade of C or better in MATH 220 and grade of C or better in STAT 381; or consent of the instructor.
Mathematics	MATH	587	Nonlinear Dynamics, Chaos and Applications	4 hours.	Introduction to nonlinear dynamics, bifurcations, chaotic dynamics, and strange attractors. Linear response to small external fluctuations. Related numerical methods. Prerequisite(s): Grade of C or better in MATH 480 and Grade of C or better in MCS 471; or consent of the instructor.
Mathematics	MATH	589	Teaching and Presentation of Mathematics	2 hours.	Strategies and techniques for effective teaching in college and for mathematical consulting. Observation and evaluation, classroom management, presenting mathematics in multidisciplinary research teams. Required for teaching assistants in MSCS. No graduation credit awarded for students enrolled in the Master of Science in the Teaching of Mathematics degree program.
Mathematics	MATH	590	Advanced Topics in Applied Mathematics	4 hours.	Topics from areas such as: elastic scattering, nonlinear problems in chemistry and physics, mathematical biology, stochastic optimal control, geophysical fluid dynamics, stability theory, queueing theory. Prerequisite(s): Approval of the department.
Mathematics	MATH	591	Seminar on Mathematics Curricula	4 hours.	Examination of research and reports on mathematics curricula. Analysis of research in teaching and learning mathematics. Developments in using technology in mathematics teaching. Prerequisite(s): Enrollment in the Doctor of Arts program in mathematics or consent of the instructor.
Mathematics	MATH	592	Seminar on Mathematics: Philosophy and Methodology	4 hours.	Problems related to teaching and learning mathematics. Analysis of work of Piaget, Gagne, Bruner, Ausabel, Freudenthal, and others and their relation to mathematics teaching. Prerequisite(s): Enrollment in the Doctor of Arts program in mathematics or consent of instructor.
Mathematics	MATH	593	Graduate Student Seminar	1 hours.	For graduate students who wish to receive credit for participating in a learning seminar whose weekly time commitment is not sufficient for a reading course. This seminar must be sponsored by a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	594	Internship in Mathematics	0 TO 8 hours.	Under the direction of a faculty adviser, students work in government or industry on problems related to their major field of interest. At the end of internship, the student must present a seminar on the internship experiences. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Only 4 credit hours count toward the 32 credit hours required for the M.S. in MISI degree. Does not count toward the 12 credit hours of 500-level courses requirement. Prerequisite(s): Completion of the core courses in the degree program in which the student is enrolled and approval of the internship program by the graduate adviser and the graduate studies committee.
Mathematics	MATH	595	Research Seminar	1 hours.	Current developments in research with presentations by faculty, students, and visitors. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Mathematics	MATH	596	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.
Mathematics	MATH	598	Master's Thesis	0 TO 16 hours.	Research work under the supervision of a faculty member leading to the completion of a master's thesis. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the department.
Mathematics	MATH	599	Thesis Research	0 TO 16 hours.	Research work under the supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

Mathematics Teaching - MTHT

Mathematics Teaching	MTHT	400	Methods of Teaching Secondary Mathematics I	3 OR 4 hours.	Philosophies, issues, techniques, and styles of teaching high school mathematics. Implications of psychological models. Mathematics in the evolving curriculum. Preparation of lessons. 3 undergraduate hours. 4 graduate hours. To be taken in the year prior to student teaching. Prerequisite(s): Grade of C or better in MTHT 410, enrollment in B.S. or M.S. in the Teaching of Mathematics program in Secondary Mathematics Education, and a 2.50 grade point average in mathematics courses at the level of calculus or above.
Mathematics Teaching	MTHT	401	Methods of Teaching Secondary Mathematics II	3 OR 4 hours.	Philosophies, issues, techniques and styles of teaching high school mathematics. Preparation of diverse lessons. Supervised teaching experience. 3 undergraduate hours. 4 graduate hours. To be taken in year prior to student teaching. Prerequisite(s): Grade of C or better in MATH 210 and enrollment in the B.S. or M.S. in the Teaching of Mathematics program in Secondary Mathematics Education; and a 2.50 grade point average in mathematics courses at the level of calculus or above.
Mathematics Teaching	MTHT	411	Advanced Euclidean Geometry	3 OR 4 hours.	Axioms for Euclidean geometry are developed based upon reflections. Further concepts in Euclidean geometry which arise from these axioms are explored. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215.
Mathematics Teaching	MTHT	420	Computers in Secondary School Mathematics	3 OR 4 hours.	An overview of techniques, topics and tools for teaching secondary level mathematics using computers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 210.
Mathematics Teaching	MTHT	430	Mathematical Analysis for Teachers I	3 OR 4 hours.	Basic properties of numbers, functions, graphs, limits, differentiation, continuity, completeness of the system of real numbers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 210 and Grade of C or better in MATH 215.
Mathematics Teaching	MTHT	435	Abstract Algebra	3 OR 4 hours.	Sets, properties of integers, groups, rings, fields. Focus on concepts applicable to high school teaching. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 210 and MATH 215.
Mathematics Teaching	MTHT	438	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): 2.50 grade point average in mathematics courses at the level of calculus or above, successful completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Mathematics Teaching	MTHT	439	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Credit or concurrent registration in MTHT 438; and approval of the department and a 2.50 grade point average in mathematics courses at the level of calculus or above and successful completion of 100 clock hours of pre-student teaching field experiences.
Mathematics Teaching	MTHT	450	Concepts and Methods in Elementary and Middle School Mathematics I	3 OR 4 hours.	Advanced analysis of concept development and teaching methods. Sorting, classifying, counting, number tracks, addition, subtraction, group, place value, length, area and alternative teaching strategies. 3 undergraduate hours. 4 graduate hours. For elementary school teachers. Prerequisite(s): Graduate standing and admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.
Mathematics Teaching	MTHT	460	Geometric Measurement and Numerical Methods	3 OR 4 hours.	Classical problems of length, area and volume, including numerical trigonometry, are explored using a scientific calculator. 3 undergraduate hours. 4 graduate hours. Do not purchase a calculator for the course until after the first day of class. Prerequisite(s): Admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.
Mathematics Teaching	MTHT	465	Teaching Algebra for Understanding	3 OR 4 hours.	Manipulatives and other representations of mathematical concepts used for teaching algebra to middle grade students. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.
Mathematics Teaching	MTHT	466	Introduction to Calculus and the Graphing Calculator	4 hours.	Problem solving using derivatives, differentials, and their applications followed by integrals and their applications. Maximumminimum problems solved directly by graphing, then by derivatives. Prerequisite(s): Admission to the Mathematics Education Concentrators Program or consent of the instructor.
Mathematics Teaching	MTHT	467	Introduction to Number Theory with Application	4 hours.	Classical topics of elementary number theory and how they pertain to teaching the upper grades. Primes, GCF, LCM, divisibility, floor and ceiling functions, Gaussian Residue, lattices. Prerequisite(s): Admission to the Mathematics Education Concentrators Program or consent of the instructor.
Mathematics Teaching	MTHT	468	Geometry with Applications for Middle Grade Teachers	4 hours.	Plane and solid figures and their properties. Polygons and polyhedra. Euler's formula. Volume versus surface area. Spacial visualization; two dimensional representations of three dimensional figures. Prerequisite(s): Admission to the Mathematics Education Concentrators Program or consent of the instructor.
Mathematics Teaching	MTHT	470	Teaching Mathematics with Science: An Activity Approach I	3 OR 4 hours.	Introduction to basic variables (length, area, volume, mass, time) and the Scientific Method (picture, table, graph, questions). Extensive use of TIMS project curriculum. 3 undergraduate hours. 4 graduate hours. For elementary school teachers. Prerequisite(s): Admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of

					the instructor.
Mathematics Teaching	MTHT	480	Microcomputers in Elementary School Mathematics I	3 OR 4 hours.	Introduction to microcomputers and their use in elementary school mathematics. Basic microcomputer functions, educational software programs, pedagogical and curricular implications, and implementation questions. 3 undergraduate hours. 4 graduate hours. For elementary school teachers. Prerequisite(s): Admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.
Mathematics Teaching	MTHT	490	Topics in Teaching Secondary Mathematics	1 TO 5 hours.	Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Prerequisites may vary according to topic.
Mathematics Teaching	MTHT	491	Topics in Teaching Elementary/Junior High School Mathematics	1 TO 5 hours.	Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Prerequisites may vary according to topic.
Mathematics Teaching	MTHT	496	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.
Mathematics Teaching	MTHT	510	Introduction to Higher Geometry	4 hours.	Projective geometry, as an extension of Euclidean geometry, treated synthetically and/or algebraically. Desargues' and Pappus' theorems, subgeometries, conics and the underlying skew field. For graduate students in mathematics teacher education programs. Other students enroll in MATH 440. Prerequisite(s): Grade of C or better in MATH 330.
Mathematics Teaching	MTHT	530	Mathematical Analysis for Teachers II	4 hours.	Derivatives, inverse functions, Riemann integral, trigonometric functions, logarithmic and exponential functions. Prerequisite(s): Grade of C or better in MTHT 430 or consent of the instructor.
Mathematics Teaching	MTHT	550	Concepts and Methods in Elementary and Middle School Mathematics II	4 hours.	Methods of teaching middle school mathematics: concept development; focus on classroom materials to promote learning. Area, volume, rational numbers, decimals, function machines. Prerequisite(s): MTHT 450 or consent of the instructor.
Mathematics Teaching	MTHT	560	Introduction to Analytic Geometry and Calculus	4 hours.	Programmable calculators used to investigate ideas and applications of analytic geometry, differential and integral calculus. Examples and ideas relevant to elementary mathematics and science curicula. For elementary school teachers. Do not purchase a calculator until after the first day of class. Prerequisite(s): MTHT 460 or consent of the instructor.
Mathematics Teaching	MTHT	565	Teaching Geometry: An Activity Approach	4 hours.	Informal geometry using manipulatives, elementary topological concepts, polygons, polyhedra, metric geometry, motion geometry, geometric constructions, spherical geometry, introduction to research on the learning of geometry. For elementary school teachers. Prerequisite(s): Enrollment in the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.
Mathematics Teaching	MTHT	575	Principles of Probability and Statistics	4 hours.	Probability, descriptive and inferential statistics, implications for teaching. Emphasis on collection and analysis of data, classroom activities and software. For elementary school teachers. Prerequisite(s): Admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) or approval of the department.
Mathematics Teaching	MTHT	589	Practicum in Teaching Elementary School Mathematics	4 hours.	Culminating experience for students in the M.S. in the Teaching of Mathematics (Option for Elementary School Teachers). Major project is required. Supervised weekly seminars. Prerequisite(s): Admission to the M.S. in the Teaching of Mathematics program (Option for Elementary School Teachers) and consent of the instructor.
Mathematics Teaching	MTHT	590	Topics in Teaching Secondary Mathematics	1 TO 5 hours.	Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Prerequisite may vary according to topic.
Mathematics Teaching	MTHT	591	Topics in Teaching Elementary/Junior High School Mathematics	1 TO 5 hours.	Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Prerequisite may vary according to topic.
Mathematics Teaching	MTHT	592	Topics in Advanced Mathematics for Teachers	1 TO 5 hours.	Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. For students in the M.S. in the Teaching of Mathematics program. Prerequisite(s): Prerequisite may vary according to topic.
Mathematics Teaching	MTHT	596	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.

Mechanical Engineering - ME

Mechanical Engineering	ME	401	Applied Stress Analysis I	3 OR 4 hours.	Complex bending and torsion, curved flexural members, energy methods in design, theories of failure. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 203.
Mechanical Engineering	ME	408	Intermediate Vibration Theory	3 OR 4 hours.	Free and forced vibrations of multi-degree of freedom linear systems. Lagrangian dynamics, matrix, approximate and numerical methods. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.
Mechanical Engineering	ME	409	Advanced Kinematics I	3 OR 4 hours.	Kinematic synthesis of planar linkages. Higher-order, precision point and approximate synthesis. Unified treatment of position, function, and path-angle problems. Consideration of branching and rotatability. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 320.
Mechanical Engineering	ME	410	Automation and Robotics Applications	3 OR 4 hours.	Basic pneumatic and hydraulic systems. Design of sequential control circuits and ladder diagrams. Robot kinematics and dynamics. Robot design. Trajectory planning. Applications and demonstrations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 210.
Mechanical Engineering	ME	411	Mechatronics I	0 TO 4 hours.	Elements of mechatronic systems, sensors, actuators, microcontrollers, modeling, hardware in the loop simulations, real time software, Electromechanical systems laboratory experiments. Same as IE 411. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Senior standing or above; or approval of the department.
Mechanical Engineering	ME	412	Dynamic Systems Analysis I	3 OR 4 hours.	Classical control theory, concept of feedback, laplace transform, transfer functions, control system characteristics, root locus, frequency response, compensator design. Same as IE 412. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.
Mechanical Engineering	ME	413	Dynamics of Mechanical Systems	3 OR 4 hours.	Degrees of freedom, generalized coordinates, principle of virtual work. D'Alembert's Principle, Lagrange's Equation, Hamilton's Principle. Equations of motion and Newton-Euler equations for rigid bodies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 320.
Mechanical Engineering	ME	414	Theory of Gearing and Applications	3 OR 4 hours.	Classification of gear drives. Geometry of plane and spatial gears. Analysis and synthesis of gears with approximate meshing. Applications to spur, helical, worm and bevel gear drives. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 320.
Mechanical Engineering	ME	415	Propulsion Theory	3 OR 4 hours.	Thermodynamics and fluid mechanics of air-breathing engines, performance of rockets; chemical and nuclear rockets. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 419 or the equivalent.
Mechanical Engineering	ME	417	Intermediate Fluid Mechanics	3 OR 4 hours.	Development of conservation equations for Newtonian-fluids; continuity, Navier-Stokes and energy equations. Some exact and approximate solutions of highly viscous, viscous and inviscid flows. Boundary layer flows, jets and wakes. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.
Mechanical Engineering	ME	418	Transport Phenomena in Nanotechnology	3 OR 4 hours.	Free surface flows, rheologically complex liquids, colloidal suspensions, emulsions, Brownian motion, flows in micro- and nanochannels, and multiple applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 325 and ME 211.
Mechanical Engineering	ME	419	Compressible Flow Theory	3 OR 4 hours.	Conservation laws, one-dimensional flows. Normal and oblique shock waves, Prandtl-Meyer expansion, flow over airfoils. Applications to nozzles, shock-tubes, wind-tunnels. Flow with friction and heat addition or loss. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.
Mechanical Engineering	ME	421	Intermediate Heat Transfer	3 OR 4 hours.	Topics in conduction, convection and radiation with emphasis on exact solutions: extended surfaces, internal and external flows, surface radiation, combined modes of heat transfer and selected topics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321 or consent of the instructor.
Mechanical Engineering	ME	422	Heating, Ventilation and Air Conditioning	3 OR 4 hours.	Refrigeration systems and heat-pump, mass transfer in humidification, solar heat transfer in buildings, heating and cooling loads, air-conditioning computer project. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.
Mechanical Engineering	ME	423	Heat Exchangers	3 OR 4 hours.	Classification; heat transfer and pressure drop analysis, flow distribution, transient performance, surface selection and geometrical properties, codes and standards. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 211 and ME 321.
Mechanical Engineering	ME	424	Energy Management Solutions for Industry: Theory and Practice	3 OR 4 hours.	Emphasis on real world applications including: understanding utility billing and identifying costs; identifying and quantifying energy savings opportunities at industrial facilities; determining investment payback scenarios and considerations. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Field work required. Extensive use of Microsoft Excel. Prerequisite(s): Junior standing or above.
Mechanical Engineering	ME	425	Second Law Analysis in Energy Engineering	3 OR 4 hours.	Fundamentals: lost available work. Entropy generation minimization, optimal thermal design of: heat transfer augmentation devices, thermal energy storage, cryogenics, heat exchangers, thermal insulations, solar collectors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.
Mechanical Engineering	ME	426	Applied Combustion	3 OR 4 hours.	Topics in combustion, providing both a theoretical and applied understanding of combustion processes as they relate to furnaces. Internal and external combustion engines; pollutant formation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 325.
Mechanical Engineering	ME	427	Solar Engineering	3 OR 4 hours.	Applications; solar geometry and intensities; applied heat transfer topics; flat plate and concentrating collectors; energy storage; analysis of heating and cooling systems. 3

					undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321 or consent of the instructor.
Mechanical Engineering	ME	428	Numerical Methods in Mechanical Engineering	3 OR 4 hours.	Introduction to numerical solution methods for problems in mechanical engineering. Example problems include heat transfer, fluid mechanics, thermodynamics, mechanical vibrations, dynamics, stress analysis, and other related problems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 108 and senior standing.
Mechanical Engineering	ME	429	Internal Combustion Engines	3 OR 4 hours.	Introduction to engine types, characteristics and performance. Combustion processes in spark and compression ignition engines; combustion abnormalities. Analysis of intake, exhaust and fuel system. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 325.
Mechanical Engineering	ME	433	Non-Equilibrium Thermal Processes	3 OR 4 hours.	Molecular engineering. Non-equilibrium statistical mechanics. Distribution functions. Molecular excitation and de-excitation. Ionization and dissociation. Laser engineering. Non-equilibrium chemical kinetics. Surface processes. Chemisorption and physosorption. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 325 or consent of the instructor.
Mechanical Engineering	ME	441	Optical Methods in Mechanical Engineering	0 TO 4 hours.	Optical measurement techniques in solid mechanics and thermal-fluid engineering. Fundamentals of optics. Use of holography, interferometry, LDV, lasers, light scattering, diffraction, and other relevant techniques. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing or consent of the instructor.
Mechanical Engineering	ME	444	Interdisciplinary Product Development I	3 OR 4 hours.	Cross-functional teams (w/students from AD 420/423 and MKTG 594) research and develop new product concepts. Focus on the identification of technologically appropriate product design problems. Same as IE 444. 3 undergraduate hours. 4 graduate hours. Year-long (with IE/ME 445) project course. Prerequisite(s): Senior standing or above; and consent of the instructor.
Mechanical Engineering	ME	445	Interdisciplinary Product Development 2	4 hours.	Cross-functional teams (w/students from AD 420 and MKTG 594) research and develop new product concepts. Focus on solutions to the opportunities identified in IE/ME 444 to functional prototypes. Serves as a replacement for IE/ME 396. Same as IE 445. Year-long (with IE/ME 444) project course. Prerequisite(s): IE 444 or ME 444; and senior standing or above; and consent of the instructor.
Mechanical Engineering	ME	447	Computer-Aided Design	0 TO 4 hours.	Conventional and computer-assisted methods in design. Geometry manipulation. Computer-aided modeling with curves, surfaces, and solids. Design with finite-element analysis. PRO/Engineer, PRO/Mechanica, ABAQUS, ANSYS. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 220 and CME 203 and ME 250; or consent of the instructor.
Mechanical Engineering	ME	449	Microdevices and Micromachining Technology	0 TO 5 hours.	Microfabrication techniques for microsensors, microstructures, and microdevices. Selected examples of physical/chemical sensors and actuators. Simulation experiments. Same as ECE 449. 4 undergraduate hours. 5 graduate hours. Laboratory. Prerequisite(s): ECE 347; or consent of the instructor.
Mechanical Engineering	ME	450	Air Pollution Engineering	4 hours.	Environmental aspects of combustion processes, pollutant formation. Control of pollutants and particulates. Air quality control. Fundamentals of combustion. Same as CHE 450. Prerequisite(s): ME 321 or consent of the instructor.
Mechanical Engineering	ME	464	Virtual Automation	0 TO 4 hours.	Fundamentals of manufacturing and automation modeling using CAD/CAM and computer-integrated manufacturing methods; concepts of virtual manufacturing; industrial robots and automated factory models within virtual environments. Same as IE 464. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 107 or CS 108.
Mechanical Engineering	ME	468	Virtual Manufacturing	3 OR 4 hours.	Virtual reality applications in manufacturing systems design, manufacturing applications of networked virtual reality, virtual reality modeling of occupational safety engineering. Same as IE 468. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 107 or CS 108.
Mechanical Engineering	ME	494	Special Topics in Mechanical Engineering	3 OR 4 hours.	Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): Consent of the instructor.
Mechanical Engineering	ME	499	Professional Development Seminar	0 hours.	Students are provided general information about their role as UIC Mechanical Engineering alumni in society and the role of the University in their future careers. Students provide evaluations of their educational experience in the MIE department. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to seniors; and approval of the department .Must be taken in the student's last semester of study.
Mechanical Engineering	ME	501	Advanced Thermodynamics	4 hours.	Thermodynamic laws of closed and open systems; exergy destruction; property relations, single phase systems, Gibbs-Duhem relations, multiphase systems, equilibrium; engineering applications. Prerequisite(s): ME 325.
Mechanical Engineering	ME	502	Applied Stress Analysis II	4 hours.	Concepts from theory of elasticity, stress-raisers such as notches and holes, mechanical behavior of materials including yielding and fractures, thick-walled cylinders and rotating disks, thermal stresses, and plastic behavior. Prerequisite(s): ME 401.
Mechanical Engineering	ME	504	Computer Aided Analysis of Multibody Systems I	4 hours.	Kinematics, dynamics, analysis of flexible mechanisms. Constrained mechanical systems with flexible components. Numerical methods. Computer-Aided Analysis. Applications. Prerequisite(s): ME 413 or consent of the instructor.
Mechanical Engineering	ME	505	Computer Aided Analysis of Multibody Systems II	4 hours.	Large scale deformable bodies. Finite element method. Constrained motion of interconnected rigid and deformable bodies. Coordinate reduction. Computational methods. Applications. Prerequisite(s): ME 504.
Mechanical Engineering	ME	508	Engineering Acoustics	4 hours.	Fundamentals of acoustic energy generation, radiation and transmission (both aerodynamically and structurally). Theoretical, experimental and numerical techniques. Applications spanning from

					1-D plane waves to more complex 3-D problems. Prerequisite(s): ME 408 or CME 435; or approval of the department.
Mechanical Engineering	ME	509	Advanced Kinematics II	4 hours.	Spatial transformation and displacements. Design for bodyguidance; applications to function-generators. Analyses utilizing various operators for closure; dualization; branching, rotatability; differential kinematics; numerical solutions. Prerequisite(s): ME 409.
Mechanical Engineering	ME	510	Robotic Manipulators	4 hours.	Description of robotic manipulator; gripper trajectory execution; manipulator design, degree-of-freedom, mobility, workspace, special link positions; static and dynamic force transmission. Prerequisite(s): ME 409 or ME 410 or ME 413; or consent of the instructor.
Mechanical Engineering	ME	511	Mechatronics II	4 hours.	Microcontrollers used in electro-mechanical systems for measurement and control purposes, interface hardware, real time software and development tools, applications in robotic motion control and factory automation. Same as IE 511. Prerequisite(s): ME 411 and consent of the instructor.
Mechanical Engineering	ME	512	Automatic Control of Mechanical Systems	4 hours.	Modeling and analysis of mechanical systems. Performance specification and evaluation. Modern control system design and analysis techniques. Real-time computer control of engines, manufacturing processes, biomechanical systems. Prerequisite(s): ME 412 or consent of the instructor.
Mechanical Engineering	ME	514	Mechanics of Viscous Fluids	4 hours.	Fundamentals of fluid mechanics. Streamline and vorticity. Boundary layer analysis. Similarity solutions, integral methods, and other techniques for treating laminar and turbulent flows. Prerequisite(s): ME 417.
Mechanical Engineering	ME	518	Fundamentals of Turbulence	4 hours.	Mathematical description of turbulence field; kinematics of homogeneous turbulence; correlation and spectrum tensor, dynamic behavior of isotropic turbulence, universal equilibrium theory; nonisotropic turbulence. Prerequisite(s): ME 417.
Mechanical Engineering	ME	521	Heat Conduction	4 hours.	Analysis of heat transfer in solids including separation of variables, superpositions, Du Hamel's theorem, integral transforms, similarity transformations, and approximate methods. Prerequisite(s): ME 321 or consent of the instructor.
Mechanical Engineering	ME	522	Convective Heat Transfer	4 hours.	Conservation equations. Momentum heat and mass transfer in laminar and turbulent boundary layers. Internal and external flows and heat transfer. Heat transfer with phase change. Special topics in convective heat transfer. Prerequisite(s): ME 321 or consent of the instructor.
Mechanical Engineering	ME	524	Thermal Radiation	4 hours.	Fundamentals of radiative transfer; energy exchange between surfaces and in enclosures; radiative transfer in the presence of an attenuating medium; combined radiation, conduction, convection problems. Prerequisite(s): ME 421 or consent of the instructor.
Mechanical Engineering	ME	525	Boiling Heat Transfer and Two-Phase Flow	4 hours.	Homogeneous and separated two-phase flow models for pressure drop and heat transfer. Pool boiling, nucleation and bubble dynamics, stability, condensation and engineering application problems. Prerequisite(s): ME 421.
Mechanical Engineering	ME	528	Numerical Heat Transfer	4 hours.	Numerical methods for solving conduction, convection and radiation problems in heat transfer. Iterative methods with shooting; local nonsimilarity methods perturbation methods; finite difference methods; grid generation. Prerequisite(s): CS 108 and ME 421 or consent of instructor.
Mechanical Engineering	ME	529	Advanced Internal Combustion Engines	4 hours.	Fundamentals of internal combustion engines. Combustion in homogeneous charged and compression ignition engines. Emission formation. Effect of design and operating variables, control, and instrumentation. Prerequisite(s): ME 426 or ME 429.
Mechanical Engineering	ME	531	Thermophysics of Gas Flows	4 hours.	Kinetic theory of gases. Transport properties, quantum mechanical analysis of atomic and molecular structures, atomic scale collision phenomena, propogation, emission, and absorption of radiation.
Mechanical Engineering	ME	533	Plasma Engineering	4 hours.	Plasma-assisted applications. Kinetic theory of non-equilibrium processes. Plasma dynamics. Elementary processes-collisions. Diffusion and transport. Chemical reactions and surface treatment. Particle and energy balance in plasmas. Prerequisite(s): ME 433 or consent of the instructor.
Mechanical Engineering	ME	534	Finite Element Analysis II	4 hours.	Application of the finite element method to the analysis of complex continuum and structural linear systems. Introduction to error analysis and convergence of the finite element solutions. Same as CME 534. Prerequisite(s): CME 434.
Mechanical Engineering	ME	535	Theory of Vibrations II	4 hours.	Harmonic vibrations; vibrations of a string; vibrations of a beam; vibrations of a membrane; periodic systems; floquet waves; nonlinear vibrations. Same as CME 535. Prerequisite(s): CME 435 or ME 408 or the equivalent.
Mechanical Engineering	ME	536	Chemically Reacting Flows	4 hours.	Nonequilibrium states; chemical thermodynamics and kinetics. Multicomponent contiuum equations for flow of nonequilibrium fluids. Inversed nonequilibrium flows. Boundary layer flows with surface and gas-phase reactions. Frozen and equilibrium criteria. Waves in relaxing media. Prerequisite(s): ME 516; and ME 514 or ME 522.
Mechanical Engineering	ME	540	Design, Modeling, and Fabrication of Microsystems	4 hours.	MEMS design approach, materials and mechanical properties, scaling laws, transduction methods, microfabrication techniques, modeling and simulation strategies, dynamics, domain-specific details-structures, fluids, dissipation, and system issues. Prerequisite(s): Consent of the instructor.
Mechanical Engineering	ME	541	Microelectronic Fabrication Techniques	4 hours.	Current fabrication techniques of microelectronic technology; plasma and CVD processes; etching techniques; ion implantation; surface analytical methods. Same as ECE 541. Prerequisite(s): ECE 347 or ECE 449.

Mechanical Engineering	ME	542	Advanced Computational Methods for Product and Process Design	4 hours.	Deterministic and statistical methods for modeling and optimizing engineering systems, in the broad context of product design, manufacturing process development, and designing for life cycle issues. Same as IE 542. Prerequisite(s): Programming language experience.
Mechanical Engineering	ME	547	Advanced Concepts in Computer-Aided Engineering	4 hours.	Useful concepts in motion simulation of complex rigid multibody systems. Interactive computer solutions. Recursive formulation of kinematical and dynamical equations of open and constrained multibody systems. Prerequisite(s): ME 413 and ME 447.
Mechanical Engineering	ME	548	Advanced Computer Aided Manufacturing	4 hours.	Analysis and design of computer-integrated systems for process planning, production planning and control of discrete part manufacturing activities. Prerequisite(s): ME 447.
Mechanical Engineering	ME	550	Dynamics of Floating Offshore Structures	4 hours.	Covers environmental loads and dynamics of floating structures in fluid. Same as CME 550. Prerequisite(s): ME 210 and CME 211 and ME 211 and MATH 220; or consent of the instructor.
Mechanical Engineering	ME	569	Advanced Virtual Manufacturing	4 hours.	Manufacturing systems design optimization using virtual environments, optimization of manufacturing decision support using virtual reality interfaces, analysis and evaluation of virtual environments. Same as IE 569. Prerequisite(s): Consent of the instructor.
Mechanical Engineering	ME	594	Current Topics in Mechanical Engineering	4 hours.	Particular topics vary from term to term depending on the interests of the students and the specialties of the instructor. May be repeated. Prerequisite(s): Consent of the instructor.
Mechanical Engineering	ME	595	Mechanical Engineering Seminar	0 hours.	Advances in mechanical engineering research will be discussed in a seminar setting. Satisfactory/Unsatisfactory grading only. Must be taken every semester by all registered MS and PhD students in Mechnical Engineering. Prerequisite(s): Graduate standing in mechanical engineering.
Mechanical Engineering	ME	596	Independent Study	1 TO 4 hours.	Individual study under close supervision of a faculty member. May be repeated to a maximum of 4 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Mechanical Engineering	ME	598	M.S. Thesis Research	0 TO 16 hours.	Individual research in specialized problems under close faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Mechanical Engineering	ME	599	Ph.D. Thesis Research	0 TO 16 hours.	Individual research on specialized problems under close faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Medical Biotechnology - MBT

Medical Biotechnology	MBT	500	DNA and Proteins	3 hours.	DNA Replication, transcription, translation and post-translational modifications. Genome structure. Viruses. Bioinformatics and microarrays. Protein structure. Enzyme mechanisms. Biochemical pathways, and regulation of biochemical pathways. Recommended background: Basic undergraduate general and organic chemistry, biology, physics, and math.
Medical Biotechnology	MBT	501	Cell Biology	2 hours.	Cellular membranes structure and transport, protein localization and vesicular transport, cell signaling, cell adhesion, junction and cell-matrix attachment, stem cells and tissue renewals, cell cycle control, apoptosis, and cancer. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford. Recommended background: Basic undergraduate general and organic chemistry, and basic (general) biology.
Medical Biotechnology	MBT	502	Immunotechnology, Microbiology and Cellular Therapy	3 hours.	Covers antibody production principals, clinical uses of antibodies, fermentation and bioremediation and protein production principals, cellular and stem cell therapies, bioterrorism control, containment and eradication. Prerequisite(s): MBT 500 and MBT 501.
Medical Biotechnology	MBT	503	Pharmacology, Toxicology and Clinical Trials	3 hours.	Basic pharmacology, drug-receptor interactions. Basic toxicology. Drug development cycle (Preclinical work, Phase I, II, III). Design, implementation and evaluation of clinical trials. IRB issues. Ethical conduct of clinical trials. Prerequisite(s): MBT 500 and MBT 501.
Medical Biotechnology	MBT	504	Principles and Techniques in Protein Biochemistry	3 hours.	Protein structure and structure/function relationships, protein expression, purification and characterization, chemical analysis and modification of proteins, identifications of protein interactions and protein chips. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	505	Principles and Techniques in Molecular Biology	3 hours.	Includes underlying theory of molecular biology and its applications. Laboratory sessions will provide hands on experience in molecular biology techniques. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	506	Principles and Techniques in Immunology	3 hours.	Principles and methodologies involved in antigen preparation and presentation, antibody production and purification, isolation and immortalization of immune cells, immunohistochemical analyses and assays for complements and cytokines. Animals used in instruction. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	510	Ethics in Medical Biotechnology	2 hours.	Rationale for making ethical decisions, review of existing guidelines, considerations of the use of adult and embryonic stem cells, ethical issues on animal research, conflict of interest and misconduct in research and business. Prerequisite(s): MBT 500 and MBT 501 and MBT 502 and MBT 503; or consent of the instructor.
Medical Biotechnology	MBT	511	Statistics for Biotechnology Research	3 hours.	Reinforce an understanding of basic statistical concepts and provide basic skills in creating, manipulating, and analyzing datasets using commonly available software such as SPSS, Excel, and Minitab. Credit is not given for MBT 511 if the student has credit for BSTT 400 or NUSC 525. Extensive computer use required. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford. Recommended background: Basic undergraduate statistics.
Medical Biotechnology	MBT	513	Research Planning, Design and Execution	1 hours.	Presentation of the basics of planning, designing and executing a research plan. Students prepare a project plan and defend the plan to a faculty panel and peers. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 2 hours.
Medical Biotechnology	MBT	520	Biotechnology Product Development: Concepts, Practice and Regulatory Issues	2 hours.	Product development and commercialization processes. Product life cycles, program management basics. Intellectual property. Regulatory affairs issues: GLP, product registration, GMP, documentation, validation, FDA inspections. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	521	Techniques and Processes in Biotechnology	3 hours.	Preparation and isolation of antibodies, basics of cell culture, recombinant DNA techniques, techniques of protein production and engineering and examples of cloning. Basics of GLP and practical experience in applications of GLP. Prerequisite(s): MBT 500 and MBT 501. Course Schedule Information: To be properly registered, students must enroll in one Discussion and one Laboratory.
Medical Biotechnology	MBT	522	Applied Medical Biotechnology	2 hours.	The principles and methodologies used in commercial lab assays will be analyzed and their strengths and weaknesses discussed. An array of hospital/clinical techniques will be reviewed via lecture/demonstration in typical application venue. Prerequisite(s): MBT 500 and MBT 501 and MBT 520.
Medical Biotechnology	MBT	523	Biotechnology Engineering	2 hours.	Engineering aspects of large-scale cell culture: methodologies, types of production equipment, process sensing and control, harvesting, separation and purification. Sterilization, aseptic processing, filling and finishing steps. QA/QC. Field trips required. Prerequisite(s): Completion of the first year of the M.S. in Medical Biotechnology program.
Medical Biotechnology	MBT	524	Applied Microbiology	2 hours.	Review of the basic elements of microbiology; laboratory training in culturing and identification of microbes; antibiotic susceptibility testing and applications of microbiology in biotechnology

					and pharmaceutical industry. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	525	Drug Design and Discovery	1 hours.	Lead substances, molecular recognition, bioinformatics and combinatorial chemistry in drug design. Enzymes / receptors as design targets, screening of natural products, high throughput assays and preclinical studies. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	526	Safety Assessment of Drugs and Devices	1 hours.	Course will focus on the technical processes and legal requirements of pre - clinical safety assessment of drugs and devices with some discussion of clinical assessment practices. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	527	Design and Execution of Clinical Trials	1 hours.	Presentation of basic concepts of clinical trials: " the question", the study population, basic study design, randomness, blindedness, sample sizing, baseline assessment, data collection and QC.Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	528	Basic Bioinformatics	2 hours.	Introduction to bioinformatics covering biological databases, gene prediction, sequence alignment, phylogenetic analysis, structural bioinformatics, genomics, functional genomics and proteomics. Extensive computer use required. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	530	Recombinant DNA Technology	3 hours.	Covers the various tools and techniques required for creating a recombinant DNA molecule, transforming host cell and to check the expression of recombinant DNA. Course information: Prerequisite(s):Graduate standing in the Master of Science in Medical Biotechnology Program or approval of the Department of Biomedical Sciences, College of Medicine - Rockford. Class schedule information: To be properly registered, students must enroll in one Lecture and one Laboratory.
Medical Biotechnology	MBT	591	Departmental Seminar in Medical Biotechnology	1 TO 4 hours.	Lecture series by invited speaker or advanced students with lectures on topics of current or developing interest in medical biotechnology. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department.
Medical Biotechnology	MBT	592	Internship in Medical Biotechnology	0 TO 8 hours.	Supervised internship in a laboratory or industrial setting. Credit is contingent on the submission of a final report and oral presentation. Course information: Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Internship placement must be approved by the Medical Biotechnology program. Prerequisite(s): Graduate standing in the Medical Biotechnology program and approval of the Department of Biomedical Sciences at COM - Rockford.
Medical Biotechnology	MBT	594	Special Topics in Medical Biotechnology	1 TO 4 hours.	Lectures and demonstrations of new topics of significance in medical biotechnology that are not covered in existing courses. May be repeated. Prerequisite(s): Consent of the instructor.
Medical Biotechnology	MBT	595	Student Seminar in Medical Biotechnology	1 TO 2 hours.	Students are taught how to write and present literature research/review papers on topics directly related to medical biotechnology. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in Medical Biotechnology program or approval of the Department of Biomedical Sciences at College of Medicine - Rockford.
Medical Biotechnology	MBT	596	Independent Study in Medical Biotechnology	1 TO 4 hours.	Independent and individual study of a topic in medical biotechnology. Usually involves extensive literature research culminating in a review paper or hypothesis/conclusion argument paper. May be repeated to a maximum of 4 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Completion of the first year of the MS in Medical Biotechnology program, approval of the department, and approval of a faculty mentor. The student also should have completed core or elective courses in the degree sequence that introduce the topic of independent study or have verifiable outside knowledge.
Medical Biotechnology	MBT	597	Master's Project Research	0 TO 16 hours.	A project-based internship at a biotechnology company or a research laboratory at the College of Medicine in Rockford. Students will gain on-the-job experience in designing and conducting experiments, evaluating results, and reporting to supervisors. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Student should have approval of the graduate committee to commence research and the agreement of faculty and industrial mentors along with a written agreement for research activity from the host company.
Medical Biotechnology	MBT	598	Master's Thesis Research	0 TO 16 hours.	Master's thesis research conducted at the College of Medicine in Rockford under faculty supervision. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Completion of the first year of the program and consent of the instructor.

Medical Education - MHPE

Medical Education	MHPE	433	Principles of Evidence-Based Health Care	2 hours.	Qualitative and quantitative assessment of human subject clinical research: locating, evaluating, comparing scientific papers as bases for health care education and practice. Same as BHIS 433. Prerequisite(s): Graduate or professional standing and approval of the school.
Medical Education	MHPE	439	Writing for Scientific Publication	2 hours.	Instruction and workshop explores the process of fully preparing and submitting a manuscript to a health professions journal. Students must bring analyzed data set. Prerequisite(s): Graduate or professional standing and consent of the instructor.
Medical Education	MHPE	441	Clinical Decision Making	2 hours.	Introduction to descriptive and normative theories of decision making; interpretation of diagnostic tests; measuring patient preferences; decision analysis and cost-effectiveness analysis; psychology of judgment and choice. Prerequisite(s): Consent of the instructor.
Medical Education	MHPE	494	Special Topics in Health Professions Education	1 TO 4 hours.	Selected topics of current interest in health professions education. May be repeated with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Prerequisite(s): Prerequisites may vary by section, depending upon topic.
Medical Education	MHPE	501	Scholarship in Health Professions Education	4 hours.	Introduction to methods and evaluation of scholarship in health professions education. Prerequisite(s): Graduate or professional standing and consent of the instructor.
Medical Education	MHPE	502	Instruction and Assessment for Health Professionals	4 hours.	Methods and issues of effective instruction and assessment in health professions education are presented, including how effective instruction and assessment support student learning and faculty decisions. Prerequisite(s): Consent of the instructor.
Medical Education	MHPE	503	Curriculum Planning and Program Evaluation for Health Professionals	4 hours.	Methods and issues in planning and evaluating educational programs in the health professions are presented, including how institutional and social forces affect planning and evaluation. Prerequisite(s): Approval of the department.
Medical Education	MHPE	504	Leadership in Health Professions Education	4 hours.	Focuses on problems, issues, and practices of leadership in health professions education.
Medical Education	MHPE	505	Introduction to Health Professions Education: Leadership, Scholarship, and Current Issues	2 hours.	Serves the intertwined purposes of providing an orientation to the MHPE program's major goals and themes, its programmatic elements, and its prototypical instructional methods of active and collaborative learning. Prerequisite(s): Graduate or professional standing; and approval of the department.
Medical Education	MHPE	512	Ethics in Clinical Research	1 hours.	Survey of key ethical issues involved in conducting research with human subjects, including informed consent, confidentiality, access and equity. Same as HPA 512. Extensive computer use required. Requires completion of an online course in human subjects research, to be supplemented by classroom discussion of the topics raised in that course and others. Prerequisite(s): Approval of the department. Students must be enrolled in the Master of Science in Public Health program.
Medical Education	MHPE	532	Qualitative Methods	2 hours.	The course provides students with a broad overview of the epistemology, design, methods, data types, results, and reporting forms of qualitative research and helps students develop skills in qualitative data analysis. Prerequisite(s): Graduate or professional standing; and approval of the department.
Medical Education	MHPE	534	Research Design and Grant Writing	2 hours.	Introduction to the skills necessary to plan a research project and write a research grant proposal using a systematic approach. Same as HPA 534. Previously listed as MHPE 431. Prerequisite(s): Graduate or professional standing; and approval of the department.
Medical Education	MHPE	535	Translating Research into Practice	3 hours.	Current theory and practical reality related to the adoption and use of new scientific findings in patient care. The influence of research on public policy. Same as HPA 535. Extensive computer use required. Prerequisite(s): Graduate or professional standing; and approval of the department.
Medical Education	MHPE	537	Writing for Scientific Publication	2 hours.	Students will have the opportunity to learn and practice both the skills needed to produce a research manuscript and a conceptual approach to writing that will carry over to future projects--research reports or other works of scholarship. Prerequisite(s): Graduate or professional standing; and approval of the department. Each student must bring to class a personal writing project based on a study with an already available data set that has been analyzed at least preliminarily. The topic of the study can be educational or clinical.
Medical Education	MHPE	596	Independent Study	1 TO 4 hours.	Selected problems or issues in health professions education are investigated under the direction of a faculty member of the student's choice.
Medical Education	MHPE	597	Project Research	0 TO 6 hours.	Selected problems or issues in health professions education are investigated under the direction of a committee of the student's choice. Satisfactory/Unsatisfactory grading only.
Medical Education	MHPE	598	Thesis Research	0 TO 16 hours.	Selected problems or issues in health professions education are investigated under the direction of a committee of the student's choice. Satisfactory/Unsatisfactory grading only.

Medical Humanities - MHUM

Medical Humanities	MHUM	494	Special Topics in Medical Humanities	1 TO 4 hours.	Presents special topics in selected aspects of medical humanities for health professionals. May be repeated with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Prerequisite(s): Prerequisites may vary by section, depending upon topic.
Medical Humanities	MHUM	496	Independent Study	1 TO 4 hours.	Students may arrange with any of the faculty to do independent study on some aspect of communication, history, literature, philosophy, or ethics as it relates to health care.

Medicinal Chemistry - MDCH

Medicinal Chemistry	MDCH	412	Pharmaceutical Applications of Genomics and Bioinformatics	2 hours.	Introduction to genomics and bioinformatics for advanced pharmacy students. Principles of gene expression, DNA sequencing in bacterial and human genomes, with emphasis on diagnostic and therapeutic applications. Same as PMMP 412. Prerequisite(s): PHAR 331 or consent of the instructor. For graduate students: one or two semesters of basic molecular biology and/or biochemistry with a grade of B or better.
Medicinal Chemistry	MDCH	461	Introductory Organic Medicinal Chemistry	1 hours.	Covers introductory aspects of graduate organic and physical organic chemistry related to medicinal chemistry. Credit is not given for MDCH 461 if the student has credit in MDCH 560. Prerequisite(s): One year of undergraduate organic chemistry and consent of the instructor.
Medicinal Chemistry	MDCH	507	Drug Discovery, Design and Development	3 hours.	Overview of drug development process from target identification and screening through clinical trials and FDA evaluation. Same as BPS 507 and PMPG 507.
Medicinal Chemistry	MDCH	516	Structure Elucidation of Natural Products II	3 hours.	Employing modern computational methods in the structure elucidation and dereplication of a natural product by using real life examples. Same as PMPG 516. May be repeated. Prerequisite(s): PMPG 515.
Medicinal Chemistry	MDCH	553	Cancer Biology and Therapeutics	2 hours.	Fundamentals of cancer biology with emphasis on biological, hormonal and chemotherapeutic drug therapies currently used and in development. Specific treatment approaches to breast, ovarian, prostate and colon cancers will be explored. Same as BPS 553 and PMPG 553. Prerequisite(s): Consent of the instructor. Recommended background: Molecular and Cellular Biology.
Medicinal Chemistry	MDCH	560	Organic Medicinal Chemistry I	3 hours.	Organic reactions are discussed in terms of their mechanisms and utility in the field of medicinal chemistry, particulary in the synthesis of medicinal agents. Prerequisite(s): One year of organic chemistry with laboratory.
Medicinal Chemistry	MDCH	561	Principles of Medicinal Chemistry	4 hours.	Concerns basic chemical and physical principles necessary for an understanding of drug action. These principles are applied in the design and discovery of medicinal agents. Prerequisite(s): One year each of undergraduate organic chemistry and biochemistry. Requires concurrent registration in MDCH 592.
Medicinal Chemistry	MDCH	562	Spectroscopy in Medicinal Chemistry	3 hours.	The fundamental principles used to determine structure and conformation in molecules, emphasizing spectroscopic methods useful in solving structural problems and in analyzing dynamic biological processes. Prerequisite(s): One year of physical chemistry or consent of the instructor.
Medicinal Chemistry	MDCH	564	Physical Medicinal Chemistry	3 hours.	Focuses on kinetics and thermodynamics in biological systems. Applications to drug action will be emphasized. Prerequisite(s): One year of physical chemistry.
Medicinal Chemistry	MDCH	571	Organic Medicinal Chemistry II	3 hours.	Heterocyclic chemistry foundation for bio-organic mechanisms of enzyme reactions. Enzymes involved in biosynthesis and metabolism, particularly those that are targets for drug action or involved in drug metabolism. Prerequisite(s): MDCH 460 and MDCH 561.
Medicinal Chemistry	MDCH	572	Drug Design	2 hours.	Quantitative structure-activity relationships, computer graphics, molecular modeling and simulation, and chemometrics as applied to drug design and discovery. Prerequisite(s): MDCH 561.
Medicinal Chemistry	MDCH	573	Principles of Stereochemistry	1 hours.	Principles of molecular structure and stereochemistry for medicinal and natural products chemists focusing on stereochemical structures rather than synthesis. Prerequisite(s): Credit or concurrent registration in MDCH 560 and one year of organic chemistry with lab or consent of the instructor.
Medicinal Chemistry	MDCH	585	Practical Liquid Chromatography-Mass Spectrometry	2 hours.	Introductory-level course combining classroom discussions with laboratory demonstrations to provide basic practical knowledge and hands-on experience in the operation of liquid chromatography and mass spectrometry instrumentation. Satisfactory/Unsatisfactory grading only. Prerequisite(s): MDCH 562.
Medicinal Chemistry	MDCH	592	Research Techniques in Medicinal Chemistry	2 hours.	Provides an initial biweekly informal seminar series with program faculty presenting a discussion of the ongoing research in her/his laboratory. May be repeated to a maximum of 6 hours. Lectures/discussions will be given for the first part of the semester and an intensive lab experience takes place for the remainder of the semester. To be taken fall and spring semesters of the first year of graduate study.
Medicinal Chemistry	MDCH	593	Graduate Student Seminar Class	1 hours.	Provides practice and practical guidance for giving a high quality research seminar. Satisfactory/Unsatisfactory grading only.
Medicinal Chemistry	MDCH	594	Special Topics in Medicinal Chemistry	2 TO 4 hours.	An advanced course covering selected topics which may include new spectroscopic, theoretical, chemometric and synthetic approaches to biomolecular structure and function. May be repeated to a maximum of 4 hours. Prerequisite(s): MDCH 561 and MDCH 562 and one year of physical chemistry and one semester of biochemistry or consent of the instructor.
Medicinal Chemistry	MDCH	595	Seminar in Medicinal Chemistry	1 hours.	Presentation on a current research topic. Satisfactory/Unsatisfactory grading only.
Medicinal Chemistry	MDCH	598	Master's Research in Medicinal Chemistry	0 TO 16 hours.	Thesis research to fulfill master's degree requirements. Satisfactory/Unsatisfactory grading only.
Medicinal	MDCH	599	Doctoral Research in	0 TO 16 hours.	Research for doctoral students. Satisfactory/Unsatisfactory grading only.

Chemistry			**Medicinal Chemistry**		

Medicinal Chemistry and Pharmacognosy - PMMP

Medicinal Chemistry and Pharmacognosy	PMMP	412	Pharmaceutical Applications of Genomics and Bioinformatics	2 hours.	Introduction to genomics and bioinformatics for advanced pharmacy students. Principles of gene expression, DNA sequencing in bacterial and human genomes, with emphasis on diagnostic and therapeutic applications. Same as MDCH 412. Prerequisite(s): PHAR 331 or consent of the instructor. For graduate students: one or two semesters of basic molecular biology and/or biochemistry with a grade of B or better.
Medicinal Chemistry and Pharmacognosy	PMMP	460	Organic Medicinal Chemistry I	3 hours.	Organic reactions in terms of their mechanisms and utility in the field of medicinal chemistry, particularly in the synthesis of medicinal agents. Upper division elective taught simultaneously with MDCH 560, however, does not meet the prerequisite requirement of the medicinal chemistry graduate program. Prerequisite(s): One year of organic chemistry with laboratory.

Microbiology and Immunology - MIM

Microbiology and Immunology	MIM	425	Fundamentals of Immunology and Microbiology	3 hours.	Mechanisms of host defense; antigens, immunoglobulins and their reactions; antibody synthesis, regulation and the cellular immune response; bacterial and viral structure and function; mechanisms of pathogenesis. Prerequisite(s): Consent of the instructor or registration in the College of Medicine.
Microbiology and Immunology	MIM	426	Microorganisms as Agents of Human Disease	3 hours.	Fundamental aspects of bacterial, fungal and viral pathogenesis, therapy, control and prevention of infectious diseases. Prerequisite(s): Consent of the instructor.
Microbiology and Immunology	MIM	455	Microbiology Laboratory Rotation	3 hours.	Course in basic and applied methods essential for the study of nucleic acids, immunoglobulins, gene transfer, cell fusion, virological and immunological methods. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Graduate standing.
Microbiology and Immunology	MIM	513	Structure of Biopolymers	3 hours.	Explores the relationship between structural stability, kinetic properties and function of biopolymers, with particular emphasis on proteins and nucleic acids. Same as BCMG 513, and PMPG 513. Prerequisite(s): GCLS 501 and one year of physical chemistry, or consent of the instructor.
Microbiology and Immunology	MIM	551	Advanced Immunology	2 hours.	Concepts in immunochemistry, immunogenetics, molecular immunology, cellular immunology and immunopathology at the intermediate level. Prerequisite(s): GCLS 501, GCLS 502, GCLS 503 and GCLS 510 or consent of the instructor.
Microbiology and Immunology	MIM	553	Molecular Biology of Viruses	2 hours.	Animal viruses including basic structure and viral nucleic acids; emphasizes molecular organization of viral genomes; cellular and molecular events during virus replication and viral transformation. Prerequisite(s): GCLS 501, GCLS 502, GCLS 503, and GCLS 511 or consent of the instructor.
Microbiology and Immunology	MIM	554	Molecular Aspects of Microbiology	3 hours.	Basic concepts of prokaryotic and eukaryotic genetics; gene structure and function; gene expression; molecular aspects of mutation and recombination; chromosome structure and function. Prerequisite(s): BCHE 460.
Microbiology and Immunology	MIM	560	Microbial Pathogenesis	2 hours.	Genetics, molecular biology and physiology of pathogenic bacteria, and host-pathogen interactions. Credit is not given for MIM 560 if the student has credit for MIM 552. Prerequisite(s): GCLS 501, GCLS 502, GCLS 503, and GCLS 511 or consent of the instructor.
Microbiology and Immunology	MIM	585	Cell Biology	4 hours.	Functional and structural organization of the cell with emphasis on the cellular basis of physiological activity. Same as ANAT 585, and PHYB 585.
Microbiology and Immunology	MIM	594	Special Topics in Microbiology, Immunology and Virology	1 TO 2 hours.	Advanced topics are covered in depth. Topics vary yearly. Prerequisite(s): BCHE 460 and MIM 451 and MIM 455 and MIM 552 and MIM 553 and consent of the instructor.
Microbiology and Immunology	MIM	595	Seminar in Microbiology and Immunology	1 hours.	Topics of current research interest are presented by guest lecturers from outside institutions in areas of molecular biology, bacteriology, virology and immunology. Satisfactory/Unsatisfactory grading only.
Microbiology and Immunology	MIM	598	Research in Molecular Biology and Immunology	0 TO 16 hours.	M.S. thesis research on problems in microbiology, immunology, virology and molecular biology. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in microbiology and immunology.
Microbiology and Immunology	MIM	599	Research in Molecular Biology and Immunology	0 TO 16 hours.	Ph.D. thesis research on problems in microbiology, immunology, virology and molecular biology. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in microbiology and immunology.

Moving Image Arts - MOVI

Moving Image Arts	MOVI	431	The History and Politics of Africa on Film	3 OR 4 hours.	Key moments and issues in African history through the eyes of African film and documentary makers. Same as AAST 431. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above.

Music - MUS

Music	MUS	490	Music Education: Special Topics	1 TO 4 hours.	An investigation of various topics in music education pertinent to practicing music teachers. May be repeated. Prerequisite(s): Senior standing or above.

Native American Studies - NAST

Native American Studies	NAST	415	American Indian Ethnohistory	3 OR 4 hours.	Introduction to ethnohistory, an interdisciplinary approach to researching, conceptualizing, and writing American Indian history. The course is organized topically and centers on classic and current monographs and articles. Same as HIST 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor. Recommended background: Courses in Cultural Anthropology, American Indian Anthropology, American Indian Literature.
Native American Studies	NAST	471	Topics in Native American Literatures	3 OR 4 hours.	The history and development of literature by and about American Indians. Content varies. Same as ENGL 471. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies or consent of the instructor.

Natural Sciences - NATS

Natural Sciences	NATS	574	Advanced Study of Science Taught in Standard-Based Middle-Grade Science Curricula	3 hours.	The advanced study of concepts underlying standards-based instruction in the natural sciences (chemistry, physics, earth science, and biology) in grades 5-8 is explored in a pedagogical context. Prerequisite(s): Consent of the instructor.

Neuroscience - NEUS

Neuroscience	NEUS	403	Human Neuroanatomy	3 hours.	Morphological organization of the nervous system. Functional correlations of neural structures. Same as ANAT 403. Meets eight weeks of the semester. Prerequisite(s): Graduate standing and consent of the instructor. Must be in a degree program.
Neuroscience	NEUS	483	Neuroanatomy	4 hours.	Organization of the nervous system, with an emphasis on mammals. Same as BIOS 483 and PSCH 483. Animals used in instruction. Prerequisite(s): BIOS 272 or BIOS 286 or BIOS 325 or PSCH 262; or consent of the instructor.
Neuroscience	NEUS	501	Foundations of Neuroscience I	3 hours.	Provides a core understanding of modern neuroscience. Focuses on topics in cell and molecular neuroscience. Taught by faculty from multiple units. Same as BIOS 584. Recommended background: Credit or concurrent registration in GCLS 503.
Neuroscience	NEUS	502	Foundations of Neuroscience II	3 hours.	A core understanding of modern neuroscience. Focus is on topics in systems, cognitive and behavioral neuroscience. Will be taught by faculty from multiple units. Continuation of NEUS 501. Same as BIOS 585. Prerequisite(s): NEUS 501 or BIOS 584. Recommended background: Credit or concurrent registration in NEUS 403.
Neuroscience	NEUS	506	Research Rotations in Neuroscience	3 TO 6 hours.	Research rotation course in which first year students from the Neuroscience program will undertake research projects in laboratories affiliated with this program. May be repeated. Animals used in instruction. Prerequisite(s): Open only to Ph.D. degree students.
Neuroscience	NEUS	511	Experimental Foundations of Psychopharmacology	2 hours.	An introduction to the molecular mechanisms underlying synaptic transmission; review of the principal neurotransmitter systems and the biochemical, anatomical and behavioral methods used to study these systems. Same as ANAT 511. Prerequisite(s): Grade of B or better or concurrent registration in NEUS 501 and Grade of B or better or concurrent registration in NEUS 502; or Grade of B or better or concurrent registration in BIOS 484 and Grade of B or better or concurrent registration in BIOS 485; or consent of the instructor.
Neuroscience	NEUS	512	Biomedical Neuroscience II: Aspects of Brain Function in Health and Disease	2 hours.	An integrated view of brain function in health and disease; the anatomical and functional pathophysiological aspects underpinning major neurological and psychiatric disorders. Prerequisite(s): NEUS 501; or consent of the instructor.
Neuroscience	NEUS	513	Biomedical Neuroscience III: Introduction to Therapeutics and Psychopharmacology	1 hours.	Basic principles of psychopharmacology, major classes of psychopharmacological agents and their properties, and the biochemistry and physiology crucial to understanding pharmacological therapies for psychiatric illnesses. Prerequisite(s): Consent of the instructor. Recommended background: NEUS 501 and NEUS 502 and Credit or concurrent registration in NEUS 511.
Neuroscience	NEUS	514	Biomedical Neuroscience IV: Intermediate Psychopharmacology	2 hours.	Designed to build upon information presented in NEUS 513 and develop a more comprehensive knowledge of psychopharmacology and treatment strategies, as well as the relevant clinical neuroscience of the major neuropsychiatric disorders. This is a College of Medicine course that does not follow the regular academic calendar. Contact the instructor in the Spring for more specific information regarding the scheduling and requirements for this course in the Fall. Prerequisite(s): Consent of the instructor. Recommended background: NEUS 511 and Credit or concurrent registration in NEUS 512 and Credit or concurrent registration in NEUS 513.
Neuroscience	NEUS	525	Molecular and Cellular Mechanisms of Neurodegenerative Diseases	2 hours.	Molecular, cellular and physiological mechanisms underlying neuropathology in neurodegenerative diseases and trauma to the central and peripheral nervous system of humans. Same as ANAT 525. Recommended background: A basic course in neuroscience.
Neuroscience	NEUS	527	Cellular and Systems Neurobiology	3 hours.	Molecular and cellular properties of ion channels in neurons and sensory cells and their relationship to brain and sensory systems. Same as ANAT 527 and BIOS 527. Prerequisite(s): Credit in one neuroscience course or consent of the instructor.
Neuroscience	NEUS	561	Current Topics in Visual Neuroscience	2 hours.	Discussion of current research and theoretical issues in visual neuroscience by staff, students and guest lecturers. May be repeated. Prerequisite(s): Consent of the instructor.
Neuroscience	NEUS	582	Methods in Modern Neuroscience	2 hours.	Underlying principles and applications of techniques used to analyze nervous system organization and function. Behavioral, electrophysiological, anatomical, and biochemical approaches are considered. Same as BIOS 582. Animals used in instruction.
Neuroscience	NEUS	588	Human Neuroscience: Functional Magnetic Resonance Imaging	3 hours.	Lectures and demonstrations present the principles of magnetic resonance imaging for understanding cognitive, sensory and motor function of the human brain in health and disease. Extensive computer use required. Laboratory work required. Prerequisite(s): Consent of the instructor. Recommended background: PHYS 142; and MATH 181 or equivalent classroom experience in college physics and math.
Neuroscience	NEUS	589	Human Neuroscience: Sensory-Motor and Cognitive Systems	3 hours.	Lectures and demonstrations focus on investigations of sensory-motor and cognitive systems in the human brain using neuroimaging. Extensive computer use required. Prerequisite(s): Consent of the instructor. Recommended background: NEUS 588.
Neuroscience	NEUS	595	Seminar in Neuroscience	1 hours.	Oral presentations are made by students each session on timely journal articles, followed by in-depth discussions of the reported research. Presentation of research by invited lecturers. Satisfactory/Unsatisfactory grading only. May be repeated.
Neuroscience	NEUS	596	Independent Study	1 TO 4 hours.	Independent study under the direction of a faculty member. May be repeated. Students may

					register in more than one section per term. Prerequisite(s): Consent of the instructor.
Neuroscience	NEUS	598	Master's Thesis Research in Neuroscience	0 TO 16 hours.	Thesis research under the direction of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NEUS 501 and NEUS 502 and NEUS 506; successful completion of first year core courses; and consent of the instructor. Open only to Master's degree students in neuroscience.
Neuroscience	NEUS	599	Doctoral Research in Neuroscience	0 TO 16 hours.	Independent research, directed by a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NEUS 501 and NEUS 502 and NEUS 506; successful completion of first year core courses; and consent of the instructor. Open only to PhD degree students in neuroscience.

Nursing Core - NURS

Nursing Core	NURS	401	Pathophysiology and Pharmacotherapeutics I	3 hours.	First of two courses which provide an understanding of responses to disease and pharmacological treatments. Included are the therapeutic and toxic effects for major drug classes and basic microbiology principles. Prerequisite(s): KN 253 and KN 254 or the equivalent; and graduate standing. Must enroll concurrently in NURS 404.
Nursing Core	NURS	402	Pathophysiology and Pharmacotherapeutics II	4 hours.	Second of two courses which provide an understanding of responses to disease and pharmacological treatments. Included are the therapeutic and toxic effects for major drug classes and basic microbiology principles. Prerequisite(s): Credit or concurrent registration in NURS 401; and graduate standing.
Nursing Core	NURS	403	Cultural Fluency and Communication Skills	2 hours.	Course provides a foundation of communication skills, teaching and learning theory, and cultural competence for provision of nursing care. Prerequisite(s): Credit or concurrent registration in NURS 401 and credit or concurrent registration in NURS 404; and graduate standing.
Nursing Core	NURS	404	Integrated Health Care: Concepts and Skills	3 hours.	Provides the basis for understanding fundamental concepts to the practice of nursing across the life span. Theoretical concepts will be integrated with skills and clinical in the introductory practicum. Prerequisite(s): Graduate standing. Must enroll concurrently in NURS 401.
Nursing Core	NURS	406	Integrated Health Care: Community	2 hours.	Theories of community assessment, disease prevention, and health behavior are applied to promotion of health for communities and vulnerable populations. Understanding of systems and collaboration with the interdisciplinary team are emphasized. Prerequisite(s): NURS 401 and NURS 402 and NURS 404 and NUPR 405; and graduate standing.
Nursing Core	NURS	408	Integrated Health Care: Adult/Older Adult	4 hours.	Focuses on clinical evaluation/management of common/complex problems in adults and older adults. Emphasizes pathophysiology and management strategies in context of culture and ethnicity. Prerequisite(s): NURS 401 and NURS 402 and NURS 404 and NUPR 405; and graduate standing.
Nursing Core	NURS	412	Integrated Health Care: Women, Children and Family	4 hours.	Care for women throughout the lifespan, including pregnancy, birth, the postpartum and interconceptional periods and throughout the aging process. Prerequisite(s): NURS 401 and NURS 402 and NURS 404 and NUPR 405; and graduate standing.
Nursing Core	NURS	414	Integrated Health Care: Mental Health	2 hours.	Application and integration of biopsychosocial concepts and principles to the mental health care of individuals and groups across the continuum of care, including health promotion and illness prevention, maintenance and rehabilitation. Prerequisite(s): NURS 401 and NURS 402 and NURS 404 and NUPR 405; and graduate standing.
Nursing Core	NURS	416	Bioethics	2 hours.	Examine ethical decision-making models as applied to nursing. Analyze use of ethics committees, resolution of conflict around ethical dilemmas, impact of cultural/gender influences on ethical decision-making and nursing's role as patient advocate. Prerequisite(s): NURS 401 and NURS 402 and NURS 404 and NUPR 405; and graduate standing.
Nursing Core	NURS	418	Leadership in Professional Practice	3 hours.	Theories of leadership/management are analyzed in relationship to the new healthcare delivery system, nursing role, evidence-based practice, future trends and the professional education continuum. Prerequisite(s): NURS 406 and NURS 408 and NURS 412 and NURS 414 and NUPR 415; and graduate standing.
Nursing Core	NURS	525	Intermediate Statistics	3 hours.	Application and interpretation of statistical techniques appropriate for health sciences. Prepares students to think quantitatively, use computer to perform statistical analysis, and assess data critically. Prerequisite(s): An undergraduate statistics course.
Nursing Core	NURS	526	Nursing Inquiry I	2 hours.	First of two courses examining interrelationships among theory, research and practice, as integral components of evidence-based practice, emphasizing concepts, theory analysis, and problem identification. Prerequisite(s): Credit or concurrent registration in NURS 525 or Credit or concurrent registration in BSTT 400 or the equivalent.
Nursing Core	NURS	527	Nursing Inquiry II	2 hours.	Second of two courses examining interrelationships among theory, practice and research as integral components of evidence-based practice, emphasizing research methods and ethical issues. Prerequisite(s): NURS 526.
Nursing Core	NURS	528	Health, Environment, and Systems	2 hours.	Examination of the environmental context in which health care in the United States is delivered and received, with an emphasis on populations, policy, cost, access, and quality.
Nursing Core	NURS	529	Issues of Advanced Practice in Nursing	1 hours.	Examines advanced practice in nursing from historical, contemporary, and future dimensions. May be repeated. Students may register in more than one section per term. Only students enrolled in specific nursing concentrations are allowed to repeat course. Prerequisite(s): NURS 528.
Nursing Core	NURS	530	Introduction to the Clinical Nurse Specialist Role	1 hours.	Models and role competencies of the clinical nurse specialist. Prerequisite(s): NURS 527.
Nursing Core	NURS	531	Pharmacotherapeutics in Advanced Practice in Nursing	3 hours.	Advanced principles of pharmacotherapeutics. Includes legal issues, client adherence, and medication selection factors. Prerequisite(s): Credit or concurrent registration in NURS 535 or credit or concurrent registration in NURS 536 or the equivalent; or consent of the instructor.
Nursing Core	NURS	532	Comprehensive Health Assessment for Advanced Practice	2 hours.	Building on prior basic history and physical exam skills, covers physical, psychosocial, developmental, occupational, sexual, and cultural assessment across the lifespan, emphasizing normal and abnormal finding differences and documentation. Prerequisite(s): NURS 210 or the equivalent or consent of the instructor.

Nursing Core	NURS	533	Applied Pharmacotherapeutics in Advanced Practice in Nursing	1 hours.	Application of pharmacology principles to sub-specialty populations. May be repeated to a maximum of 2 hours. Prerequisite(s): Credit or concurrent registration in NURS 531.
Nursing Core	NURS	535	Biological Basis of Disease	4 hours.	Provides a foundation for clinical therapeutics through an understanding of biophysical mechanisms of disease. Basic concepts of pathological processes are examined with application to organ systems and across the lifespan. Prerequisite(s): Undergraduate physiology and pathophysiology courses.
Nursing Core	NURS	536	Physiologic Basis of Nursing Practice Across the Adult Lifespan	4 hours.	Advanced contemporary physiologic principles and their relevance to clinical practice in the adult patient. Prerequisite(s): An undergraduate physiology course or consent of the instructor.
Nursing Core	NURS	537	Pathophysiological Basis of Disease	3 hours.	Pathophysiologic responses and risk behaviors that are linked to the leading causes of morbidity and mortality in the United States. Prerequisite(s): NURS 536 or the equivalent; or consent of the instructor.
Nursing Core	NURS	550	Evidence-Based Practice	3 hours.	Application of evidence-based practice to healthcare delivery systems and clinical issues. Emphasizes the integration of retrieved evidence with client preferences in order to design and evaluate best practices. Prerequisite(s): NURS 527 or the equivalent.
Nursing Core	NURS	551	Promoting Health: Translating Science to Practice	3 hours.	Examine theories/models of health promotion, disease prevention, and teaching/learning for their application to direct care and systems-focused nursing practice. Prerequisite(s): Credit or concurrent registration in NURS 550.
Nursing Core	NURS	552	Advanced Nursing Leadership Concepts	3 hours.	Emphasizes leadership in direct care and systems-focused advanced nursing practice roles. Focuses on synthesis of theoretical leadership concepts with personal/professional values and working with multiple disciplines and multiple constituencies. Prerequisite(s): Credit or concurrent registration in NURS 528 or the equivalent.
Nursing Core	NURS	553	Strategic and Financial Planning for Clinical Programs	3 hours.	Provides decision makers with state of the art tools to analyze issues affecting health care and formulate financially viable strategic plans for healthcare initiatives.
Nursing Core	NURS	554	Translating Evidence to Clinical Practice	3 hours.	In this course, the student develops competencies in effectively utilizing methods and measures for translating evidence to clinical practice. Prerequisite(s): NURS 550.
Nursing Core	NURS	560	Synthesis Project Development	1 TO 4 hours.	Students design a doctoral nursing practice project related to an aggregate of individuals/selected population of interest. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Nursing Core	NURS	561	Synthesis Project Implementation	1 TO 4 hours.	Students implement a doctoral nursing practice project related to an aggregate of individuals/selected population of interest. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NURS 560 and consent of the instructor.
Nursing Core	NURS	562	Synthesis Project Evaluation and Dissemination	1 TO 4 hours.	Students analyze and disseminate findings from the doctoral nursing practice project. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NURS 561 and consent of the instructor.
Nursing Core	NURS	570	Philosophy of Science for Health Research	3 hours.	Traces the development of scientific reasoning and explanation from Aristotle to the present, focusing on the nature of knowledge and role of truth for health research. Prerequisite(s): Graduate level research course or consent of the instructor.
Nursing Core	NURS	571	Theory and Theory Development for Nursing Research	3 hours.	Methods of theory development and critical analysis of selected biological, behavioral, health service, and nursing theories which form the basis of nursing science are examined. Prerequisite(s): NURS 570.
Nursing Core	NURS	572	Advanced Research Design	4 hours.	In-depth analysis of research design, including such areas as design appropriateness and validity, sampling, research ethics, and interpretation. Application of the content to nursing and related fields. Prerequisite(s): Credit or concurrent registration in NURS 570; and graduate level statistics or consent of the instructor.
Nursing Core	NURS	573	Measurement in Health Research	4 hours.	Qualitative and quantitative measurement theories; assessment of reliability, validity, and data quality. Critical analysis of measurement issues across the continuum of measures in health research. Prerequisite(s): NURS 572 and credit or concurrent registration in NURS 571 and credit or concurrent registration in the second course in graduate level statistics series; or consent of the instructor.
Nursing Core	NURS	585	Advanced Research Seminar	1 TO 2 hours.	Integrates theory and methods for health research. Topics vary according to student interests and instructor availability. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. A minimum of 2 hours of credit is required; a maximum of 4 hours of credit may be applied toward the Ph.D. Prerequisite(s): Open only to Ph.D. degree students; and consent of the instructor.
Nursing Core	NURS	590	Leadership in Scientific Careers	1 hours.	Analyzes components of leadership in science at the national and global levels. Analyzes factors and issues of the discipline affecting a research career. Analyzes the interdependency of the science to policy cycles of influence. Satisfactory/Unsatisfactory grading only. Prerequisite(s): NUPR 593.
Nursing Core	NURS	592	Preliminary Exam	1 TO 12 hours.	Literature review, reading and writing in preparation for the preliminary examination supervised

			Preparation		by faculty research advisor. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 24 hours. Prerequisite(s): Completion of core courses and consent of the instructor.
Nursing Core	NURS	597	Master's Project	0 TO 16 hours.	Master's student project research. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Nursing Core	NURS	598	Thesis Research: Masters	0 TO 16 hours.	Master's student thesis research. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Nursing Core	NURS	599	Ph.D. Thesis Research	0 TO 16 hours.	Doctoral student thesis research. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.

Nursing Elective - NUEL

Nursing Elective	NUEL	438	Infant Feeding: Historical, Societal, and Health Policy Issues	3 hours.	Examines infant feeding practices from historical, contemporary, societal, and political dimensions. The importance of infant feeding in developing countries as well as legislation regarding infant feeding is also examined. Prerequisite(s): Senior or graduate standing; or consent of the instructor.
Nursing Elective	NUEL	440	Wholistic Health: Use of Self	2 hours.	Comprehensive mind, body and spiritual health care. Spiritual assessment of self, individuals and families. Self as a therapeutic agent/health provider for wholistic health care. Prerequisite(s): Senior or graduate standing; or consent of the instructor.
Nursing Elective	NUEL	441	Wholistic Health: Community Focus	2 hours.	Community and congregational assessment. Health beliefs and practices of faith communities and their impact on health care services, communities, and systems to foster planned change. Prerequisite(s): Senior or graduate standing; or consent of the instructor.
Nursing Elective	NUEL	450	Women and Mental Health Nursing	3 hours.	Theories of female psychology; women's daily lives and mental health; gender differences in mental illness; strategies for improving women's mental health. Same as GWS 450. Prerequisite(s): Consent of the instructor. Students enrolled in the College of Liberal Arts and Sciences must have credit in PSCH 100 and either PSCH 270 or PSCH 315 or GWS 315.
Nursing Elective	NUEL	456	Women's Health: A Primary Health Care Approach	3 hours.	Health promotion and disease prevention in women's health. Includes community experience with community women. Primary health care approaches examined. Same as CHSC 456. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	460	Individualized Internship	1 TO 5 hours.	Intensive internship experience will consist of a practicum that will develop skills, competencies and knowledge in a focused health care delivery setting. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	510	Instructional Design and Delivery in Nursing and Health Sciences	3 hours.	Comprehensive introduction to teaching/learning theory, methods, and strategies for instruction and enhancement of learning in the classroom, clinical, and online.
Nursing Elective	NUEL	511	Curriculum Processes in Nursing and Health Sciences	3 hours.	Comprehensive introduction to processes relevant to the design and implementation of a curriculum from foundational concepts through outcomes monitoring.
Nursing Elective	NUEL	512	Evaluation and Assessment in Nursing and Health Sciences	3 hours.	Evaluation theory and strategies for evaluating student learning, courses, and programs in multiple settings and contexts.
Nursing Elective	NUEL	513	Teaching/Learning Synthesis in Nursing and Health Sciences	3 hours.	Synthesis and application of teaching/learning theories, methods, and strategies for instructional design and delivery, learner/course/program evaluation and assessment, curricular processes in individualized settings and contexts. Prerequisite(s): Credit or concurrent registration in NUEL 510 and Credit or concurrent registration in NUEL 511 and Credit or concurrent registration in NUEL 512; and consent of the instructor.
Nursing Elective	NUEL	516	Cardiometabolic Risk Factors and Disease Development	3 hours.	Prepares the student to assess and manage cardiometabolic risk factors and diseases that include dyslipidemia, overweight and obesity, hypertension and cardiometabolic syndrome.
Nursing Elective	NUEL	517	Metabolic Disturbances in the Older Adult	3 hours.	Prepares the student to assess and manage metabolic disturbances that result in common and complex geriatric syndromes.
Nursing Elective	NUEL	518	Advanced Diabetes Management	3 hours.	Provides the student with in-depth knowledge regarding the management of diabetes mellitus and complications.
Nursing Elective	NUEL	520	Dying, Loss and Grief	3 hours.	Analysis of social, cultural, and psychological aspects of human grief, loss/death within families and professional caregivers surrounding palliative and end-of-life care.
Nursing Elective	NUEL	522	Palliative Management of Pain and Common Symptoms	3 hours.	Evidence-base of biobehavioral strategies for palliative management of pain and common symptoms in life-limiting and chronic illness across the lifespan.
Nursing Elective	NUEL	524	Socio-cultural and Ethical Issues in Palliative Care	3 hours.	Using an ethics theoretical framework, this course explores social, cultural, and political factors that influence palliative care for clients and families across the life span.
Nursing Elective	NUEL	536	Forensic Nursing Science	3 hours.	Focuses on the background, development, and theoretical foundations of forensic nursing.
Nursing Elective	NUEL	537	Forensic Health Care Documentation and Evidence Collection	3 hours.	Focuses on the integration of the criminal justice, social service, and legal systems into the nursing care of people affected by violence. Prerequisite(s): NUEL 536.
Nursing Elective	NUEL	538	Forensic Health Care for Vulnerable Populations	3 hours.	Focuses on the specific needs of vulnerable populations as victims of violence. Prerequisite(s): NUEL 537.

Nursing Elective	NUEL	539	Forensic Practicum	3 hours.	Completion of a practicum in a specialty practice area focusing on victims, families, and alleged perpetrators. Satisfactory/Unsatisfactory grading only. Prerequisite(s): NUEL 537 and consent of the instructor.
Nursing Elective	NUEL	541	Substance Misuse and Dependence	2 hours.	Theories, research trends, treatment perspectives, ethical and social issues related to alcohol and other drug misuse and dependence. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	544	Qualitative Research in Nursing	4 hours.	Major approaches to qualitative research including design, conduct, reporting, and firsthand experience in data collection and analysis. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	546	Biometrics and Applied Statistics	4 hours.	Application of recent procedures in statistical analysis. Emphasis is on design of experiments and regression analysis; use of BMDP software on Mainframe/VAX computers. Prerequisite(s): NURS 525 or the equivalent or consent of the instructor.
Nursing Elective	NUEL	547	Multivariate Analysis for Health Sciences	3 hours.	Practical applications of multivariate techniques in health sciences. Minimal involvement in mathematics provided one has basic understanding of multivariate analysis. Prerequisite(s): NUEL 546.
Nursing Elective	NUEL	548	Methodological Issues for Cross-Cultural Research	3 hours.	Conceptual, methodological and ethical issues for research with varied racial/ethnic backgrounds. Applies acculturation, translation, immigration, and health behavior issues to clinical, community, and international settings. Prerequisite(s): NURS 572; and consent of the instructor.
Nursing Elective	NUEL	549	Laboratory Techniques for Nursing Research	3 hours.	Techniques in laboratory research for nursing science. Basic physiological and biochemical methods and equipment, animal models, human subjects, safe laboratory practice, development from conceptualization through execution. Prerequisite(s): NURS 536.
Nursing Elective	NUEL	552	Responsible Conduct of Research	1 hours.	Overview of the major ethical issues in the conduct of research with human or animal subjects with strategies for resolving these issues. Course is required by National Institutes of Health for all students supported by a National Research Service Award. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	555	Theories and Methods in Women's Health Nursing Research	3 hours.	Critical analysis of theoretical and methodological approaches in women's health nursing research. Emphasis on evaluation schema useful to researchers.
Nursing Elective	NUEL	556	Developing Literature Reviews	3 hours.	Prepares the student to conduct literature reviews in an area of interest and write a literature synthesis. May be repeated. Prerequisite(s); Open only to Ph.D. degree students; or consent of the instructor.
Nursing Elective	NUEL	558	Grant Writing for the Nurse Scientist	3 hours.	Prepares students to submit their first competitive grant application for National Research Service Awards (NRSA) for predoctoral (F31) and postdoctoral (F32) fellowships. This course emphasizes the practical aspects of writing the grant proposal. May be repeated. Prerequisite(s): Credit or concurrent registration in NURS 572 or consent of the instructor. Students will be expected to work closely with their advisor during this course and are encouraged to register for at least 1 credit hour of NUEL 596 with their advisor.
Nursing Elective	NUEL	560	Theoretical Basis for Primary Health Care	3 hours.	Students analyze the conceptual basis of primary health care applicable to diverse communities and develop a primary health care model specific to a community of interest.
Nursing Elective	NUEL	561	Ethical Issues in Primary Health Care	3 hours.	Examination of the ethical components of primary health care as a philosophy, strategy, and level of care; and explication of personal framework for analysis of a specific health issue. Prerequisite(s): NUEL 560 or consent of the instructor.
Nursing Elective	NUEL	562	Primary Health Care Research Methods	3 hours.	Conceptual issues, advanced methodologies and dissemination strategies for scientifically sound and policy relevant global primary health care research. Building community relationships for primary health care research. Prerequisite(s): NURS 572 and NUEL 560 or the equivalent or consent of the instructor.
Nursing Elective	NUEL	563	Neighborhoods and Health	3 hours.	This interdisciplinary seminar explores theories and empirical evidence regarding the mechanisms by which neighborhoods affect health and contribute to health disparities. Same as CHSC 563. Prerequisite(s): Graduate or professional standing and an introductory graduate-level statistics course.
Nursing Elective	NUEL	564	Quality of Life Issues in Research and Clinical Practice	3 hours.	Quality of life: construct definition, ethical issues in clinical practice of nurses and other health professionals, measurement and research regarding various illness and age groups. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	565	Advanced Research in Women's Health	1 TO 2 hours.	Advanced seminar for doctoral students in graduate nursing concentration in women's health. Faculty and students present and critique on-going and developing research. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	570	International Dimensions in Women's Health	3 hours.	Critical examination of the health of women from a global perspective. Emphasizes resources and strategies nurse researchers use to monitor women's health across cultures and countries. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	571	Leadership in International Health	2 hours.	Examines the trends and issues involved in leadership development of health professionals for global health and discusses strategies to make impact on health care outcomes in the global village.
Nursing Elective	NUEL	575	Minority Women's Health Nursing	3 hours.	Theoretic and descriptive overview of the health concerns and health conditions of women from ethnic/racial minority backgrounds with implications for nursing research and practice. Prerequisite(s): Consent of the instructor.

Nursing Elective	NUEL	580	Health Services and Health Behavior Research: Models and Frameworks	3 hours.	Examines and critiques individual, systems, and community-level models and frameworks which guide health services delivery and health promotion behavior research. Prerequisite(s): NURS 570 and NURS 571; or consent of the instructor.
Nursing Elective	NUEL	581	Health Services and Health Behavior Research: Methods and Measurement	3 hours.	Critically analyzes methodological and measurement issues which are important to advanced research in health services delivery and health promotion behavior. Prerequisite(s): NURS 572 and NURS 573 and NUEL 580; or consent of the instructor.
Nursing Elective	NUEL	584	Conducting Human Subjects Research	1 TO 2 hours.	Topics include ethical principles that guide research, federal regulations, IRB guidelines, issues of informed consent and vulnerable populations, and other topics based on student interest. Prerequisite(s): NURS 572.
Nursing Elective	NUEL	594	Special Topics: Advanced	1 TO 3 hours.	Discusses selected topics of current interest. Offered according to sufficient student demand and instructor availability. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	595	Seminar in Nursing	1 TO 3 hours.	Identifies and analyzes a broad range of issues related to modern nursing and nursing research. Topics vary according to student interests and instructor availability. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Nursing Elective	NUEL	596	Independent Study: Graduate	1 TO 4 hours.	Selected problems in nursing are investigated under the direction of a graduate faculty member. Modes of investigation are determined by the nature of the nursing problem selected. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Nursing Practicum - NUPR

Nursing Practicum	NUPR	405	Integrated Health Care: Clinical Practice I	5 hours.	Theoretical principles presented in NURS 404 will be applied to laboratory, simulation, and clinical settings. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing. Must enroll concurrently in NURS 404.
Nursing Practicum	NUPR	410	Integrated Health Care: Clinical Practice II	7 hours.	Provide students with experiences across all levels of prevention. Focus is on planning and implementing care for adults and older adults - individuals and populations. Students experience the systems of care from acute care to community. Satisfactory/Unsatisfactory grading only. Prerequisite(s): NURS 401 and NURS 402 and NURS 404 and NUPR 405; and graduate standing. Must enroll concurrently in NURS 406 and NURS 408.
Nursing Practicum	NUPR	415	Integrated Health Care: Clinical Practice III	8 hours.	Provide students with experiences across all levels of prevention. Focus is on planning and implementing care for women, children, & the mentally ill in a variety of settings. Students experience the systems of care from acute care to community. Satisfactory/Unsatisfactory grading only. Prerequisite(s): NUPR 410 and graduate standing. Must enroll concurrently in NURS 412 and NURS 414.
Nursing Practicum	NUPR	420	Integrated Health Care: Clinical Synthesis	7 hours.	Focus is on clinical synthesis of nursing knowledge and skills and on implementation of leadership and management skills, including organizing care and delegation, in the provision of care. Satisfactory/Unsatisfactory grading only. Prerequisite(s): NUPR 415 and graduate standing. Must enroll concurrently in NURS 418.
Nursing Practicum	NUPR	513	Internship in Advanced Nursing	1 TO 3 hours.	Intensive field study for advanced nursing practice with emphasis on integration of graduate course work. May be repeated.
Nursing Practicum	NUPR	514	School Nursing Internship	1 TO 3 hours.	Concepts and principles and best practices of school nursing applied within the school community. Clinical experience with an emphasis on development of a coordinated school health program. May be repeated. Prerequisite(s): Credit or concurrent registration in NUSP 513.
Nursing Practicum	NUPR	521	Clinical Practice in Primary Care I	3 hours.	Practicum emphasizing evidence-based clinical practice, including data-gathering, differential diagnosis, health promotion, disease prevention, and management of common health problems across the lifespan. Prerequisite(s): NURS 532 and credit or concurrent registration in NUSP 515.
Nursing Practicum	NUPR	522	Clinical Practice in Primary Care II	2 hours.	Practicum emphasizing evidence-based clinical practice, including data-gathering, differential diagnosis, health promotion, disease prevention, and management of common health problems across the lifespan. Prerequisite(s): NURS 532 and credit or concurrent registration in NUSP 515.
Nursing Practicum	NUPR	523	Advanced Clinical Practice in Primary Care I	4 hours.	Practicum emphasizing evidence-based clinical evaluation, differential diagnosis, health promotion, disease prevention, and management of common to complex health problems across the lifespan. Prerequisite(s): NUPR 522 and credit or concurrent registration in NUSP 516.
Nursing Practicum	NUPR	524	Advanced Clinical Practice in Primary Care II	2 TO 5 hours.	Practicum emphasizing evidence-based clinical evaluation, differential diagnosis, health promotion, disease prevention, and management of common to complex health problems and co-morbidities across the lifespan. Prerequisite(s): NUPR 523 and credit or concurrent registration in NUSP 517.
Nursing Practicum	NUPR	528	Practicum in Population-Focused Interventions in Primary Care	1 hours.	Supervised practicum experience in population-focused assessment, program planning, and evaluation. Prerequisite(s): Credit or concurrent registration in NUSP 518.
Nursing Practicum	NUPR	529	Advanced Clinical Practice in Occupational Health Nursing	1 TO 5 hours.	Practicum emphasizing interdisciplinary experience in the identification of work-related health problems, their treatment, and follow-up. Learning activities are individualized to meet the student's learning needs. Prerequisite(s): NUSP 514 and credit or concurrent registration in EOHS 421 and credit or concurrent registration in EOHS 482 and credit or concurrent registration in EOHS 551. Corequisite(s): Must enroll concurrently in NUPR 524.
Nursing Practicum	NUPR	531	Clinical Practicum in Behavioral Health I	3 TO 7 hours.	Advanced nursing management of common mental health problems. Emphasis on primary care and community settings. Assessment, triage, case management, emergency care and brief interventions. May be repeated. Prerequisite(s): Credit or concurrent registration in NUSP 527.
Nursing Practicum	NUPR	532	Clinical Practicum in Behavioral Health II	3 TO 8 hours.	Advanced psychiatric nursing with a selected caseload of clients with serious and complex problems. Emphasis on psychiatric rehabilitation, cognitive-behavioral methods, psychoeducation and dual diagnosis. May be repeated. Prerequisite(s): NUPR 531.
Nursing Practicum	NUPR	533	Clinical Practicum in Behavioral Health III	2 TO 5 hours.	Development of mental health nurse practitioner role to deliver mental health services and impact policies affecting a selected population. May be repeated. Prerequisite(s): NUPR 532.
Nursing Practicum	NUPR	536	Clinical Nurse Specialist Practicum I: Adult Health and Illness	4 TO 5 hours.	Practicum emphasizing clinical practice, education, research and consultation related to the care of adults with acute and chronic health problems. Prerequisite(s): NUSP 534.
Nursing Practicum	NUPR	537	Clinical Nurse Specialist Practicum II: Adult Health and Illness	4 TO 5 hours.	Practicum emphasizing clinical practice, education, research and consultation related to the care of adults with acute and chronic health problems. NUPR 536 and Credit or concurrent registration in NUSP 535.
Nursing Practicum	NUPR	538	Clinical Nurse Specialist	3 TO 5 hours.	Practicum emphasizing clinical practice, education, research and consultation related to the care of adults with acute and chronic health problems. Prerequisite(s): NUPR 537.

			Practicum III: Adult Health and Illness		
Nursing Practicum	NUPR	539	Nurse Practitioner Practicum I: Management of Health and Illness in Adults	4 TO 5 hours.	Practicum emphasizing clinical evaluation, health promotion, differential diagnosis, symptom management, education and case management of adults with complex health problems that may be acute, episodic, or chronic. Prerequisite(s): NUSP 534.
Nursing Practicum	NUPR	540	Nurse Practitioner Practicum II: Management of Health and Illness in Adults	4 TO 5 hours.	Practicum emphasizing clinical evaluation, health promotion, differential diagnosis, symptom management, education and case management of adults with complex health problems that may be acute, episodic, or chronic. Prerequisite(s): NUPR 539 and Credit or concurrent registration in NUSP 535.
Nursing Practicum	NUPR	541	Nurse Practitioner Practicum III: Management of Health and Illness in Adults	4 TO 5 hours.	Practicum emphasizing clinical evaluation, health promotion, differential diagnosis, symptom management, education and case management of adults with complex health problems that may be acute, episodic, or chronic. Prerequisite(s): NUPR 540.
Nursing Practicum	NUPR	542	Nurse Practitioner Practicum IV: Management of Health and Illness in Adults	4 hours.	Practicum emphasizing clinical evaluation, health promotion, differential diagnosis, symptom management, education and case management of adults with complex health problems that may be acute, episodic, or chronic. Prerequisite(s): NUPR 541.
Nursing Practicum	NUPR	566	Practicum in Advanced Pediatric Primary Care I	1 TO 5 hours.	Emphasizes clinical experiences in prevention, health promotion and maintenance through teaching, counseling, guidance and support of children and their families. May be repeated. Prerequisite(s): Credit or concurrent registration in NUSP 553.
Nursing Practicum	NUPR	567	Practicum in Advanced Pediatric Primary Care II	1 TO 5 hours.	Emphasizes clinical experiences and management of acute episodic and stable chronic illnesses commonly encountered in pediatric ambulatory health care settings. May be repeated. Prerequisite(s): NUPR 566.
Nursing Practicum	NUPR	568	Practicum in Advanced Pediatric Primary Care III	1 TO 5 hours.	Emphasizes clinical experiences that integrate prevention, health promotion and maintenance, and clinical management of acute episodic and stable chronic illnesses commonly encountered in pediatric ambulatory health care settings. May be repeated. Prerequisite(s):NUPR 567.
Nursing Practicum	NUPR	569	Pediatric and Perinatal Clinical Nurse Specialist Practicum I	3 TO 6 hours.	The application of advanced knowledge of theory and research to care for pediatric and perinatal patients and families who require the care of a clinical nurse specialist. May be repeated. Prerequisite(s): NURS 530 and NURS 531 and NURS 532 and NUSP 558 and credit or concurrent registration in NUSP 551.
Nursing Practicum	NUPR	570	Pediatric and Perinatal Clinical Nurse Specialist Practicum II	3 TO 6 hours.	The application of theory and research related to pediatric and perinatal nursing personnel and the healthcare organization; systematic assessment for problem identification and outcome evaluation. May be repeated. Prerequisite(s): NUSP 552 and NUPR 569.
Nursing Practicum	NUPR	571	Pediatric and Perinatal Clinical Nurse Specialist Practicum III	3 TO 6 hours.	The application of theory and research for expansion of professional role competencies related to pediatric and perinatal nursing personnel and the healthcare organization. May be repeated. Prerequisite(s): Credit or concurrent registration in NUPR 570.
Nursing Practicum	NUPR	572	Practicum: Health Care of Women	1 TO 8 hours.	Clinical experiences to develop nurse-midwifery and nurse practitioner competencies in the health care of women. May be repeated. Prerequisite(s): NUSP 555 and NURS 531 and NURS 532.
Nursing Practicum	NUPR	573	Practicum: Birth and the Newborn	1 TO 8 hours.	Clinical experiences to develop beginning competence in the nurse-midwifery care of women and their newborns during parturition. May be repeated. Prerequisite(s): NUSP 556 and NURS 531 and NURS 532.
Nursing Practicum	NUPR	574	Advanced Neonatal Nurse Clinical Practicum	1 TO 6 hours.	Assessment, stabilization, and management of infants with common problems or complex disturbances, alterations, and multi-organ dysfunction and their unique neurodevelopmental needs and vulnerabilities emphasizing patient and family centered care. May be repeated. Prerequisite(s): NURS 532 and NURS 535.
Nursing Practicum	NUPR	580	Individualized Graduate Practicum	1 TO 5 hours.	Individualized practicum that will develop skills, competencies and knowledge in a chosen health care delivery setting. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Nursing Practicum	NUPR	582	DNP Residency I: Direct Care Role	2 TO 4 hours.	Individualized residency experience that will expand clinical expertise and specialized knowledge in the selected direct care, advanced nursing practice specialty role. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Nursing Practicum	NUPR	583	DNP Residency II: Direct Care Role	2 TO 4 hours.	Individualized residency experience that will facilitate development of systems-level clinical expertise in the selected direct care advanced nursing practice specialty role. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NUPR 582 and consent of the instructor.
Nursing Practicum	NUPR	584	DNP Practicum I	2 TO 4 hours.	IIndividualized practicum experience that will expand clinical expertise and specialized knowledge in the selected advanced nursing practice specialty role. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Nursing Practicum	NUPR	585	DNP Practicum II	2 TO 4 hours.	IIndividualized practicum experience that will expand clinical expertise and specialized knowledge in the selected advanced nursing practice specialty role. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NUPR 584 and consent of the instructor.
Nursing Practicum	NUPR	586	DNP Residency I: Systems-Focused Role	2 TO 4 hours.	Individualized residency experience that will expand expertise and specialized knowledge in the selected systems-focused advanced nursing practice specialty role. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Nursing Practicum	NUPR	587	DNP Residency II: Systems-Focused Role	2 TO 4 hours.	Individualized residency experience that will expand development of systems-level expertise in the selected systems-focused advanced nursing practice specialty role. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): NUPR 586 and consent of the instructor.
Nursing Practicum	NUPR	592	Practicum in Population-Focused Nursing Interventions	2 hours.	Advanced nursing practice experiences to develop beginning competency in the design and implementation of evidence-based interventions with populations and aggregates. Prerequisite(s): Credit or concurrent registration in NURS 551.
Nursing Practicum	NUPR	593	Advanced Research Practicum	1 TO 4 hours.	An intensive guided research practicum in design, data collection, psychometric analysis or specific analytic technique relevant to the student's research specialization. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. Must be repeated for a minimum of 3 hours of credit. Prerequisite(s): NURS 573 and two advanced statistics courses.

Nursing Specialty - NUSP

Nursing Specialty	NUSP	501	Administrative Nursing Models	2 hours.	Appraisal and synthesis of theory, research and practice in the organization and management of the delivery of nursing and healthcare services including currently used models of nursing care delivery.
Nursing Specialty	NUSP	502	Strategic Planning and Outcomes Evaluation for Clinical Programs	3 hours.	Analysis of trends and issues affecting health care systems in the context of planning appropriate strategies for the development and growth of clinical programs and services.
Nursing Specialty	NUSP	503	Financial Resource Management for Nursing Decision Makers	3 hours.	Provide the clinical decision maker with state of the art tools to plan, implement, and evaluate the financial viability of health care programs and initiatives. Prerequisite(s): Knowledge of Excel is required.
Nursing Specialty	NUSP	504	Healthcare Human Resources Management	3 hours.	Focuses on the development of a strategic human resource plan to support the mission of the health care organization. Current human resources management and organizational performance research findings are explored.
Nursing Specialty	NUSP	505	Nursing Systems Operations Management	3 hours.	Addresses nursing systems operations management of health services. Examines the managerial role at individual, program, work unit, department, and organizational levels. Includes focus on interaction of the organization and environment.
Nursing Specialty	NUSP	507	Advanced Community Health Nursing: Introduction and Interventions	4 hours.	Addresses application of evidence-based population-focused interventions in health care organizations that promote wellness and improve community health status. Introduces leadership roles/concepts in advanced public health nursing practice.
Nursing Specialty	NUSP	509	Population-Focused Assessment	3 hours.	Explores population-focused assessment in community and integrated healthcare systems emphasizing the application of assessment models used in health service delivery and market analysis. Prerequisite(s): Credit or concurrent registration in EPID 400.
Nursing Specialty	NUSP	511	Planning and Evaluation for Advanced Nursing Practice	3 hours.	Explores strategic and program planning applications. Focuses on evaluation as a measurement of quality, performance, and impact of health services. Emphasizes interdisciplinary perspective and addresses integrated quality improvement systems. Prerequisite(s): NUSP 509.
Nursing Specialty	NUSP	512	Education Perspectives in School Health	4 hours.	The scientific knowledge base of child development and educational psychology. Will explore the implications for classroom practice. Prerequisite(s): Consent of the instructor.
Nursing Specialty	NUSP	513	School Nursing Theory and Trends	3 hours.	Explores population-focused frameworks, health needs, and legal mandates that impact school community. School nursing practice models are studied as relevant to developing leadership and management. Prerequisite(s): Consent of the instructor.
Nursing Specialty	NUSP	514	Occupational Health Nursing	2 hours.	Theoretical bases for application of public health nursing practice to working populations in occupational settings.
Nursing Specialty	NUSP	515	Health Management in Primary Care I	3 hours.	First of a three-course sequence in evidence-based health promotion, health maintenance, and health restoration using a lifespan developmental framework. Emphasizes wellness care. Prerequisite(s): NURS 532.
Nursing Specialty	NUSP	516	Health Management in Primary Care II	3 hours.	Second in a three-course sequence in evidence-based health promotion, health maintenance, and health restoration using a lifespan developmental framework. Emphasizes common acute and chronic health problems. Prerequisite(s): NUSP 515.
Nursing Specialty	NUSP	517	Health Management in Primary Care III	3 hours.	Last in a three-course sequence in evidence-based health promotion, health maintenance, and health restoration using a lifespan developmental framework. Emphasizes common chronic health problems and co-morbidities. Prerequisite(s): NUSP 516.
Nursing Specialty	NUSP	518	Population-Focused Interventions in Primary Care	2 hours.	Population-focused assessment, program planning, and evaluation of interventions for community-based health care providers. Prerequisite(s): EPID 400.
Nursing Specialty	NUSP	525	Group Dynamics, Behavior and Intervention	3 hours.	Concepts, theories and research pertaining to group dynamics and to interventions carried out in groups. Analysis of videotaped group experience.
Nursing Specialty	NUSP	526	Developmental, Behavioral Health and Interventions with Youth	3 hours.	Normative and atypical developmental processes. Applications emphasize developmentally and culturally sensitive nursing assessment and intervention in children's lives to improve mental health outcomes. Prerequisite(s): NURS 527.
Nursing Specialty	NUSP	527	Behavioral Health Care I	3 hours.	Common mental health problems presented in primary and community care settings. Focus on psychopathology, assessment and brief counseling interventions; crisis intervention and triage; emergency care.
Nursing Specialty	NUSP	528	Behavioral Health Care II	3 hours.	Complex mental health problems experienced in psychiatric populations. Focus on stabilization and management of psychotic illnesses, dual diagnosis treatment models, psychoeducational models and psychiatric rehabilitation. Prerequisite(s): NUSP 527.

Nursing Specialty	NUSP	529	Family Behavioral Health	2 hours.	Theories of family development and behavior; functional and dysfunctional communication and behavioral patterns. Theories and strategies for family assessment and intervention.
Nursing Specialty	NUSP	534	Management of Health and Illness I: Advanced Practice in Adult Nursing	3 hours.	Advanced medical-surgical nursing covering etiology, clinical evaluation and management of specific health problems related to cardiovascular, pulmonary, and endocrine systems. Prerequisite(s): Credit or concurrent registration in NURS 531, and credit or concurrent registration in NURS 532, and credit or concurrent registration in NURS 537.
Nursing Specialty	NUSP	535	Management of Health and Illness II: Advanced Practice in Adult Nursing	3 hours.	Advanced medical-surgical nursing covering etiology, clinical evaluation and management of specific health problems related to neurological, gastrointestinal, immunologic, hematologic, renal and liver systems. Prerequisite(s): NUSP 534.
Nursing Specialty	NUSP	548	Biological Basis for Women's Health and Perinatal Nursing I	2 hours.	Focuses on the anatomy and physiology of reproductive function, pregnancy, parturition, the puerperium and menopause as the biological basis for women's health and perinatal nursing.
Nursing Specialty	NUSP	549	Biological Basis for Women's Health and Perinatal Nursing II	1 TO 2 hours.	The anatomy, physiology, and genetics of conception, embryonic development, and fetal and neonatal growth and development as the biological basis for women's health and perinatal nursing. Prerequisite(s): NUSP 548.
Nursing Specialty	NUSP	550	Issues for Research and Practice in Women's Health	3 hours.	Analysis of gender-related definitions of health and illness in theory issues and research evaluation criteria for women's health care practice are developed as a basis for research.
Nursing Specialty	NUSP	551	Concepts for Pediatric/Perinatal Clinical Nurse Specialist Practice I	2 hours.	Students analyze theory and research related to the patient/family sphere of influence in order to design care for pediatric or perinatal patients and families. Prerequisite(s): NURS 530.
Nursing Specialty	NUSP	552	Concepts for Pediatric/Perinatal Clinical Nurse Specialist II	2 hours.	Students analyze theories and research related to pediatric or perinatal nursing personnel and organizational spheres of influence. Prerequisite(s): NUSP 551.
Nursing Specialty	NUSP	553	Advanced Nursing Care of the Well Infant, Child and Adolescent	3 hours.	Emphasizes prevention, health promotion and maintenance for all childhood age groups through teaching, counseling, guidance and support of children and their families. Prerequisite(s): NURS 532 and credit or concurrent registration in NURS 531 and credit or concurrent registration in NURS 535.
Nursing Specialty	NUSP	554	Primary Care Management of Acute/Chronic Conditions in Childhood	3 hours.	Emphasizes clinical decision making and management of acute episodic illnesses and stable chronic illnesses commonly encountered in pediatric ambulatory health care settings. Prerequisite(s): NUSP 553.
Nursing Specialty	NUSP	555	Health Care of Women I	4 hours.	Health care of women through the lifespan with an emphasis on health promotion and disease prevention, fertility control and pregnancy care. Prerequisite(s): Credit or concurrent registration in NUSP 548; and credit or concurrent registration in NURS 532.
Nursing Specialty	NUSP	556	Health Care of Women II	4 hours.	Health care of women through the lifespan with an emphasis on the parturition, the puerperium, and common health and pregnancy problems. Prerequisite(s): NUSP 549 and NUSP 555.
Nursing Specialty	NUSP	557	Health Care of Women III	4 hours.	Health care of women through the lifespan with an emphasis on gynecolgic and primary care. Prerequisite(s): NUSP 556 and NURS 531 and NURS 532 and NURS 535.
Nursing Specialty	NUSP	558	Advanced Parent-Infant Nursing	2 TO 3 hours.	Examines the process of parenting in low-risk and at-risk populations, and health status and behavior of the neonate. Prerequisite(s): NUSP 549 or NURS 535.
Nursing Specialty	NUSP	559	Dimensions of Midwifery and Women's Health Practice	2 hours.	Examines the complex functions and roles of women's healthcare providers. Prerequisite(s): NUSP 557 and NUPR 572 and NURS 529.
Nursing Specialty	NUSP	560	Advanced Neonatal Management I: The High Risk Neonate	3 hours.	Focuses on unique nursing care and neurodevelopmental needs and vulnerabilities of high-risk infants emphasizing patient and family centered care interventions that enhance development and outcomes. Prerequisite(s): NURS 532 and NURS 535 and NUSP 549.
Nursing Specialty	NUSP	561	Advanced Neonatal Management II: The Acutely Ill Infant	3 hours.	Focuses on the assessment, stabilization, and theoretical management of acutely ill infants for common problems associated with prematurity emphasizing a patient and family centered care approach. Prerequisite(s): NURS 533 and NUSP 560.
Nursing Specialty	NUSP	562	Advanced Neonatal Management III: The Gravely Ill Infant	3 hours.	Focuses on complex disturbances, alterations, and multi-organ interactions of the cardiopulmonary, neuromuscular, neurosurgical, renal, gastrointestinal systems emphasizing a patient and family centered care approach. Prerequisite(s): NUSP 561.
Nursing Specialty	NUSP	563	Essentials of Patient and Family Centered Care	2 hours.	Analysis of theoretical and research components of socio-culturally appropriate patient and family centered care and its impact on patients, families, and health delivery.
Nursing Specialty	NUSP	580	Leadership Reflections: Building a Personal Map	2 hours.	Reflective practice experience focuses learners to identify personal leadership styles and develop personal leadership growth plans. Prerequisite(s): Admission to the Executive Leadership Concentration of the Doctor of Nursing Practice.

Nursing Specialty	NUSP	581	Collaboration for Strategic Financial Management in Healthcare	3 hours.	Builds on basic financial management skills to prepare the learner to synthesize financial theories and concepts in order to apply knowledge to strategic decision making. Prerequisite(s): NUSP 503 or equivalent course.
Nursing Specialty	NUSP	582	Ethical Leadership in Providing Healthcare	2 hours.	Provides an opportunity for the student to analyze and critique current ethical issues impacting nurse leaders and formulate a personal ethics code. Prerequisite(s): NURS 528 or the equivalent and credit or concurrent registration in NURS 552.
Nursing Specialty	NUSP	583	Transforming the Healthcare Organization	3 hours.	Builds on concepts from strategic management to provide a framework for the learner's synthesis project. Applications include: project management, strategic planning, change management processes applied in a transdisciplinary manner. Prerequisite(s): NUSP 502 or the equivalent and credit or concurrent registration in NURS 552.
Nursing Specialty	NUSP	584	Systems Approach to Healthcare Quality and Safety	3 hours.	Focuses on the critical review of current quality and safety guidelines and systems impacting healthcare agencies. Prerequisite(s): NUSP 505 or the equivalent and credit or concurrent registration in NURS 552 and credit or concurrent registration in NUSP 583.
Nursing Specialty	NUSP	585	Seminar in Nursing Executive Leadership	1 TO 3 hours.	Specific topics as announced each semester. In-depth study of selected current topics in executive leadership for nurse leaders. May be repeated.
Nursing Specialty	NUSP	588	Intermediate Epidemiology for Advanced Nursing Practice	3 hours.	Provides intermediate level knowledge and skills in epidemiology for nurses and other public health practitioners. Addresses threats to validity and other issues of interpretation of designs. Prerequisite(s): EPID 400 or equivalent.
Nursing Specialty	NUSP	589	Grant Writing for Health Care Services	3 hours.	Focuses on developing knowledge and application skills needed for successful health service programmatic grant writing. Prerequisite(s): Credit or concurrent registration in NUSP 507 or credit or concurrent registration in NURS 551; and credit or concurrent registration in NUSP 502 or credit or concurrent registration in NUSP 511; or consent of the instructor.
Nursing Specialty	NUSP	590	Family-Focused Health Management in Primary Care	3 hours.	Assessment and management of common behavioral, lifestyle, and life cycle issues in primary care using a family-focused approach. Prerequisite(s): NURS 532; or consent of the instructor.
Nursing Specialty	NUSP	591	Issues in Population Focused Nursing	2 hours.	Provides introduction to leadership in population-focused nursing: philosophy, theory, roles, competencies, and interventions.

Occupational Therapy - OT

Occupational Therapy	OT	401	Occupational Performance in Adults and Adolescents	3 hours.	Reviews the primary developmental aspects and roles of adolescence and adulthood. Personal and environmental factors that influence occupational performance and prevention and wellness models to facilitate occupational functioning. Prerequisite(s): Graduate standing and admission to the M.S. in Occupational Therapy program.
Occupational Therapy	OT	406	Development of a Therapeutic Self	3 hours.	Emphasizes understanding and developing foundational skills in therapeutic use of self and forms of therapeutic reasoning. Group theory and process is introduced and group leadership skills developed. Prerequisite(s): Graduate standing and Admission to the M.S. in Occupational Therapy program.
Occupational Therapy	OT	407	Introduction to Occupational Therapy Practice	2 hours.	Overview of the role of the therapist and aspects of occupational therapy practice in multiple settings. The basics of assessment, treatment planning, intervention, and documentation; as well as service delivery systems and current issues. Prerequisite(s): Graduate standing and admission to the Master of Science in Occupational Therapy program.
Occupational Therapy	OT	411	Occupational Performance in Children	4 hours.	Developmental theories concerning factors influencing the development of occupational performance in infancy, childhood, and early adolescence. Developmental assessment methods and tools. Prerequisite(s): Graduate standing and Grade of C or better in OT 401 and Grade of C or better in OT 407 and Grade of C or better in OT 500 and Grade of C or better in OT 510.
Occupational Therapy	OT	412	Human Structure and Function	5 hours.	Anatomical and physiological basis for occupational performance. Features structure and function of musculoskeletal, cardiovascular and nervous systems and application of biomechanical principles. Graduate standing and Grade of C or better in OT 500 and Grade of C or better in OT 510; and admission to the M.S. in Occupational Therapy program.
Occupational Therapy	OT	416	Occupational Therapy Practice: Psychosocial Aspects of Occupational Performance	4 hours.	Occupational therapy practices relevant to psychosocial intervention, related bodies of knowledge influencing practice, psychological process affecting occupational functioning and assessment and treatment related to psychosocial problems. Prerequisite(s): Graduate standing and Grade of C or better in OT 401 and Grade of C or better in OT 407 and Grade of C or better in OT 406 and Grade of C or better in OT 500 and Grade of C or better in OT 510.
Occupational Therapy	OT	420	Community Practicum	1 TO 3 hours.	Field experience in a community agency serving an urban population. Emphasis is on service learning in context and the development of professional behaviors. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. Field work required. Prerequisite(s): Graduate standing and admission to the Master of Science in Occupational Therapy program.
Occupational Therapy	OT	422	Medical Conditions	1 hours.	This self-paced course reviews etiology, clinical manifestation, clinical course, and general medical and rehabilitative management of common medical conditions; emphasis on musculoskeletal, neurologic, cardiopulmonary, and psychiatric disorders. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing and admission to the Master of Science in Occupational Therapy program.
Occupational Therapy	OT	424	Contexts of Occupational Therapy Practice	2 hours.	Trends in health care, reimbursement, legislation, and disability policy and how they affect occupational therapy. The policy process and development of an advocacy role. Exposure to community-based practice and consultation roles. Prerequisite(s): Graduate standing and Grade of C or better in OT 407.
Occupational Therapy	OT	428	Fieldwork Level I	3 hours.	Application of occupational therapy theory and therapeutic reasoning in a forty-hour/week fieldwork experience with the opportunity to develop beginning therapeutic skills and professional behavior. Field work required. Prerequisite(s): Graduate standing and Grade of C or better in OT 411 and Grade of C or better in OT 412 and Grade of C or better in OT 416; and satisfactory completion of OT 422 and OT 515.
Occupational Therapy	OT	436	Occupational Therapy Practice: Functional Movement and Mobility	5 hours.	Application of occupational therapy evaluation and intervention skills to children and adults with occupational performance deficits resulting from mobility and movement dysfunction. Prerequisite(s): Graduate standing and Grade of C or better in OT 411 and Grade of C or better in OT 412 and Grade of C or better in OT 416 and Grade of C or better in OT 526; and satisfactory completion of OT 422.
Occupational Therapy	OT	437	Occupational Therapy Practice: Cognition and Perception in Action	4 hours.	The impact of impaired cognitive and perceptual processes on occupational performance of children and adults with neurological conditions, cognitive and intellectual disabilities and psychiatric disabilities. Prerequisite(s): Graduate standing and Grade of C or better in OT 411 and Grade of C or better in OT 412 and Grade of C or better in OT 416 and Grade of C or better in OT 526; and satisfactory completion of OT 422.
Occupational Therapy	OT	448	Fieldwork Level IIA	8 hours.	First of two supervised full-time twelve-week practica with emphasis on application of OT theory, development of psychomotor skills, reasoning client-related problems, and professional socialization as an entry-level occupational therapist. Satisfactory/Unsatisfactory grading only. Field work required. Prerequisite(s): Graduate standing and Grade of C or better in OT 428 and Grade of C or better in OT 436 and Grade of C or better in OT 437 and Grade of C or better in OT 564; and satisfactory completion of OT 535 and OT 538.
Occupational Therapy	OT	449	Fieldwork Level IIB	4 hours.	Second of two supervised full-time practica with emphasis on application of OT theory, development of psychomotor skills, reasoning client-related problems, and professional socialization as an entry-level occupational therapist. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Field work required. Scheduled full time for a 6 week period. Prerequisite(s): Graduate standing and Grade of C or

					better in OT 428 and Grade of C or better in OT 436 and Grade of C or better in OT 437 and Grade of C or better in OT 564; and satisfactory completion of OT 535.
Occupational Therapy	OT	500	Theories of Occupational Therapy	4 hours.	Explores theoretical basis of occupational therapy and the impact of theory on clinical practice. Covers the history of knowledge and practice development in occupational therapy. Focuses on specific practice models developed as guides to clinical reasoning. Prerequisite(s): Graduate standing; or consent of the instructor and admission to the M.S. or OTD Occupational Therapy program.
Occupational Therapy	OT	510	Research in Occupational Therapy	4 hours.	Introduction to basic elements of research design relevant to occupational therapy practice. Prepares student to become critical consumer of research in occupational therapy and related fields. Quantitative and qualitative approaches to research. Prerequisite(s): Graduate standing; or consent of the instructor and admission to the M.S. or OTD Occupational Therapy program. Recommended background: Statistics and research methods.
Occupational Therapy	OT	515	Synthesis I	1 hours.	Provides a problem based learning context for the development of clinical reasoning skills in occupational therapy. Students analyze and synthesize five individual client cases which emphasize the occupational therapy assessment process. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing and Grade of C or better in OT 401 and Grade of C or better in OT 406 and Grade of C or better in OT 407 and Grade of C or better in OT 500 and Grade of C or better in OT 510.
Occupational Therapy	OT	526	Assistive Technology and the Environment	3 hours.	Assessing the need for, delivering, and evaluating the outcomes of occupationally-based technology and environmental interventions with people with disabilities within the home, school, workplace and community. Prerequisite(s): Graduate standing and Grade of C or better in OT 411 and Grade of C or better in OT 412 and Grade of C or better in OT 500 and Grade of C or better in OT 510.
Occupational Therapy	OT	528	Race, Culture, and Health Disparities	2 TO 3 hours.	Focuses on developing students? critical thinking skills as it relates to health disparities and engaging in culturally responsive care. Students registering for 3 hours of credit complete and immersion activity and a research paper. Prerequisite(s): Graduate standing and consent of the instructor.
Occupational Therapy	OT	530	Advanced Field Experience: Clinical Specialization in Occupational Therapy	1 TO 12 hours.	Provides opportunity for the student interested in advanced occupational therapy practice to observe a master clinician and participate in treatment and/or clinical research in a specialty area. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register for more than one section per term. Prerequisite(s): Consent of the instructor.
Occupational Therapy	OT	531	Advanced Field Experience in Occupational Therapy Management	1 TO 12 hours.	Practicum experience working with an experienced professional to develop projects or programs in student's area of interest such as administration, middle management, consultation, program evaluation, grantsmanship or others. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register for more than one section per term. Prerequisite(s): Consent of the instructor.
Occupational Therapy	OT	532	Advanced Field Experience: Occupational Therapy Education	1 TO 12 hours.	Provides opportunity to observe, prepare, and present lectures/labs to occupational therapy students in technical or professional curricula or to develop skills as a clinical educator. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register for more than one section per term. Prerequisite(s): Consent of the instructor.
Occupational Therapy	OT	533	Advanced Field Experience: Occupational Therapy Scholarship	1 TO 12 hours.	Practicum experience working with an experienced scholar to observe and participate in activities that generated evidence about practice, disseminate such evidence, and/or develop practice materials based on evidence. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register for more than one section per term. Field work required.
Occupational Therapy	OT	535	Synthesis II	2 hours.	In this problem based learning course, students engage in small and large group learning to analyze cases. Emphasis is placed on occupation-based intervention planning with particular consideration of contextual factors. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing and Grade of C or better in OT 424 and Grade of C or better in OT 428 and Grade of C or better in OT 526; and satisfactory completion of OT 422.
Occupational Therapy	OT	538	Introduction to Advanced Practice in Occupational Therapy	1 hours.	Provides an introduction to advanced practice settings in occupational therapy that require specialized skills and knowledge. Introduces students to opportunities for specialization in the field. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing or consent of the instructor and Grade of C or better in OT 526 and Grade of C or better in OT 416 and Grade of C or better in OT 428.
Occupational Therapy	OT	540	Advanced Topics in Occupational Therapy Research and Evaluation	4 hours.	In-depth presentation of selected research/measurement stategies. Specific topics vary and include single system design, survey research, ethnography, evaluation of clinical effectiveness. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Occupational Therapy	OT	542	Client-Centered and Occupation-Focused Practice and Research	3 hours.	Provides an advanced understanding and practical skill set for conducting research and engaging in advanced practice using concepts, assessments, and treatment approaches based on the Model of Human Occupation and the Intentional Relationship Model. Recommended background: Exposure to coursework in psychopathology or in psychosocial aspects of occupational therapy.
Occupational Therapy	OT	551	Computers, Communication and Controls in Rehabilitation	3 hours.	Provides information on operation and use of alternative controls for computers, augmentative communication devices and powered mobility. Emphasis on matching consumer's need and assistive technology. Same as DHD 551. Prerequisite(s): DHD 440. Recommended background: Speech-Language Pathology, Occupational Therapy, Special Education.

			Technology		
Occupational Therapy	OT	552	Community-Based Interventions with Underserved Populations	4 hours.	Addresses theories, ethics and strategies of developing and providing outcomes-based clinical interventions in underserved communities. Students collaborate with a community population to implement course concepts. Prerequisite(s): Level II fieldwork or prior work experience or consent of the instructor. Recommended Background: OT 550.
Occupational Therapy	OT	553	Program Evaluation: Documenting the Impact of Human Services	3 hours.	Examines methods in program evaluation with emphasis on empowerment and participatory evaluation. Students will study quantitative and qualitative strategies, how to communicate information to stakeholders, and how to design evaluations. Recommended background: Interest in research, health or behavioral sciences, and implementation and evaluation of community initiatives and community-based organizations.
Occupational Therapy	OT	555	Synthesis III	2 hours.	A problem based learning course in which students engage in self-directed analysis of cases. Emphasizes identification and mitigation of situations creating ethical tension or moral distress, legal concerns and/or complex practice problems. Satisfactory/Unsatisfactory grading only. Field work required. Prerequisite(s): Graduate standing and satisfactory completion of OT 448; OT 449; OT 535.
Occupational Therapy	OT	556	Theory and Methods of Needs Assessment in Aging and Disability	2 TO 4 hours.	Introduces theories of need, models of the needs assessment process, and reviews research methods typically used in conducting needs assessments. Emphasis will be on needs assessments in health-related community agencies. Prerequisite(s): A 400 or 500-level research course such as OT 510, CHSC 446, or SOC 500. The prerequisite research course needs to provide students with an understanding of basic research design, sampling strategies, and an introduction to methods such as surveys and focus groups. Recommended background: Health or behavioral sciences, research methods.
Occupational Therapy	OT	558	Writing for Professional Publications in Occupational Therapy	1 TO 3 hours.	Addresses processes and issues related to writing for publication in occupational therapy and related journals and magazines, including preparation and submission processes, IRB, receiving critiques, and communicating with reviewers and editors. May be repeated to a maximum of 3 hours. Prerequisite(s): Grade of C or better in OT 500 and grade of C or better in OT 510.
Occupational Therapy	OT	561	Disability and Community Participation: Policy, Systems Change, and Action Research	4 hours.	Focuses on the critical examination of disability policy, activism, and research. Emphasis on conducting participatory action research in collaboration with constituents with disabilities, community organizations, and policy makers. Same as DHD 561. Field work required. Depending on the research project, students may or may not need to complete IRB training. More information on the IRB process will be available at the start of the project. Prerequisite(s): Consent of the instructor. Recommended background: Previous coursework in disability policy, disability empowerment research and qualitative research. To be properly registered, students must enroll in one Lecture/Discussion and one Practice.
Occupational Therapy	OT	564	Leadership and Management in Occupational Therapy	3 hours.	Overview of issues related to administration and management in varied settings in which occupational therapists practice. Topics include management functions, service planning, quality improvement, financial management and accreditation. Prerequisite(s): Graduate standing and OT 424 and OT 428.
Occupational Therapy	OT	565	Research Methodology and Outcomes Measures in Rehabilitation Technology	3 hours.	Analyzes the research process in rehabilitation technology and assistive technology and how such analyisis leads to the development of a research proposal. Outcome measures related to assistive technology will be evaluated for their applicability. Same as DHD 565. Recommended background: Engineering, Occupational Therapy, Physical Therapy, Special Education, and Speech and Language Pathology.
Occupational Therapy	OT	567	Professional Leadership in Occupational Therapy	3 hours.	Focuses on application of theory and evidence in administrative, managerial and educational leadership. Examines roles and functions of leaders and application of problem solving, change management and quality improvement in a variety of settings. Prerequisite(s): Grade of C or better in OT 564; or consent of the instructor.
Occupational Therapy	OT	568	Learning, Teaching, Curriculum Design, Delivery and Evaluation	0 TO 4 hours.	Didactic material and experiential learning as students explore design and implementation of a professional curriculum. Students will be exposed to student admissions, advising, student life and accreditation. May be repeated to a maximum of 4 hours. Prerequisite(s): Consent of the instructor.
Occupational Therapy	OT	569	Developing and Evaluating Self-Management Programs	2 TO 4 hours.	This blended, elective course will examine the theories and processes supporting the development and evaluation of self-management programs for people living with chronic illness, disability or other long-term life challenge. Consent of the instructor.
Occupational Therapy	OT	590	Proseminar in Occupational Therapy	1 hours.	Topics related to leadership/management, education and advanced practice in occupational therapy. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours.
Occupational Therapy	OT	592	Doctoral Project Research	0 TO 20 hours.	Applied scholarship involving planning and implementation of one or more action projects based on theory and evidence, evaluation, writing a comprehensive report, dissemination, and oral presentation. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 20 hours. Prerequisite(s): Consent of the instructor.
Occupational Therapy	OT	594	Special Topics in Occupational Therapy	1 TO 4 hours.	New course under development and selected seminar topics of current interests to faculty and students. Prerequisite(s): Consent of the instructor.

Occupational Therapy	OT	595	Seminar in Occupational Therapy	1 hours.	Students participate in faculty-student discussion and activities related to individual areas of research/thesis. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing or consent of the instructor and admission to the M.S. or OTD Occupational Therapy program.
Occupational Therapy	OT	596	Independent Study	1 TO 4 hours.	This course is for graduate students who wish to pursue independent study not related to their project/thesis research. Prerequisite(s): Consent of the instructor.

Oral and Maxillofacial Surgery - OSUR

Oral and Maxillofacial Surgery	OSUR	510	Conscious Sedation and General Anesthesia	1 hours.	Lectures on pharmacology, pharmakodynamics, medical emergencies, drug interaction, and pain and anxiety control supplemented with clinical experience in administration of general anesthetic and inhalation and intravenous sedatives. 1 hour. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Enrollment in the OMFS Certificate Program or approval of the department.
Oral and Maxillofacial Surgery	OSUR	511	Oral Surgery Seminar	2 hours.	Lectures, seminars, conferences, grand rounds, and journal club dealing with current topics of clinical and research interest. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 24 hours. Prerequisite(s): Enrollment in the OMFS Certificate Program or approval of the department.
Oral and Maxillofacial Surgery	OSUR	513	Craniofacial Deformity Seminar	1 hours.	Discusses the investigation, evaluation, treatment planning and follow-up monitoring of patients with dentofacial deformities. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Prerequisite(s): Enrollment in the OMFS Certificate Program or approval of the department.
Oral and Maxillofacial Surgery	OSUR	532	Diagnosis and Treatment Planning in Orthognathic Surgery	2 hours.	Orthodontic surgical topics of practical interest to orthodontists and oral and maxillofacial surgeons.Satisfactory/Unsatisfactory grading only. Prerequisite(s): Enrollment in a certificate program in the College of Dentistry or approval of the department.
Oral and Maxillofacial Surgery	OSUR	533	Oral and Maxillofacial Surgery Literature Review	1 hours.	Methodology for critical review of medical literature and discussion of key articles appearing in appropriate medical and dental journals. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours. Prerequisite(s): Enrollment in the OMFS Certificate Program or approval of the department.
Oral and Maxillofacial Surgery	OSUR	561	Physical Diagnosis	4 hours.	In-depth methods of obtaining a history and performing physical diagnosis of the entire body through theoretical and practical lesions.

Oral Medicine and Diagnostic Sciences - OMDS

Oral Medicine and Diagnostic Sciences	OMDS	424	Oral Pathology	4 hours.	Diseases of teeth, periodontium, facial bones, muscles, nerves and mucous membranes of the oral region, and salivary glands. Introduction to clinical differential diagnosis. Prerequisite(s): ANAT 312 and BCHE 411 and HSTL 451 and PHYB 321 and PATH 421.
Oral Medicine and Diagnostic Sciences	OMDS	503	Graduate Oral Pathology	2 hours.	Oral pathology for postgraduate students will cover the clinical and microscopic features of pathologic changes linked to oral-dental and systemic diseases. Prerequisite(s): OMDS 424 or the equivalent. Recommended background: Prior academic coursework including biology, histology and other related sciences.
Oral Medicine and Diagnostic Sciences	OMDS	519	Electron Microscopy Seminar	1 hours.	A student speaker makes a seminar type presentation about a topic and follows this with a discussion involving electron microscopy. Prerequisite(s): Consent of the instructor.
Oral Medicine and Diagnostic Sciences	OMDS	527	Oral Biology Seminar	1 hours.	Invited speakers present the progress of current research work in their field of interest related to oral tissues. Same as HSTL 514. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Oral Medicine and Diagnostic Sciences	OMDS	529	Electron Microscopy in Dentistry	1 hours.	Principles, theory, and practice of transmission and scanning electron microscopy, and energy dispersive x-ray microanalysis. Processing, sectioning, staining and examination of tissues. Same as HSTL 515. Prerequisite(s): Consent of the instructor.
Oral Medicine and Diagnostic Sciences	OMDS	595	Seminar in Oral Pathology	2 hours.	Reviews, reports, and discussion topics are drawn from the literature and material of surgical oral pathology. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Oral Medicine and Diagnostic Sciences	OMDS	598	Research in Oral Pathology	0 TO 16 hours.	Independent thesis research on basic biomedical phenomena or specific oral disease(s). Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the advisor.

Oral Sciences - OSCI

Oral Sciences	OSCI	451	Research Methodology	1 hours.	Designed to help the student understand, utilize and appreciate the process of scientific inquiry. Primarily intended for students enrolled in the Master of Science in Oral Sciences degree program. Prerequisite(s): Matriculation into the Master of Science in Oral Sciences program, or courses in basic biological sciences or the equivalent background and consent of the instructor.
Oral Sciences	OSCI	452	Biological Basis of Oral Diseases	2 hours.	Focuses on the biological basis of oral disease and modern concepts in the biomedical sciences. Prerequisite(s): BCMG 411 and HSTL 451 or the equivalent courses, or consent of the instructor.
Oral Sciences	OSCI	534	Dental and Medical Anthropology Within Human Evolution	1 TO 3 hours.	Studies the biological and physical anthropology of hominid teeth and the craniofacial complex with relevant medical anthropology, ethno-pharmoacology, forensic sciences, and paleo-pathology topics. Same as ANTH 534 and PMPG 534. Field work required. A lab experience,independent study and a research paper is required for 3 hours of credit. Prerequisite(s): Graduate standing and consent of the instructor.
Oral Sciences	OSCI	580	Advanced Oral Sciences I	2 hours.	Discussion follows presentation of faculty research. Topics include developmental and molecular biology, tissue engineering, genetics and structural biology in tandem with cutting-edge dental technology.
Oral Sciences	OSCI	581	Advanced Oral Sciences II	2 hours.	Continuation of OSCI 580. Prerequisite(s): OSCI 580.
Oral Sciences	OSCI	583	Research Laboratory Rotation	1 TO 4 hours.	Students participate directly in laboratory research; learn to approach a scientific problem and to perform various experimental techniques to investigate the problem. May be repeated to a maximum of 6 hours.
Oral Sciences	OSCI	590	Hominid Evolution, Dental Anthropology, and Human Variation	1 hours.	Evolution; hominid origins; organization and development of human dentition, agenesis, metric and non-metric variation in tooth form, human growth and maturation, variation and adaptation. Prerequisite(s): Consent of the instructor.
Oral Sciences	OSCI	593	Independent Research in Oral Sciences	1 TO 8 hours.	Faculty supervised research projects. Research may not duplicate that being done in OSCI 598. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Oral Sciences	OSCI	594	Special Topics in Oral Sciences	1 TO 4 hours.	Content varies. Selected topics of current interest in oral sciences. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate or postgraduate standing and consent of the instructor.
Oral Sciences	OSCI	596	Independent Study	1 TO 4 hours.	Faculty-supervised independent study not included in regular course offerings. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Oral Sciences	OSCI	598	Master's Thesis Research	0 TO 16 hours.	Thesis research to fulfill master's degree requirements. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Matriculation into the Master of Science in Oral Sciences program and consent of the director of graduate studies.
Oral Sciences	OSCI	599	Doctoral Thesis Research	0 TO 16 hours.	Independent investigation carried out by Ph.D.candidates under supervision of the student's Advisory Committee. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Satisfactory completion of Candidacy Examination.

Orthodontics - ORTD

Orthodontics	ORTD	513	Craniofacial Growth and Development	4 hours.	Physiology of the stomatognathic system, behavioral development, implications of craniofacial growth and development, reactions of periodontal tissues to applied force and prevalence; causes of malocclusion. Prerequisite(s): Matriculation into the Certificate Program in Orthodontics or M.S. in Oral Sciences program.
Orthodontics	ORTD	521	Methodologies in Craniofacial Research	1 hours.	Demonstration and discussion of the techniques and methods employed in the study of the structure, growth and function of the craniofacial region.
Orthodontics	ORTD	524	Craniofacial Anomalies I	2 hours.	Introduction to a variety of orofacial clefts, etiology, clinical presentation, growth and development and habilitation via an interdisciplinary team approach. Longitudinal analysis of cases with cleft lip and palate.
Orthodontics	ORTD	525	Craniofacial Anomalies II	1 hours.	Introduction to treatment aspects of patients with orofacial clefts and to a variety of craniofacial anomalies, their etiology, clinical presentation, growth and development and habilitation through a team approach. Clinical rotations through the Center for Craniofacial Anomalies. Prerequisite(s): ORTD 524.
Orthodontics	ORTD	537	Biostatistics Applied to Craniofacial Research	2 hours.	Multivariate statistical techniques applied to craniofacial growth research. Prerequisite(s): ORTD 523 and a basic univariate statistics course.
Orthodontics	ORTD	595	Seminar in Orthodontics	1 TO 2 hours.	Presentations by selected guest lecturers on research or clinical material relating to matters of interest to the Department of Orthodontics. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 13 hours. Prerequisite(s): Enrollment in the orthodontics postgraduate or oral sciences graduate program.

Pathology - PATH

Pathology	PATH	421	General Pathology - Dental	3 hours.	Basic principles of pathological processes. Prerequisite(s): ANAT 440 and PATH 407 and PHYB 401; or consent of instructor.
Pathology	PATH	422	Systemic Pathology - Dentistry	3 hours.	Disease process affecting specific organs. Prerequisite(s): PATH 421.
Pathology	PATH	506	Medical Immunology and Flow Cytometry	2 hours.	This flow cytometry workshop has been designed to fill the needs of graduate students in the understanding of the basic principles of the flow cytometry. Extensive computer use required. Prerequisite(s): Graduate or professional standing and consent of the instructor.
Pathology	PATH	507	Physiological Basis of Pathology	2 hours.	Subject matter allied to general pathology but going deeper into physical chemistry and physiological principles, as set forth in N.R. Joseph's "Comparative Physical Biology." Same as HSTL 507. Prerequisite(s): HSTL 401; or PATH 421 and PATH 422.
Pathology	PATH	510	General Pathology	3 hours.	Introduction to the science of disease for graduate students in areas of biomedical research with a focus on the mechanisms of basic pathological processes at the molecular, cellular, tissue, and whole organism levels. Prerequisite(s): Consent of the instructor. Corequisites: Background in basic molecular and cell biology is highly recommended.
Pathology	PATH	511	Pathobiology of Cancer	3 hours.	Introduction to principles of carcinogenesis, tumor biology, and oncology, including cancer epidemiology, molecular-cellular basis of cancer, tumor progression, invasion and metastasis, and prevention, detection, diagnosis, and therapy of cancer. Prerequisite(s): Consent of the instructor. Recommended background: Basic knowledge of molecular and cell biology is highly recommended.
Pathology	PATH	512	Molecular Epidemiology and Biomarkers of Disease	3 hours.	Major theoretical concepts and practical issues involved in research involving molecular biomarkers in human populations, emphasizing examples from the cancer research literature. Same as EPID 512. Prerequisite(s): Consent of the instructor. Recommended background: Some biology or medical background is recommended for epidemiology students taking this course.
Pathology	PATH	513	Special Topics in Pathology	1 TO 4 hours.	Topics of current interest in the fields of experimental pathology, cancer biology, molecular epidemiology, experimental design and analysis, biomarker research, and cancer prevention. May be repeated. Prerequisite(s): Approval of the department.
Pathology	PATH	595	Pathology Seminar and Journal Club	2 hours.	Weekly seminar and journal club covering selected fields of interest and research in pathology. Satisfactory/Unsatisfactory grading only.
Pathology	PATH	598	Master's Thesis Research	0 TO 16 hours.	Research in experimental pathology towards M.S. degree. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.
Pathology	PATH	599	Ph.D. Thesis Research	0 TO 16 hours.	Research in experimental pathology towards a Ph.D. degree. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.

Patient Safety Leadership - PSL

Patient Safety Leadership	PSL	401	Patient Safety and Quality Care Improvement	4 hours.	Introduces students to relevant theory, content, tools and methods in the fields of patient safety and quality care improvement. Extensive computer use required.
Patient Safety Leadership	PSL	402	Error Science, Risk and Disclosure	4 hours.	Error theory and systems thinking, methods for risk assessment and patient safety improvement; development of proficiency with patient safety risk assessment and improvement methods, principles of safe system design, and apology. Prerequisite(s): Grade of B or better in PSL 401; or consent of the instructor.
Patient Safety Leadership	PSL	403	Communication and Collaboration	4 hours.	Introduction to advanced communication strategies for success in the current and future health care system. Prerequisite(s): Grade of B or better in PSL 402; or consent of the instructor.
Patient Safety Leadership	PSL	404	Organizational Leadership in Health Systems	4 hours.	Organization theory, culture, and change specifically related to the health care system in the current medical error and quality improvement environment. Focuses on leadership specific to creating a culture of safety. Prerequisite(s): Grade of B or better in PSL 403; or consent of the instructor.
Patient Safety Leadership	PSL	501	Healthcare Simulation, Team, Applied Leadership Principles	4 hours.	Requires the learner to synthesize and integrate patient safety theory and practice and apply related knowledge and skill toward the development of recommended safety solutions. Includes onsite residency. Prerequisite(s): Grade of B or better in PSL 404; or consent of the instructor.
Patient Safety Leadership	PSL	502	Health Sciences Research and Information Technology	4 hours.	Application in developing, analyzing, and reporting behavioral and/or organizational measures specific to safety and quality care outcomes. Introduction to electronic medical record, e-prescribing, telemedicine and electronic resource management. Prerequisite(s): Grade of B or better in PSL 501; or consent of the instructor.
Patient Safety Leadership	PSL	503	Economics, Policy and Environment	4 hours.	Major topics of discussion include accreditation and regulatory issues, Federal and state constituents and laws, and institutional and individual legal issues in relation to the patient safety movement. Prerequisite(s): Grade of B or better in PSL 502; or consent of the instructor.
Patient Safety Leadership	PSL	504	Creating Human and System Change	4 hours.	Examine the concept of change and its impact on health care organizations and individuals. Assess current systems, create effective change strategies for process improvements, behavior change, and facilitation of a patient safety culture. Prerequisite(s): Grade of B or better in PSL 503; or consent of the instructor.
Patient Safety Leadership	PSL	597	Capstone Project	4 hours.	Provides the opportunity for the master¿s candidate to demonstrate his/her ability to integrate and apply the knowledge and skills acquired from the master¿s program. Prerequisite(s): Grade of B or better in PSL 504; or consent of the instructor.

Pediatric Dentistry - PEDD

Pediatric Dentistry	PEDD	410	Principles and Methods in Dental Research I	2 hours.	Introduces students to several of the more commonly used statistical procedures for testing hypotheses; provides students with a beginners set of tools for using statistics. Prerequisite(s): Enrollment in post-graduate or graduate program in pediatric dentistry.
Pediatric Dentistry	PEDD	411	Principles and Methods in Dental Research II	2 hours.	Designed to provide the student with an understanding of the scientific method. Prerequisite(s): PEDD 410.
Pediatric Dentistry	PEDD	501	Dental Pediatrics I	2 hours.	The pathophysiology and biologic basis of the neurologically mentally and medically compromised developing child and the implications to dental management and research.
Pediatric Dentistry	PEDD	502	Dental Pediatrics II	2 hours.	The pathophysiology and biologic basis of the neurologically mentally and medically compromised developing child and the implications to dental management and research. Prerequisite(s): PEDD 501.
Pediatric Dentistry	PEDD	595	Pediatric Dentistry Seminar	2 hours.	Presentation and discussion of current literature and research in pediatric dentistry, medical and dental aspects of pulpal therapy, traumatology, fluorides and cariology. Provides behavior guidance and application of material from other areas. Satisfactory/Unsatisfactory grading only.

Pharmacognosy - PMPG

Pharmacognosy	PMPG	480	Biological Evaluation of Natural Products	3 hours.	Short-term procedures useful for the discovery and characterization of natural product drugs, with related laboratory experiments, and principles of more advanced drug development. Prerequisite(s): Consent of the instructor.
Pharmacognosy	PMPG	499	Special Projects in Pharmacognosy	1 TO 3 hours.	Special topics in pharmacognosy dealing with isolation and characterization of natural products.
Pharmacognosy	PMPG	507	Drug Discovery, Design and Development	3 hours.	Overview of drug development process from target identification and screening through clinical trials and FDA evaluation. Same as BPS 507 and MDCH 507.
Pharmacognosy	PMPG	510	Research Techniques in Pharmacognosy	3 hours.	Introduction to the techniques used in pharmacognosy.
Pharmacognosy	PMPG	511	Advanced Pharmacognosy	4 hours.	A theoretical and applied course designed to acquaint the student with the occurence, isolation, characterization, identification, biosynthesis and activity profile of biologically active natural products. Prerequisite(s): PMPG 510 or the equivalent or consent of the instructor.
Pharmacognosy	PMPG	512	Microscopy of Natural Drug Products	3 hours.	Use of microscopic methods in the identification of natural drugs and herbal products, with emphasis on the use of light and scanning electron microscopes. Prerequisite(s): PMPG 517 or consent of the instructor.
Pharmacognosy	PMPG	513	Structure of Biopolymers	3 hours.	Explores the relationship between structural stability, kinetic properties and function of biopolymers, with particular emphasis on proteins and nucleic acids. Same as BCMG 513, and MIM 513. Prerequisite(s): GCLS 501 and one year of physical chemistry, or consent of the instructor.
Pharmacognosy	PMPG	515	Structure Elucidation of Natural Products I	2 hours.	Learn the basic skills needed to elucidate the structure of a natural product by spectroscopic methods by using real-life examples. May be repeated to a maximum of 6 hours. Prerequisite(s): Credit or concurrent registration in MDCH 562 and credit or concurrent registration in PMPG 511.
Pharmacognosy	PMPG	516	Structure Elucidation of Natural Products II	3 hours.	Employing modern computational methods in the structure elucidation and dereplication of a natural product by using real life examples. Same as MDCH 516. May be repeated. Prerequisite(s): PMPG 515.
Pharmacognosy	PMPG	517	Problem-Solving in Plant Taxonomy	4 hours.	Principles and concepts in plant taxonomy, which include identification, classification, nomenclature, discussion of major recent/modern systems, family characterization and field work methods. Prerequisite(s): Consent of the instructor.
Pharmacognosy	PMPG	518	Correlative Phytochemistry	2 hours.	Distributional correlation of well-defined groups of secondary phytoconstituents with existing plant classification systems as an aid in the search for biologically active natural products. Prerequisite(s): PMPG 517.
Pharmacognosy	PMPG	520	Enthnopharmacology Field Work	4 hours.	Studies of plants used by primitive peoples as medicinal agents, in defined geographic areas, primarily through interviews with medicine men and the populace. Plant material will be collected for subsequent study. Contingent on availability of funds for travel support. Prerequisite(s): PMPG 517 or consent of the instructor.
Pharmacognosy	PMPG	521	Recent Advances in Pharmacognosy	2 hours.	A review of recent progress in the chemistry, biosynthesis and biological properties of natural products. Prerequisite(s): PMPG 511.
Pharmacognosy	PMPG	522	Laboratory Techniques in Pharmaceutical Biotechnology I	3 hours.	Students will perform laboratory research rotations as assigned by the Biotechnology track faculty in the three laboratories of the Center for Pharmaceutical Biotechnology in the College of Pharmacy. Prerequisite(s): Credit or concurrent registration in BCHE 460; or consent of the instructor.
Pharmacognosy	PMPG	523	Laboratory Techniques in Pharmaceutical Biotechnology II	3 hours.	In a continuation of PMPG 522 students will perform laboratory research rotations as assigned by the Biotechnology track faculty in the laboratories of the Center for Pharmaceutical Biotechnology in the College of Pharmacy. Prerequisite(s): PMPG 522; or consent of the instructor.
Pharmacognosy	PMPG	534	Dental and Medical Anthropology Within Human Evolution	1 TO 3 hours.	Studies the biological and physical anthropology of hominid teeth and the craniofacial complex with relevant medical anthropology, ethno-pharmoacology, forensic sciences, and paleo-pathology topics. Same as ANTH 534 andOSCI 534. Field work required. A lab experience,independent study and a research paper is required for 3 hours of credit. Prerequisite(s): Graduate standing and consent of the instructor.
Pharmacognosy	PMPG	540	Marine Natural Products	2 hours.	Expose graduate students to field of marine natural product chemistry. Course will include examples of marine antineoplastic agents, marine toxins, and other pharmaceutically relevant marine natural products from various marine organisms. May be repeated to a maximum of 6 hours.
Pharmacognosy	PMPG	553	Cancer Biology and Therapeutics	2 hours.	Fundamentals of cancer biology with emphasis on biological, hormonal and chemotherapeutic drug therapies currently used and in development. Specific treatment approaches to breast, ovarian, prostate and colon cancers will be explored. Same as BPS 553 and MDCH 553. Prerequisite(s): Consent of the instructor. Recommended background: Molecular and Cellular Biology.
Pharmacognosy	PMPG	565	Special Projects in	1 TO 3 hours.	Overview of current research topics of interest in pharmacognosy: potential areas-

			Pharmacognosy		ethnomedicine, biological evaluation, dietary supplements, taxonomy, chemotaxonomy, organism propagation, and applications of contemporary analytical techniques. May be repeated up to 3 time(s). Prerequisite(s): Completion of the first year of the program.
Pharmacognosy	PMPG	569	Predictive Strategies in Pharmacognosy	2 hours.	Consideration of the methods employed for the selection of plants that are most likely to yield biologically active compounds. Prerequisite(s): Demonstration of competency in organic chemistry, botany and pharmacology.
Pharmacognosy	PMPG	590	Laboratory Techniques in Pharmacognosy I	2 hours.	Perform laboratory research rotations as assigned by Pharmacognosy drug discovery track faculty of Program for Collaborative Research in Pharmaceutical Sciences (PCRPS). Prerequisite(s): Credit or concurrent registration in PMPG 510 or consent of the instructor.
Pharmacognosy	PMPG	592	Laboratory Techniques in Pharmacognosy II	2 hours.	In continuation of PMPG 590, student will perform lab research rotations as assigned by Pharmacognosy drug discovery track faculty of the Program for Collaborative Research in Pharmaceutical Sciences (PCRPS) Prerequisite(s): PMPG 590 or consent of the instructor
Pharmacognosy	PMPG	593	Graduate Student Seminar Class	1 hours.	Provides practice and practical guidance for giving a high quality research seminar. Satisfactory/Unsatisfactory grading only.
Pharmacognosy	PMPG	595	Seminar in Pharmacognosy	1 hours.	Presentation on a current research topic. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 2 hours.
Pharmacognosy	PMPG	598	Master's Research in Pharmacognosy	0 TO 16 hours.	Research for completion of master's degree. Satisfactory/Unsatisfactory grading only.
Pharmacognosy	PMPG	599	Doctoral Research in Pharmacognosy	0 TO 16 hours.	Research for students in the pharmacognosy doctoral program. Satisfactory/Unsatisfactory grading only. May be repeated.

Pharmacology - PCOL

Pharmacology	PCOL	430	Principles of Toxicology	2 hours.	Examines the toxic effects of drugs and chemicals on organ systems. Lectures emphasize basic principles, effects on specific organ systems, major classes of toxic chemicals, and specialized topics such as forensic and industrial toxicology. Same as BPS 430. Credit is not given for PCOL 430 if the student has credit for EOHS 457.
Pharmacology	PCOL	501	Medical Pharmacology I	3 hours.	A lecture, conference and laboratory course on human pharmacology. Drug mechanisms, toxicities and kinetics are presented as a foundation to therapeutic application. This is a College of Medicine course that does not follow the regular academic calendar. Credit is not given for PCOL 501 if the student has credit for PCOL 425. Prerequisite(s): Grade of C or better in GCLS 501 and grade of C or better in GCLS 503; or consent of the instructor.
Pharmacology	PCOL	502	Medical Pharmacology II	3 hours.	Continues PCOL 501. A lecture, conference and laboratory course on human pharmacology. Drug mechanisms, toxicities and kinetics are presented as a foundation to therapeutic application. Credit is not given for PCOL 502 if the student has credit for PCOL 425. College of Medicine course that does not follow the regular academic calendar. Prerequisite(s): Grade of C or better in GCLS 501 and grade of C or better in GCLS 503; or consent of the instructor.
Pharmacology	PCOL	510	Molecular Pharmacology of Platelets, Thrombosis and Vascular System	2 hours.	Molecular mechanism and therapeutic approaches to: platelet functions, thrombosis, hemostasis, and vascular biology. The platelet as a model cell for molecular mechanisms of intracellular signal transduction and cell adhesion. Prerequisite(s): Credit or concurrent registration in GCLS 501 and GCLS 503; or consent of the instructor.
Pharmacology	PCOL	530	Pharmacology and Biology of the Vessel Wall	2 hours.	Regulation of physiological and pathological processes in the cardiovascular system; e.g. endothelial barrier, cell adhesion, smooth muscle proliferation, angiogenesis, endothelial gene expression. Pharmacological treatment of cardiovascular diseases. Prerequisite(s): Credit or concurrent registration in GCLS 501 and GCLS 503; and consent of the instructor.
Pharmacology	PCOL	540	Ion Channels: Structure, Function, Pharmacology and Pathology	2 hours.	The concept of ion channels is treated from the perspectives of their molecular structures and functions. Modulation, pathological conditions (channelopathies), and pharmacological intervention will also be treated. Same as PHYB 540. Recommended background: One undergraduate course in Biochemistry and one in Physiology, or consent of the instructor.
Pharmacology	PCOL	550	The Biology and Pharmacology of the Lung	2 hours.	Covers topics in lung biology and physiology. The importance of impaired lung function in inducing lung diseases and potential therapeutics will be discussed. Prerequisite(s): Credit or concurrent registration in GCLS 501; and Credit or concurrent registration in GCLS 503; or consent of the instructor.
Pharmacology	PCOL	594	Special Topics	1 hours.	Organized presentation and discussion of rapidly developing research areas in molecular, cellular and systems pharmacology. May be repeated. Prerequisite(s): Consent of the instructor.
Pharmacology	PCOL	595	Pharmacology Seminar	1 hours.	Presentation of research and/or current literature by invited lecturers and students. Satisfactory/Unsatisfactory grading only. May be repeated.
Pharmacology	PCOL	598	M.S. Thesis Research	0 TO 16 hours.	Thesis work under the supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only.
Pharmacology	PCOL	599	Ph.D. Thesis Research	0 TO 16 hours.	Thesis work under the supervision of a graduate advisor. Satisfactory/Unsatisfactory grading only.

Pharmacy - PHAR

Pharmacy	PHAR	400	Pharmacokinetics	3 hours.	Concepts and principles in pharmacokinetics including theories and basis for drug receptor actions, drug absorption, distribution, excretion and biotransformation. Prerequisite(s): Credit or concurrent registration in PHAR 322 and credit or concurrent registration in PHAR 332 and credit or concurrent registration in PHYB 302.
Pharmacy	PHAR	401	Principles of Drug Action and Therapeutics I	3 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics and toxicology in the drug actions related to the disease states associated with the endocrine, renal, optical and auditory systems. Prerequisite(s): PHYB 302 and PHAR 342 and PHAR 400 and second year standing in the Doctor of Pharmacy program.
Pharmacy	PHAR	402	Principles of Drug Action and Therapeutics II	4 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics and toxicology in the areas of the autonomic nervous system, cardiology, lipid disorders and hypertension. Prerequisite(s): PHYB 302 and PHAR 342 and PHAR 400 and second year standing in the Doctor of Pharmacy program.
Pharmacy	PHAR	403	Principles of Drug Action and Therapeutics III	3 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the area of infectious disease. Prerequisite(s): PHAR 352 and PHAR 401 and PHAR 402 and second year standing in the Doctor of Pharmacy program or consent of the instructor.
Pharmacy	PHAR	404	Principles of Drug Action and Therapeutics IV	3 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxiocology in the areas of women's and men's health, respiratory disorders, diabetes and pediatrics. Prerequisite(s): PHAR 352 and PHAR 401 and PHAR 402 and second year standing in the Doctor of Pharmacy program or consent of the instructor.
Pharmacy	PHAR	405	Principles of Drug Action and Therapeutics V	3 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics and toxicology in the areas of drug abuse, cerebrovascular diseases, parkinson's and epilepsy. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third year standing in the Doctor of Pharmacy program or consent of the instructor.
Pharmacy	PHAR	406	Principles of Drug Action and Therapeutics VI	3 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of pain management and psychiatric disorders. Prerequisite(s): PHAR 403 and PHAR 404 and third year standing in the Doctor of Pharmacy program or consent of the instructor.
Pharmacy	PHAR	407	Principles of Drug Action and Therapeutics VII	4 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of transplants, gastrointestinal disorders, body fluids, nutrition, and the impact of drug therapies on a geriatric person. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third year standing in the Doctor of Pharmacy program or consent of the instructor.
Pharmacy	PHAR	408	Principles of Drug Action and Therapeutics VIII	3 hours.	Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of bones and joints, hematological disorders, oncology. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third year standing in the Doctor of Pharmacy program or consent of the instructor.
Pharmacy	PHAR	441	Roles, Environments, and Communications	3 hours.	Selected factors that influence pharmacist's practice, societal, and professional expectations, and the importance of effective communications with a variety of patients and professional audiences. Prerequisite(s): Acceptance into the Doctor of Pharmacy program.
Pharmacy	PHAR	445	Pharmacy Law	3 hours.	Federal and state statutes and regulations pertaining to the licensing of pharmacists, the practice of pharmacy, and distribution of drugs. Case law and the ethical dilemmas relating to the pharmacists' standard of care are included. Prerequisite(s): PHAR 342.
Pharmacy	PHAR	455	Drug Information and Statistics	4 hours.	Overview of drug information resources and statistics used in healthcare research, including systematic approaches for critical evaluation of the literature and effective communication of information. Prerequisite(s): PHAR 441.

Pharmacy Administration - PMAD

Pharmacy Administration	PMAD	421	Pharmaceutical Marketing	3 hours.	Introduction to the field of marketing with specific emphasis on pharmaceuticals and the marketing of pharmacy services.
Pharmacy Administration	PMAD	426	Pharmacoepidemiology	2 hours.	Provides an introduction to pharmacoepidemiology and key concepts and principles that are unique to the study of medications in large populations. Same as EPID 426. Prerequisite(s): EPID 400 or EPID 403 or consent of the instructor. Priority in enrollement is given to graduate students in the health sciences.
Pharmacy Administration	PMAD	470	Managed Care Pharmacy	3 hours.	Professional development in managed care pharmacy to learn history, administrative and policy aspects, network with operational managers and leaders in field, visit managed care sites and observe activies of managed care pharmacists. Prerequisite(s): Third year standing in the Doctor of Pharmacy program or second year standing in the Doctor of Pharmacy program with consent of the instructor, or graduate standing in pharmacy.
Pharmacy Administration	PMAD	482	Professional Practice Management	3 hours.	Managerial functions of the pharmacist in all practice environments with emphasis on the planning, organizing, staffing, directing and controlling of resources.
Pharmacy Administration	PMAD	484	Systematic Reviews and Meta-Analysis	3 hours.	The course will discuss the concepts, process, and statistical methods required to perform a systematic review or meta-analysis of a large body of empirical findings. Extensive computer use required. Prerequisitie(s): EPID 400 or BSTT 400 and PHAR 355 or PMAD 502 or graduate or professional standing or consent of the instructor.
Pharmacy Administration	PMAD	494	Special Topics in Pharmacy Administration	1 TO 3 hours.	Topics will vary,including the on-going analysis of contemporary issues associated with delivery, financing and management of pharmaceutical products and professional services. May be repeated to a maximum of 6 hours.
Pharmacy Administration	PMAD	502	Research Methods in Pharmacy Administration	4 hours.	Overview of the research process in the social, behavioral, and economic pharmaceutical sciences from problem identification and conceptualization through data collection, analysis, and interpretation. Prerequisite(s): Graduate standing and consent of the instructor is required for non-departmental students.
Pharmacy Administration	PMAD	507	Pharmacy and Its Environment	2 hours.	Factors directly influencing the practice of pharmacy. Roles of the pharmacist as affected by contemporary organizational, legislative societal and fiscal environments. Prerequisite(s): Admission into the M.S. or Ph.D. in Pharmacy Program.
Pharmacy Administration	PMAD	510	Problems in Pharmacy Management	3 hours.	Selective managerial problems relative to pharmacy practice. Field work involves data collection based on individual and group models of the managerial decision process. Prerequisite(s): PMAD 482 or the equivalent.
Pharmacy Administration	PMAD	525	Medication, Identity and Illness	3 hours.	Examines the role of pharmaceutical care and medication-taking in the social context of chronic illness. Prerequisite(s): Credit or concurrent registration in PMAD 321 or consent of the instructor.
Pharmacy Administration	PMAD	535	Health Policy and Pharmaceutical Care	3 hours.	History of the organization, financing and delivery of American health care with regulatory controls and reform proposals covering drug approval, manufacturing, marketing, use, and safety.
Pharmacy Administration	PMAD	573	Principles of Economic Evaluations of Health Care Interventions	3 hours.	Principles, models and practical methods for the economic evaluation of health care services with an emphasis on pharmaceutical care. Same as HPA 573. Previously listed as PMAD 571. Prerequisite(s): HPA 460; and Graduate standing; and consent of the instructor.
Pharmacy Administration	PMAD	575	Educational Instruction and Practice in Pharmacy Administration	2 hours.	Designed to develop teaching skills and improve instructional abilities. Prerequisite(s): Consent of the instructor.
Pharmacy Administration	PMAD	577	Applied Population Health Survey Research	3 hours.	Development of computer programming skills and knowledge of statistical techniques for analyzing population health survey data. Credit is not given for PMAD 577 if the student has credit in BSTT 507 or CHSC 447 or STAT 431 or STAT 531 or STAT 532. Extensive computer use required. Prerequisite(s): Consent of the instructor. Restricted to graduate students in the Health Sciences Colleges.
Pharmacy Administration	PMAD	579	Advanced Methods in Outcomes Research and Grant Writing	3 hours.	An advanced graduate-level course focused on the grant writing strategies with an emphasis on methodologies relevant to health services, economics and outcomes research. Prerequisite(s): PMAD 502 and PMAD 573; or consent of the instructor.
Pharmacy Administration	PMAD	580	Advanced Decision Analysis Techniques I	2 hours.	Exposes students to advanced decision analysis and related sensitivity analysis methodologies. Extensive computer use required. Prerequisite(s): PMAD 573 and consent of the instructor. Priority enrollment is provided to graduate students in the Health Science Colleges and the Department of Economics, School of Liberal Arts and Sciences, and those enrolled in the MBA program, College of Business Administration.
Pharmacy Administration	PMAD	581	Advanced Decision Analysis Techniques II	1 hours.	The purpose will be to gain experience using techniques germane to the advanced decision analysis and related sensitivity analysis methodologies taught in PMAD 580. Extensive computer use required. Prerequisite(s): PMAD 580 and consent of the instructor. Priority enrollment is provided to graduate students in the Health Science Colleges and the Department of Economics, School of Liberal Arts and Sciences, and those enrolled in the MBA program, College of Business Administration.
Pharmacy	PMAD	594	Special Topics in	1 TO 3 hours.	Topics vary. Intensive analysis of contemporary issue(s) associated with delivery and

Administration			Pharmacy Administration		financing of pharmaceutical products and professional services. May be repeated to a maximum of 6 hours.
Pharmacy Administration	PMAD	595	Departmental Seminar	1 hours.	Presentation by students, faculty and visiting experts. Topics to be arranged. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Pharmacy Administration	PMAD	596	Independent Study	1 TO 4 hours.	Individual research under direction of a member of the faculty. May be repeated. Students may register in more than one section per term. Prerequisite(s): PMAD 502 or consent of the instructor.
Pharmacy Administration	PMAD	597	Pharmacy Administration Project	0 TO 6 hours.	Supervised literature-based scholarship and/or research in pharmacy administration. Selected problems or issues in social, behavioral, or economic pharmaceutical sciences are investigated under the direction of the faculty advisor. Satisfactory/Unsatisfactory grading only. Prerequisite(s): PMAD 502.
Pharmacy Administration	PMAD	598	Master's Thesis Research	0 TO 16 hours.	Independent research on topic approved by student's graduate committee. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the committee. Open only to degree candidates.
Pharmacy Administration	PMAD	599	Ph.D. Thesis Research	0 TO 16 hours.	Independent research on topic approved by student's graduate committee. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the committee. Open only to degree candidates.

Pharmacy Practice - PMPR

Pharmacy Practice	PMPR	430	Critical Care I	2 hours.	Advanced pharmacotherapeutics course that will concentrate on the medical management and the pharmacotherapist's role in the management of the critically ill patient. Prerequisite(s): PHAR 402 and PHAR 403 and PHAR 404 and PHAR 405 and PHAR 406; and completion of the second year of the program. Must enroll concurrently in PHAR 407 and PHAR 408.
Pharmacy Practice	PMPR	440	Applied Pharmacokinetics	2 hours.	An elective course demonstrating practical application of pharmacokinetic principles. Previously listed as PMPR 340. Scientific calculator required. Prerequisite(s): PHAR 401, PHAR 402, PHAR 403, PHAR 404, PHAR 405, and PHAR 406 or consent of the instructor.

Philosophy - PHIL

Philosophy	PHIL	401	Theory of Knowledge	3 OR 4 hours.	Survey and analysis of key topics in epistemology, such as skepticism, the nature of propositional knowledge, justification, perception, memory, induction, other minds, naturalistic epistemology. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 201 or consent of the instructor.
Philosophy	PHIL	402	Topics in Philosophy of Mind	3 OR 4 hours.	Survey and analysis of one or more topics in philosophy of mind, such as the mind-body problem, philosophy of psychology, perception and sensation, intentional content, consciousness, and mental causation. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): PHIL 202. Recommended background: PHIL 102 or PHIL 210.
Philosophy	PHIL	403	Metaphysics	3 OR 4 hours.	Intensive treatment of one or more topics, such as free will, personal identity, causation, existence, substance and attribute, the nature of the mind. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 203 or PHIL 226 or PHIL 426 or consent of the instructor.
Philosophy	PHIL	404	Philosophy of Science	3 OR 4 hours.	Selected works on the aims and methods of science; the status of scientific theories, natural laws and theoretical entities; the nature of scientific explanation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 102 or PHIL 210, and one 200-level course in philosophy; or consent of the instructor.
Philosophy	PHIL	406	Philosophy of Language	3 OR 4 hours.	Intensive treatment of one or more topics, such as meaning and reference, communication, the structure of language, language and thought, and the relation of language to reality. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 102 or one 200- or 400-level logic course or PHIL 226 or consent of the instructor.
Philosophy	PHIL	410	Introduction to Formal Logic	3 OR 4 hours.	Review of predicate logic and of introductory set theory. The concept of a formal system. Notions of completeness and soundness. Introduction to Godel's first incompleteness theorem. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 210 or consent of the instructor.
Philosophy	PHIL	416	Metalogic I	3 OR 4 hours.	Metatheory for sentence and predicate logic. Completeness and compactness theorems and their applications. 3 undergraduate hours. 4 graduate hours. Students who have taken MATH 430 may not register for this course. Should be taken in sequence with PHIL 417. Prerequisite(s): PHIL 210 or consent of the instructor.
Philosophy	PHIL	417	Metalogic II	3 OR 4 hours.	Effective computability and recursive functions. Peano arithmetic. Arithmetization of syntax. Incompleteness and undecidability: Godel's and Church's theorems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 416 or consent of the instructor.
Philosophy	PHIL	420	Plato	3 OR 4 hours.	Careful reading of selected works. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): PHIL 220 or PHIL 221 or 3 courses in philosophy or consent of the instructor.
Philosophy	PHIL	421	Aristotle	3 OR 4 hours.	Careful reading of selected works. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): PHIL 220 or PHIL 221 or 3 courses in philosophy or consent of the instructor.
Philosophy	PHIL	422	Medieval Philosophy	0 TO 4 hours.	Study of selected philosophers such as Augustine, Boethius, Averroes, Maimonides, Aquinas, William of Ockham, Buridan, Suarez. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 220 or PHIL 221 or PHIL 420 or PHIL 421 or consent of the instructor.
Philosophy	PHIL	423	Studies in Early Modern Philosophy	3 OR 4 hours.	Careful reading of selected works of one or more philosophers, 1600 to 1750, such as Descartes, Hobbes, Spinoza, Leibniz, Locke, Berkely, Hume, Reid and Rousseau. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): PHIL 223 or PHIL 224 or 3 courses in philosophy or consent of the instructor.
Philosophy	PHIL	424	Kant	3 OR 4 hours.	Intensive study of Kant's metaphysics and theory of knowledge with main reading drawn from the Critique of Pure Reason. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 223 or PHIL 224 or 3 courses in philosophy or consent of the instructor.
Philosophy	PHIL	425	Studies in Nineteenth-Century Philosophy	3 OR 4 hours.	Careful reading of one or more post-Kantian philosophers such as Hegel, Schelling, Fichte, Schopenhauer, Marx, J.S. Mill, Kierkegaard, Nietzsche. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One 200-level course in philosophy or consent of the instructor.
Philosophy	PHIL	426	Analysis and Logical Empiricism	3 OR 4 hours.	Developments in twentieth century philosophy with roots in the study of logic and language, such as logical atomism, logical empiricism, and contemporary analytic philosophy. Topics vary. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 210 or PHIL 226 or consent of the instructor.
Philosophy	PHIL	427	Continental Philosophy II: European Thought Since 1960	3 OR 4 hours.	European thought since 1960: Existential Marxism; Critical Theory; Structuralism, Post-Structuralism and Deconstruction. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 227 or consent of the instructor.
Philosophy	PHIL	428	Topics in Ancient Philosophy	3 OR 4 hours.	Careful reading of related works by Ancient Philosophers, such as Plato and Aristotle. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): PHIL 220 or PHIL 221; and junior standing or above.
Philosophy	PHIL	429	Special Studies in the History of Philosophy	3 OR 4 hours.	Advanced study of a historical school, period, or the development of a historical theme. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in the history of

					philosophy or consent of the instructor.
Philosophy	PHIL	430	Ethics	3 OR 4 hours.	Selected topics in moral philosophy, such as normative ethics, value theory or meta-ethics. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.
Philosophy	PHIL	431	Social/Political Philosophy	3 OR 4 hours.	Selected topics in social and political philosophy. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.
Philosophy	PHIL	432	Topics in Ethics	3 OR 4 hours.	Selected topics in ethics. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.
Philosophy	PHIL	433	Topics in Social/Political Philosophy	3 OR 4 hours.	Selected topics in social and political philosophy. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.
Philosophy	PHIL	441	Topics in Philosophy of Religion	0 TO 4 hours.	Intensive study of one or more selected topics concerning the philosophical aspects of basic religious beliefs and concepts. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: PHIL 241.
Philosophy	PHIL	484	Neuroscience I	3 hours.	Neuroscience as an integrative discipline. Neuroanatomy of vertebrates, neural development, cellular neurobiology, action potential mechanisms, synaptic transmission and neuropharmacology. Same as BIOS 484 and PSCH 484. Prerequisite(s): BIOS 286 or PSCH 262.
Philosophy	PHIL	485	Neuroscience II	3 hours.	Integrative neuroscience; continuation of BIOS/PSCH/PHIL 484. Sensory and motor systems; learning, memory, and language. Pathology of nervous systems. Philosophical perspectives, and modeling. Same as BIOS 485 and PSCH 485. Prerequisite(s): BIOS 484.
Philosophy	PHIL	500	Writing in Philosophy	4 hours.	Practice in philosophical writing including finding a thesis. Judicious choice of reading on the topic, outlining, and composing drafts as well as style, paragraphing, and making sentences. Required of all first year Ph.D. students. Prerequisite(s): Graduate standing in philosophy.
Philosophy	PHIL	501	Seminar: Topics in Ancient Philosophy	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	503	Medieval Philosophy	4 hours.	Intensive study of special topics in medieval philosophy. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	504	Theoretical Approaches to Policy and Governance	4 hours.	Different theoretical approaches to the relationship between policy and governance and the philosophical foundations on which those approaches are based. Same as POLS 504. Prerequisite(s): Consent of the department required for nondegree graduate students.
Philosophy	PHIL	505	Seminar in Modern Philosophy	4 hours.	Intensive analysis of the work of one important philosopher or philosophical movement between 1600 and 1900. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	508	Nineteenth-Century Philosophy	4 hours.	Topics in nineteenth-century philosophy. May be repeated with approval. Students may register for more than one section per term. Approval to repeat course granted by the department.
Philosophy	PHIL	509	History of Analytic Philosophy	4 hours.	Topics in late nineteenth- and early twentieth-century Anglo-American philosophy. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	510	History of Ethics and Social/Political Philosophy	4 hours.	Topics in the history of ethics or social-political philosophy. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	513	Topics in History of Philosophy	4 hours.	Philosophers, philosophical schools, or intellectual trends other than those of the ancient and modern periods. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	520	Topics in Contemporary Philosophy	4 hours.	Intensive analysis of the work of one important philosopher or philosophical movement of the twentieth century. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	522	Feminist Philosophy	4 hours.	Topics in feminist philosophy. May be repeated with approval. Students may register for more than one section per term. Approval to repeat course granted by the department.
Philosophy	PHIL	524	Continental Philosophy	4 hours.	Topics in continental philosophy. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	526	Ethics	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course

					granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	528	Social/Political Philosophy	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	530	Aesthetics	4 hours.	Intensive study of selected topics in aesthetics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	532	Metaphysics	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	534	Philosophy of Mind	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	536	Epistemology	4 hours.	Selected topics in the contemporary theory of knowledge. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	538	Philosophy of Language	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	540	Philosophy of Science	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	542	Philosophy of Special Sciences	4 hours.	Intensive study of special topics in philosophy of physics, philosophy of biology, or other sciences. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	544	Philosophy of Logic	4 hours.	Intensive study of selected topics. May be repeated with approval. Approval to repeat course granted by the department. Students may register for more than one section per term when topics vary.
Philosophy	PHIL	546	Philosophy of Mathematics	4 hours.	Philosophical foundations of mathematics. May be repeated with approval. Approval to repeat course granted by the department.
Philosophy	PHIL	562	Mathematical Logic	4 hours.	First order logic, completeness and incompleteness theorems, introduction to model theory and computability theory. Same as MATH 502. Prerequisite(s): MATH 430 or consent of the instructor.
Philosophy	PHIL	563	Metamathematics II	4 hours.	Incompleteness theorems, elementary recursion theory and proof theory, first and second order arithmetic. Same as MATH 503. Prerequisite(s): MATH 502 or PHIL 562.
Philosophy	PHIL	565	Set Theory	4 hours.	Naive and axiomatic set theory. Independence of the continuum hypothesis and the axiom of choice. Same as MATH 504. Prerequisite(s): MATH 430 or MATH 502 or PHIL 562.
Philosophy	PHIL	567	Model Theory I	4 hours.	Elementary embeddings, quantifier elimination, types, saturated and prime models, indiscernibles, Morley's Categoricity Theorem. Same as MATH 506. Prerequisite(s): MATH 502 or PHIL 562.
Philosophy	PHIL	568	Model Theory II	4 hours.	Stability theory: forking and indpendence, stable groups, geometric stability. Same as MATH 507. Prerequisite(s): MATH 506 or PHIL 567.
Philosophy	PHIL	569	Advanced Topics in Logic	4 hours.	Advanced topics in modern logic; e.g. large cardinals, infinitary logic, model theory of fields, o-minimality, Borel equivalence relations. Same as MATH 512. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Philosophy	PHIL	590	Research Seminar	4 hours.	A work-in-progress seminar for graduate students at the topical, prospectus, or dissertation level. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Completion of 10 of the 14 required courses for the Ph.D. in Philosophy.
Philosophy	PHIL	593	Independent Research	2 TO 8 hours.	Topics and plan of study must be approved by the candidate's advisor and by the staff member who directs the work. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.
Philosophy	PHIL	596	Independent Study	1 TO 4 hours.	Topics and plan of study must be approved by the candidate's advisor and by the staff member who directs the work. May be repeated. Students may register in more than one section per term.
Philosophy	PHIL	599	Thesis Research	0 TO 16 hours.	Research for the Ph.D. thesis. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.

Physical Therapy - PT

Physical Therapy	PT	502	Measuring Motor Development and Function	3 hours.	Psychometric characteristics of standardized tests of motor development and function. Survey of tests, test evaluation, interpretation of test scores, and application to clinical practice. Prerequisite(s): Consent of the instructor and a graduate-level course in statistics.
Physical Therapy	PT	503	Analysis of Motor Development	3 hours.	Sensorimotor development in children, relating changes to maturation, skill acquisition, motor learning, environmental influences and individual differences. Includes critical review of current literature. Prerequisite(s): Consent of the instructor. Recommended background: Prior experience in or knowledge of child development. Course is targeted to graduate and professional students pursuing health-related degrees.
Physical Therapy	PT	504	Assessment of Developmental Processes in Infancy	2 hours.	Motor and behavioral competencies of the newborn, both term and preterm. Assessment of behavior and motor dysfunction in infants; analysis of the literature on intervention. Prerequisite(s): Consent of the instructor and credit or concurrent registration in a graduate-level course in statistics.
Physical Therapy	PT	505	Advances in Rehabilitation Sciences I	3 hours.	Highlights the advances in the knowledge in rehabilitiation of neurological, pediatric and geriatric populations. Provides exposure to methods of assessment, treatment and outcome measurements, and basic understanding of recovery of functions. Prerequisite(s): Graduate or professional standing; and consent of the instructor.
Physical Therapy	PT	506	Advances in Rehabilitation Sciences II	3 hours.	Highlights advances in knowledge in non-pharmacological management of pain and rehabilitation of orthopedic and cardiopulmonary populations. Covers assessment, treatment and outcome measurements, and basic understanding of recovery of functions. Prerequisite(s): Graduate or professional standing; and consent of the instructor.
Physical Therapy	PT	510	Control of Posture and Locomotion	2 hours.	Review and analysis of normal and developmental aspects, assessment, disorders, and rehabilitation of balance and gait disorders. Prerequisite(s): PT 562; and consent of the instructor.
Physical Therapy	PT	511	Therapeutic Intervention	3 hours.	Provides clinicians with an approach to integrate research into practice. The goal is to acquire skills to evaluate therapeutic interventions in the literature and in practice. Prerequisite(s): Consent of the instructor.
Physical Therapy	PT	520	Mechanics of Joint Dysfunction	3 hours.	Principles of mechanics applied to pathology of joint components; mechanical and neurological implications of extremity and spinal joint dysfunction; critical review of pertinent literature. Prerequisite(s): PT 519.
Physical Therapy	PT	521	Biomechanics of Locomotor Dysfunction	3 hours.	Principles of mechanics applied to the study of human movement and walking pattern. Kinematic and kinetic analysis of normal and pathological deviations. Prerequisite(s): Human Physiology and Anatomy I or equivalent courses and consent of instructor.
Physical Therapy	PT	562	Neural Plasticity and Pathophysiology	3 hours.	Neurologic concepts underlying PNS/CNS injury process and neural plasticity (nervous system remodeling and reorganization). Neuropathology of conditions producing movement dysfunction. Prerequisite(s): Consent of the instructor.
Physical Therapy	PT	563	Measurement in Rehabilitation Sciences	3 hours.	Application of measurement science to test development; Assess merits of various clinical outcome measures and research design. Prerequisite(s): Consent of the instructor and any graduate-level statistics course.
Physical Therapy	PT	570	Planning and Evaluating Intervention Programs in Various Settings	3 hours.	Planning, implementation, and evaluation of services for children with special needs. Emphasis on conceptual frameworks in human development and family systems. Program planning and evaluation. Prerequisite(s): Consent of the instructor. Recommended background: Prior experience or knowledge of child development.
Physical Therapy	PT	571	Biomechanics of Normal and Abnormal Movement	3 hours.	Principles of statics and dynamics exemplified by human movements. Examination of muscle mechanics, joint forces, stability. Redundancy and intersegmental interactions in multijoint movements. Same as KN 571. Prerequisite(s): Consent of the instructor.
Physical Therapy	PT	572	Psychology of Motor Control and Learning	3 hours.	Advanced principles of the control and acquisition of complex, voluntary skills. Same as KN 572. Prerequisite(s): KN 372; or consent of the instructor.
Physical Therapy	PT	574	Instrumentation for Motor Control Research	3 hours.	Introduction to oscilloscopes, amplifiers, filters, and transducers. Origin and processing of electromyograms. Motion capture and processing techniques. Same as KN 574. Prerequisite(s): KN 571 or PT 571.
Physical Therapy	PT	580	Advanced Clinical Reasoning in Orthopedic Manual Physical Therapy I: Extremities	2 hours.	Designed to promote clinical reasoning and understanding of the research literature for enhancement of evidenced based clinical practice with an emphasis on extremity joint dysfunction.
Physical Therapy	PT	581	Advanced Clinical Reasoning in Orthopedic Manual Therapy II: Spine	2 hours.	Designed to promote clinical reasoning and understanding of the research literature for enhancement of evidenced-based clinical practice with an emphasis on spinal joint dysfunction.
Physical Therapy	PT	582	Advanced Manipulation and Orthopedic Manual Physical Therapy I:	3 hours.	Designed to provide an evidenced-based approach toward evaluation and management of peripheral musculoskeletal disorders, including thrust and non-thrust manipulation. Prerequisite(s): Must be a U.S. licensed physical therapist.

			Extremities		
Physical Therapy	PT	583	Advanced Manipulation and Orthopedic Manual Physical Therapy II: Spine	3 hours.	Designed to provide an evidenced-based approach toward evaluation and management of spinal musculoskeletal disorders, including thrust and non-thrust manipulation. Prerequisite(s): Must be a U.S. licensed physical therapist.
Physical Therapy	PT	584	Clinical Mentorship I: Extremities	3 hours.	Physical therapy practice under the tutelage of a mentor. Students will apply and master skills, techniques and reasoning methods learned in the didactic coursework. Emphasis is on peripheral musculoskeletal disorders. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Instructor approval required; must be a U.S. licensed physical therapist.
Physical Therapy	PT	585	Clinical Mentorship II: Spine	3 hours.	Physical therapy practice under the tutelage of a mentor. Students will apply and master skills, techniques and reasoning methods learned in the didactic coursework. Emphasis is on spinal musculoskeletal disorders. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Instructor approval required; must be a U.S. licensed physical therapist.
Physical Therapy	PT	594	Special Topics in Rehabilitation Sciences	1 TO 4 hours.	Selected topics of interest within physical rehabilitation specialty areas. Particular attention is given to topics of importance on evidence-based strategies in physical rehabilitation. May be repeated to a maximum of 8 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Physical Therapy	PT	595	Seminar in Rehabilitation Sciences	1 hours.	Topics of current interest in physical rehabilitation sciences. Includes discussions of current research and important new developments in the specific disciplines. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Physical Therapy	PT	596	Independent Study	1 TO 4 hours.	For graduate students who wish to pursue independent study not related to their project/thesis research. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Physical Therapy	PT	597	Project in Rehabilitation Sciences	0 TO 9 hours.	Supervised practicum in laboratory or field setting in which recent research findings are applied, tested, and evaluated. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Graduate or professional standing, and consent of the adviser and director of graduate studies.
Physical Therapy	PT	598	Research in Rehabilitation Sciences	0 TO 16 hours.	Indpendent research in one area of rehabilitation sciences directed by a faculty member. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Foundation courses in research methods and graduate level statistics and consent of the instructor.

Physics - PHYS

Physics	PHYS	401	Electromagnetism I	4 hours.	Vector calculus; electrostatic fields in vacuum; solution of electrostatic boundary-value problems; electrostatic fields in material media; electrostatic energy; electric currents. Prerequisite(s): PHYS 142 and PHYS 215; or approval of the department.
Physics	PHYS	402	Electromagnetism II	4 hours.	Magnetic fields of steady currents and magnetic materials; electromagnetic induction; magnetic energy; slowly-varying currents; a-c circuits; Maxwell's equations; electromagnetic waves; bounded regions; special relativity. Prerequisite(s): PHYS 401.
Physics	PHYS	411	Quantum Mechanics I	4 hours.	Wave particle duality; wave functions; Schroedinger equation; mathematical structure of quantum mechanics; operators and observables; matrix representation of operators; three dimensional Schroedinger equation. Prerequisite(s): PHYS 215 and PHYS 244 and PHYS 245; or approval of the department. Recommended background: MATH 220.
Physics	PHYS	412	Quantum Mechanics II	4 hours.	This is the second semester of a two-semester undergraduate level sequence on the concepts and methods of Quantum Mechanics and their applications. Prerequisite(s): PHYS 411.
Physics	PHYS	421	Modern Physics: Atoms and Molecules	4 hours.	Hydrogenic atoms, electron spin, external fields, multi-electron atoms, diatomic molecules, line widths, photons, radiation from atoms and other electromagnetic processes, positrons, positronium, elastic electron scattering. Prerequisite(s): Credit or concurrent registration in PHYS 411.
Physics	PHYS	425	Modern Optics	4 hours.	Review of electromagnetic wave theory; advanced geometrical optics; Fourier transforms and optics; interference and diffraction; solar cells and LEDs; laser cavities and gain media; introduction to nonlinear and fiber optics. Prerequisite(s): PHYS 244 or graduate standing.
Physics	PHYS	431	Modern Physics: Condensed Matter	4 hours.	Crystal structures; interatomic binding; lattice vibrations; thermal and magnetic properties; quantum statistical mechanics; free electron theory of metals; electronic band theory; semiconductors and insulators; superconductivity. Prerequisite(s): PHYS 411 and PHYS 461; or consent of the instructor.
Physics	PHYS	441	Theoretical Mechanics	4 hours.	Covers variable motion, non-inertial frames, oscillations, rigid body motion, three-dimensional motion, angular momentum, torque, orbits, Lagrange's equations.Prerequisite(s): PHYS 142 and PHYS 215.
Physics	PHYS	450	Molecular Biophysics of the Cell	4 hours.	Introduction to force, time energies at nanometer scales; Boltzmann distribution; hydrodynamic drag; Brownian motions; DNA, RNA protein structure and function; sedimentation; chemical kinetics; general aspects of flexible polymers. Same as BIOE 450. Prerequisite(s): PHYS 245 or the equivalent.
Physics	PHYS	451	Modern Physics: Nuclei and Elementary Particles	4 hours.	Accelerators, detectors, symmetries, conservation laws, leptons, weak interactions, electroweak theory, strong interactions, hadrons, nuclear forces, systematics and reactions, nuclear models, nuclear astrophysics, quarks, quantum chromodynamics. Prerequisite(s): PHYS 411.
Physics	PHYS	461	Thermal and Statistical Physics	4 hours.	Thermal equilibrium (Zeroth Law); thermodynamic states (First Law); irreversibility; entropy (Second Law); thermodynamic potentials and properties; phase transitions; kinetic theory of gases; classical statistical mechanics. Prerequisite(s): PHYS 245.
Physics	PHYS	470	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Physics	PHYS	471	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in PHYS 470, and approval of the department.
Physics	PHYS	481	Modern Experimental Physics I	4 hours.	Theory and experimental use of linear circuits, semiconductor devices, amplifiers, oscillators. Techniques and experiments in atomic, molecular and solid-state physics. Prerequisite(s): PHYS 244. Requires concurrent registration in PHYS 499.
Physics	PHYS	482	Modern Experimental Physics II	4 hours.	Techniques and experiments in nuclear and particle physics. Gamma-gamma correlations, muon lifetime, Compton scattering, alpha particle scattering. Computer-based experimentation. Prerequisite(s): PHYS 481.
Physics	PHYS	491	Special Topics in Physics	1 TO 4 hours.	Selected topics of current interest in Physics. May be repeated. Prerequisite(s): PHYS 215 and sophomore standing or above; or approval of the department.
Physics	PHYS	494	Special Topics in Physics Teaching	2 TO 4 hours.	Seminar on various topics related to the teaching of physics. Subjects are announced. May be repeated. Students may register in more than one section per term. Supervised teaching practice included. Prerequisite(s): Graduate standing or approval of the department.
Physics	PHYS	499	Survey of Physics Problems	1 hours.	Problem-solving techniques applied to the variety of undergraduate physics topics. No graduation credit for graduate students. Grade of C or better required to graduate with an undergraduate degree in physics. Co-requisite(s):Concurrent registration in PHYS 481.
Physics	PHYS	501	Electrodynamics I	4 hours.	Maxwell's equations, static and time dependent fields in material media and in vacuo. Boundary value problems, wave propagation. Classical theory of radiation. Prerequisite(s): PHYS 402 or

					approval of the department.
Physics	PHYS	502	Electrodynamics II	4 hours.	Special relativity in electrodynamics. Covariant form of Maxwell's equations. Lagrangian form of electrodynamics. Applications to modern physics problems. Prerequisite(s): PHYS 501 or consent of the department.
Physics	PHYS	511	Quantum Mechanics I	4 hours.	Linear operators, vector spaces. Schroedinger equation. Heisenberg formalism. Multi/identical particle systems, approximation methods, perturbation theory, symmetries and groups, conservation laws, angular momentum, spin. Wigner-Eckart theorem. Prerequisite(s): PHYS 412 or approval of the department.
Physics	PHYS	512	Quantum Mechanics II	4 hours.	Scattering theory, partial waves, Born approximation, density matrix, interaction of radiation with matter; Klein-Gordon and Dirac equations, free-particle solutions, antiparticles, relativistic hydrogen atom. Second quantization. Prerequisite(s): PHYS 511 or approval of the department.
Physics	PHYS	513	Quantum Field Theory I	3 hours.	Lagrangian formulation of relativistic wave equations. Quantum electrodynamics: Feynman rules, trace theorems, lowest-order calculations for several processes, self-energy, renormalization, higher-order diagrams. Prerequisite(s): PHYS 512.
Physics	PHYS	514	Quantum Field Theory II	3 hours.	Path integrals, gauge theories, Weinberg-Salam model, electroweak processes, quantum chromodynamics, non-perturbative methods, topological objects in field theories, instantons. Prerequisite(s): PHYS 513.
Physics	PHYS	515	Methods in Mathematical Physics	3 hours.	Applications of mathematical methods to physics problems, linear operators, orthogonal functions, Green's functions, ordinary and partial differential equations, Sturm-Liouville problem, Hilbert space, group theory. Prerequisite(s): PHYS 215.
Physics	PHYS	521	Molecular Physics	3 hours.	Rotational and vibrational energies of molecules, potential curves, electronic transitions, transition moments, intensity rules, thermodynamic properties. Applications. Prerequisite(s): PHYS 411 and PHYS 421; or approval of the department.
Physics	PHYS	522	Laser Physics/Quantum Electronics	3 hours.	Laser physics; population inversion; quantum theoretical calculation; modern laser systems; coherence phenomena; applications of lasers. Prerequisite(s): PHYS 521 or approval of the department.
Physics	PHYS	524	Group Theory in Physics	3 hours.	Applications of group theory and symmetry principles to problems in elementary particle, solid state, atomic and molecular physics. Prerequisite(s): PHYS 512 or approval of the department.
Physics	PHYS	525	Optics and Photonics	2 hours.	Electromagnetic wave theory; advanced geometrical, nonlinear, fiber, and Fourier optics; Fourier transforms; interference; diffraction; solar cells; LEDs; laser cavities; gain media. More challenging problem sets, exams, labs than in Phys 425. Corequisites: Requires concurrent registration in PHYS 425. To be properly registered, students must enroll in one Lecture, one Laboratory, and one Discussion.
Physics	PHYS	531	Solid State Physics I	3 hours.	Crystal structure, reciprocal lattice, X-ray methods, crystal forces, phonons, heat capacity, thermal expansion. Classification of solids, band structure. Metals: free-electron model, band-structure effects, transport. Prerequisite(s): PHYS 412 AND PHYS 461.
Physics	PHYS	532	Solid State Physics II	3 hours.	Semiconductor physics, electron-electron and electron-phonon interactions, superconductivity, spin systems, diamagnetism, paramagnetism, ferromagnetism, and anti-ferromagnetism. Prerequisite(s): PHYS 531.
Physics	PHYS	533	Theory of Solids: Magnetism and Superconductivity	3 hours.	The main body problem; many-particle states; functional integrals; Green's functions; Feynman diagrams; perturbation expansions; tree diagrams. Prerequisite(s): PHYS 512 and PHYS 532.
Physics	PHYS	534	Theory of Solids: Semiconductor Physics	3 hours.	Spin systems; magnetism; equilibrium Green's functions; Landau theory of Fermi liquids; Hubbard model; Luttinger model, non-equilibrium Green's functions, Keldysh, Kadanoff-Baym approach. Prerequisite(s): PHYS 512 and PHYS 532.
Physics	PHYS	540	Physics of Semiconductor Devices	4 hours.	Electrons in periodic lattice; equilibrium carrier distribution; energy band diagrams in junctions, in homogeneous semiconductors; recombination and generation; non-equilibrum processes, radiation and electric fields; diodes. Same as ECE 540. Prerequisite(s): ECE 346 or the equivalent.
Physics	PHYS	545	Introduction to General Relativity	3 hours.	Principle of equivalence, the metric field and geodesics, tensor analysis and differential geometry, Einstein's equations and the action principle, gravitational fields and waves, black holes. Prerequisite(s): PHYS 502 and PHYS 541 or approval of the department.
Physics	PHYS	551	Elementary Particle Physics I	3 hours.	Phenomenology and theories of modern day particle physics. Classification of particles and their interactions. Survey of experimental techniques, accelerators and detectors. Prerequisite(s): PHYS 512 or approval of the department.
Physics	PHYS	552	Elementary Particle Physics II	3 hours.	Lagrangian formulation of electromagnetic, weak and strong interactions. Transition rates. Unification of electroweak and strong interactions. Gauge theories. Modern topics. Prerequisite(s): PHYS 551 or approval of the department.
Physics	PHYS	561	Statistical Mechanics	3 hours.	Density matrix. Information theory; Boltzmann-Gibbs distribution; the n-vector model; renormalization group theory; cellular automata. Prerequisite(s): PHYS 461 or approval of the department.
Physics	PHYS	581	Advanced Experimental Physics	2 hours.	Experimental techniques in atomic, molecular and solid-cular and solid-state physics. Prerequisite(s): PHYS 431 or consent of the instructor.
Physics	PHYS	594	Special Topics in	1 TO 4 hours.	Lectures on topics of current interest. Subjects are announced in the previous semester. May be

			Modern Physics		repeated. Students may register in more than one section per term. Prerequisite(s): PHYS 512.
Physics	PHYS	595	Graduate Seminar	1 hours.	Seminars in areas of research activity within the department covering recent contributions to the literature and research in progress. Presentations by students, faculty and scientists from other institutions. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. Students may register in more than one section per term.
Physics	PHYS	596	Individual Study	2 TO 4 hours.	Special topics. Outside reading and a term paper are assigned by a special arrangement with the department and faculty. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Physics	PHYS	598	Master's Thesis Research	0 TO 16 hours.	Student may elect to do thesis research to fulfill partial requirement for master's degree. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the department.
Physics	PHYS	599	Thesis Research	0 TO 16 hours.	Ph.D. thesis research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Approval of the department.

Physiology and Biophysics - PHYB

Physiology and Biophysics	PHYB	502	Physiology of Reproduction	2 hours.	The purpose of this course is to enable students to acquire a detailed and up-to-date understanding of the Biology of Reproduction at both the physiological and molecular levels.
Physiology and Biophysics	PHYB	512	Gastrointestinal Physiology	2 hours.	Advanced study of the physiology of the gastrointestinal tract. Special emphasis will be placed on recent developments in cellular and molecular aspects and on how they relate to established concepts in the literature. Prerequisite(s): PHYB 402 or consent of the instructor.
Physiology and Biophysics	PHYB	516	Physiology and Biochemistry of Muscle Contraction	2 hours.	Structure and function of myosin, actin, tropomyosin, troponin, and the sarcoplasmic reticulum; control, energetics, and mechanism of muscle contraction; gene expression.
Physiology and Biophysics	PHYB	518	Cardiovascular Pathophysiology	3 hours.	Focuses on pathogenesis and fundamental mechanisms of impaired cardiac performance due to systemic and cardiac disease. Function and pathology of diseased heart in relation to normal healthy states and therapeutic interventions. Prerequisite(s): GCLS 500 and either GCLS 501 or GCLS 502 or GCLS 503; or consent of the course coordinator.
Physiology and Biophysics	PHYB	523	Exercise Biology in Health and Disease	3 hours.	Interrelationships between exercise and various pathological conditions. Current research focusing on molecular and cellular mechanisms in healthy and diseased states. Same as KN 523. Prerequisite(s): Consent of the instructor.
Physiology and Biophysics	PHYB	530	Stem Cells	2 hours.	Discussion of stem cell development into different cell types that may offer a renewable source of replacement cells to treat diseases, conditions, and disabilities. Cells from adult tissue, fetal tissue, and embryonic sources are discussed. Recommended background: Knowledge of cell biology.
Physiology and Biophysics	PHYB	540	Ion Channels: Structure, Function, Pharmacology and Pathology	2 hours.	The concept of ion channels is treated from the perspectives of their molecular structures and functions. Modulation, pathological conditions (channelopathies), and pharmacological intervention will also be treated. Same as PCOL 540. Recommended background: One undergraduate course in biochemistry and one in physiology, or consent of the instructor.
Physiology and Biophysics	PHYB	551	Human Physiology I	5 hours.	Lectures and conferences in human physiology. Emphasis is on cellular, nerve-muscle, cardiovascular, respiratory and renal physiology. Prerequisite(s): Mathematics, undergraduate physics, and organic chemistry; or consent of instructor. Recommended background: Course work in biological sciences.
Physiology and Biophysics	PHYB	552	Translational and Applied Physiology	3 hours.	Continuation of GCLS 500 Physiology. Advanced physiological concepts emphasizing interactions of different organs and systems under normal and abnormal conditions. Review of compensatory mechanisms and clinical applications of physiology. Prerequisite(s): GCLS 500. Recommended background: Course work in biological sciences.
Physiology and Biophysics	PHYB	569	Methods in Experimental Physiology	3 hours.	Primarily for students in physiology. Registration limited to eight. A laboratory course designed to acquaint students with advanced techniques and methodology in physiologic investigations. Prerequisite(s): Enrollment in the M.S. or Ph.D. in Physiology and Biophysics program, and credit or concurrent registration in PHYB 401 or the equivalent; or consent of the instructor.
Physiology and Biophysics	PHYB	585	Cell Biology	4 hours.	Functional and structural organization of the cell with emphasis on the cellular basis of physiological activity. Same as ANAT 585, and MIM 585.
Physiology and Biophysics	PHYB	586	Cell Physiology	3 hours.	Advanced functional and structural organization of the cell with emphasis on the cellular basis of physiological activity. Prerequisite(s): PHYB 552 and GCLS 501 and GCLS 503; or consent of the instructor.
Physiology and Biophysics	PHYB	590	Seminar in Cardiovascular Science	1 hours.	Weekly seminars on advanced cardiovascular science topics by staff and invited speakers. Satisfactory/Unsatisactory grading only. Prerequisite(s): Consent from the course coordinator. Enrollment is open to students following completion of their first year of graduate studies.
Physiology and Biophysics	PHYB	591	Departmental Seminar	1 hours.	Weekly seminar by staff and invited speakers. Satisfactory/Unsatisfactory grading only. May be repeated. Required of all physiology and biophysics students each fall and spring semester while enrolled in the graduate program. Prerequisite(s): Graduate or professional standing.
Physiology and Biophysics	PHYB	592	Experimental and Diagnostic Methods in Cardiovascular Science	3 hours.	Establishes the fundamental physical basis between diagnostic and experimental procedures in the clinic and basic science laboratory, combined with some direct observation of methods used for experimental approaches. Prerequisite(s): GCLS 500 and either GCLS 501 or GCLS 502 or GCLS 503; or consent of the course coordinator.
Physiology and Biophysics	PHYB	594	Special Topics in Physiology and Biophysics	1 TO 4 hours.	Topics may include bioengineering, endocrinology, membrane biology, ion transport and its regulation, muscle physiology, neurophysiology, molecular neurobiology and others of current significance in physiology and biophysics. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Physiology and Biophysics	PHYB	595	Journal Club and Seminar in Physiology	1 hours.	Student presentation and discussion of assigned topics of current importance in physiology and biophysics as well as related fields. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor. Limited to degree candidates in physiology and biophysics.
Physiology and Biophysics	PHYB	596	Independent Study	1 TO 4 hours.	Individual study guided by a faculty member. The format of the course, examination and grading to be established by the faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Physiology and Biophysics	PHYB	598	M.S. Thesis Research	0 TO 16 hours.	Thesis work under the supervision of a graduate adviser. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in physiology and biophysics.

Physiology and Biophysics	**PHYB**	**599**	**Ph.D. Thesis Research**	**0 TO 16 hours.**	**Thesis work under the supervision of a graduate adviser. Satisfactory/Unsatisfactory grading only.**

Polish - POL

Polish	POL	401	Polish Composition and Conversation III	3 OR 4 hours.	Development of oral and writing skills: expanding vocabulary and perfecting style. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POL 302.
Polish	POL	402	Polish Composition and Conversation IV	3 OR 4 hours.	Continues POL 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POL 401 or the equivalent.
Polish	POL	420	Polish Theater and Drama	3 OR 4 hours.	A survey covering the 20th century innovative phenomena in Polish theater in a comparative context. 3 undergraduate hours; 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; or consent of the instructor.
Polish	POL	440	Studies in Polish Poetry	3 OR 4 hours.	A detailed study of Polish poetry in the past or present in a historical context. A study of major Polish poets and their work. 3 undergraduate hours; 4 graduate hours. Taught in English. Prerequisite(s): Consent of the instructor.
Polish	POL	460	Studies in Polish Literature	3 OR 4 hours.	Major literary Polish writers recognized in the world, translated extensively into English; their poetics, worldviews as compared with foreign writers; historical and philosophical background. Topics may vary. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 9 hours for undergraduates, or 12 hours for graduate students, if topics vary. Only 6 hours may be applied toward the undergraduate major in Polish. Taught in English. Polish majors will be required to complete some assignments in Polish. Prerequisite(s): SLAV 224; or consent of the instructor.
Polish	POL	499	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Graduate students may register for more than one section per term. Prerequisite(s): Senior or graduate standing, consent of the instructor and consent of the head of the department.
Polish	POL	525	Polish Visual and Popular Culture	4 hours.	Advanced analysis of Polish film, art, comic books, or other visual phenomena in Polish culture. May be repeated to a maximum of 8 hours. Taught in English. Prerequisite(s):Consent of the instructor.
Polish	POL	535	Polish Modernism and Avant-Gardes	4 hours.	A survey of the most innovative trends in Polish literature in the 20th century, against the European background, with a strong comparative component. Topics may vary. May be repeated to a maximum of 8 hours of credit, if topics vary, and with consent of the instructor. Taught in English.
Polish	POL	540	Polish Literature in Political Context	4 hours.	Introduction to Polish literature in various social and ideological contexts; topics include Communism, censorship, gender, journalism, etc. Topics may vary. May be repeated to a maximum of 8 hours of credit, if topics vary, and with consent of the instructor. Taught in English.
Polish	POL	544	Workshops in Translation	4 hours.	Intensive work on translation of literary and non-literary texts from Polish to English combined with elements of theory. Topics may vary. May be repeated to a maximum of 8 hours of credit, if topics vary, and with consent of the instructor. Taught in English. Prerequisite(s):
Polish	POL	545	Pre-Modern Polish Literature	4 hours.	A detailed interpretation of various literary works prior to the 20th century. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary, and with consent of the instructor. Taught in English.
Polish	POL	570	Literary Theory and the Polish Canon	4 hours.	A detailed analysis of main currents in contemporary Polish criticism and theory. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary, and with consent of the instructor. Taught in Polish.
Polish	POL	596	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and consent of the head of the department.

Political Science - POLS

Political Science	POLS	401	Data Analysis I	3 OR 4 hours.	Statistical inference for the social sciences. Emphasis on univariate and bivariate statistics. Same as PPA 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 200 and POLS 201; or graduate standing.
Political Science	POLS	405	The Problem of Justice	3 OR 4 hours.	Premodern and modern views of justice and their practical utility in analyzing legislative, executive, and judicial programs for enhancing or restricting justice. Same as CLJ 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CLJ 101, plus two 200-level courses in criminology, law, and justice or two 200-level courses in political science.
Political Science	POLS	451	Law and Public Policy	3 OR 4 hours.	The role of law and legal institutions in the development and implementation of public policies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Graduate standing or consent of the instructor.
Political Science	POLS	459	Advanced Topics in Urban Politics	3 OR 4 hours.	Seminar exploring urban politics theory through readings, discussion, and original research. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): POLS 210; or graduate standing; or consent of the instructor.
Political Science	POLS	465	Topics in Sociology of Politics	3 OR 4 hours.	Intensive examination of a specialized topic announced when the class is scheduled. Same as SOC 465. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.
Political Science	POLS	467	Public Opinion and Political Communication	3 OR 4 hours.	Nature of public opinion and political communication systems. Patterns of opinion distribution and its measurement. Forces shaping public opinion and its impact on public policy. Same as COMM 467. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 200 or the equivalent or consent of the instructor.
Political Science	POLS	469	Advanced Topics in American Politics	3 OR 4 hours.	Seminar exploring American politics theory through readings, discussion, and original research. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Grade of B or better in POLS 101 and Grade of B or better in POLS 329; or graduate standing; or consent of the instructor.
Political Science	POLS	478	Advanced Topics in International Relations	3 OR 4 hours.	Seminar exploring international relations theory through readings, discussion, and original research. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Grade of B or better in POLS 184; and Grade of B or better in POLS 281 or Grade of B or better in POLS 283 or Grade of B or better in POLS 284; or graduate standing; or consent of the instructor.
Political Science	POLS	479	Advanced Topics in Comparative Politics	3 OR 4 hours.	Seminar exploring comparative politics theory through readings, discussion, and original research. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Grade of B or better in POLS 130 and Grade of B or better in POLS 349; or graduate standing; or consent of the instructor.
Political Science	POLS	482	Democratic Theory	3 OR 4 hours.	Democracy as a procedure of government and value commitments associated with this form of government. Special attention paid to classical and modern democracies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 290 or POLS 291 or consent of the instructor.
Political Science	POLS	485	Gender and Politics	3 OR 4 hours.	Impact of gender on basic categories of western political thought. Distinctions between reason and emotion, public and private, among others, examined from feminist perspective. Same as GWS 485. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 190 and one 200-level course in political theory; or consent of the instructor.
Political Science	POLS	489	Advanced Topics in Political Theory	3 OR 4 hours.	Seminar exploring political theory through reading, discussion, and original research. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Grade of B or better in POLS 290 or Grade of B or better in POLS 291; or graduate standing; or consent of the instructor.
Political Science	POLS	494	Topics in Political Science	3 OR 4 hours.	Selected Topics in Political Science. Topics vary and may cover American politics, law, urban and global politics, cultural, ecological or methodological issues. May be repeated up to 1 time(s). Prerequisite(s): POLS 190 and POLS 200; or consent of the instructor.
Political Science	POLS	497	Directed Readings in Political Science	4 hours.	Intensive readings on a topic not covered in regular curriculum. May be repeated with approval. Approval of the graduate director required to repeat course. Prerequisite(s): Graduate standing and consent of the instructor.
Political Science	POLS	498	Independent Research in Political Science	2 TO 6 hours.	Research on special problems not included in course offerings. May not duplicate work done in POLS 598 or POLS 599. May be repeated with approval. Approval of the graduate director required to repeat course. Prerequisite(s): Graduate standing and consent of the instructor.
Political Science	POLS	500	Introduction to Policy and Governance	4 hours.	Introduces the intellectual traditions and debates that have characterized the study of public policy and the social order. Society-centered and state-centered explanations for policy will be explored. Same as PPA 500. Prerequisite(s): Consent of the department required for nondegree graduate students.
Political Science	POLS	501	Data Analysis II	4 hours.	Interpretation and application of multivariate methods of analysis in the social sciences. Regression specification and diagnostics, limited dependent variable models, measurement issues. Same as PPA 501. Prerequisite(s): POLS 401 or PPA 401.
Political Science	POLS	502	Time Series Analysis for Political Science	4 hours.	Single series (ARIMA) models, event history analysis, Vector autoregression (VAR), panel and pooled models. Prerequisite(s): POLS 402 or consent of the instructor.

Political Science	POLS	504	Theoretical Approaches to Policy and Governance	4 hours.	Different theoretical approaches to the relationship between policy and governance and the philosophical foundations on which those approaches are based. Same as PHIL 504. Prerequisite(s): Consent of the department required for nondegree graduate students.
Political Science	POLS	505	Research Design and Methods	4 hours.	Overview of the methods and conduct of research in political science. Issues of inference, measurements, data collection, hypothesis testing and ethics.
Political Science	POLS	506	The Profession of Political Science	2 hours.	Introduces graduate students to the range of teaching, research and service possibilities in the political science profession. Students are encouraged to take this course during their first year of graduate study.
Political Science	POLS	507	Qualitative Research Methods	4 hours.	Explores techniques, uses, strengths, and limitations of qualitative research methods including case studies, fuzzy sets, boolean analysis, analytical narratives, and various other methods.
Political Science	POLS	510	Seminar on Teaching Political Science	4 hours.	Teaching methods and technology applicable to community colleges, four-year, and universities are explored. Complements the Preparing Future Faculty Program. The format will include guest speakers from area community and four-year colleges.
Political Science	POLS	541	Policy Formation, Implementation and Evaluation	4 hours.	Introduction to political science theories of how elections, interest groups and state structure affect the formulation of public solutions to societal problems. Same as PPA 541. Prerequisite(s): Consent of the department required for nondegree graduate students.
Political Science	POLS	542	Distributive/Redistributive Public Policy	4 hours.	Seminar on the politics of enacting and maintaining distributive policies. Focus is on the parochial and community-wide efficiency of such policies.
Political Science	POLS	544	Regulatory Public Policies	4 hours.	Exploring the nature and determinants of public policymaking with respect to the regulation of the economy.
Political Science	POLS	549	Topics in Public Policy Analysis	4 hours.	A research seminar on some aspects of public policy analysis not otherwise covered in the regular curriculum.
Political Science	POLS	551	Seminar in Urban Politics	4 hours.	Explores relationships between private economy and public policies in American cities; causes of urban decline and uneven development; and urban redevelopment and human capital policies. Prerequisite(s): POLS 500; and consent of the instructor.
Political Science	POLS	553	Urban Public Policy	4 hours.	Explores the problems of poverty, race, education, transportation policy, and housing in America's cities, with a special emphasis on Chicago.
Political Science	POLS	557	Research Topics in Urban Politics	4 hours.	Readings and original research on selected topics in urban politics. May be repeated.
Political Science	POLS	558	Graduate Student Field Experience in Political Science	1 TO 8 hours.	Graduate student intern experience. Placement with government agencies, community organizations, or civic organizations, in conjunction with a seminar class and directed readings. May be repeated up to 8 time(s). Students may register in more than one section per term. Field work required. Prerequisite(s): POLS 402 and POLS 500.
Political Science	POLS	559	Topics in State and Local Government	4 hours.	Case analysis and research in selected problems dealing with structure, functions and administrative processes of American state and local governments. Prerequisite(s): POLS 500 and POLS 541.
Political Science	POLS	560	Seminar in American Politics	4 hours.	Introduction to research literature on American policy-making institutions and processes. Prerequisite(s): POLS 500; and consent of the instructor.
Political Science	POLS	562	Seminar on Legislation and Public Policy	4 hours.	Review of recent theories and research on structure and policy formation in Americal legislatures. Emphasis on theoretical development in this field. Prerequisite(s): POLS 541.
Political Science	POLS	563	Executive Process	4 hours.	Presidential elections; presidential decision-making; the powers of the president; presidential leadership; the distributive state; policy implementation; federalism and administration; the politics of budgeting. Prerequisite(s): Admission to the M.A. or P.P.A. programs or consent of the instructor.
Political Science	POLS	564	Seminar in Judicial Process	4 hours.	The judicial process, as part of political and policy processes. Demands made by, and policy impacts on, individual and organizational litigants and other political actors. Prerequisite(s): POLS 460.
Political Science	POLS	566	Interest Groups	4 hours.	Pluralism: the distributive state; radical group theory, public-interest groups; collective actions; corporatism; statism; structural Marxism; social movements and interest groups.
Political Science	POLS	567	Topics in Political Communication	4 hours.	Intensive study of selected aspects; organizational communication in public institutions, urban political communication patterns, communication elites. Independent research using a variety of community research techniques. Same as COMM 567 and PA 567. Prerequisite(s): Consent of the instructor.
Political Science	POLS	569	Research Topics in American Politics	4 hours.	A research seminar on some aspect of American political process. Topics vary. May be repeated. Prerequisite(s): POLS 560.
Political Science	POLS	570	Seminar in Comparative Politics	4 hours.	Introduces students to the main tools of research and contours of debates in comparative politics. Prerequisite(s): POLS 500; and consent of the instructor.
Political Science	POLS	571	Seminar in International Relations	4 hours.	State-building and challenges to state authority, democratization and regime change, political economy, environment, war, regionalism and globalization, social movements and international governance.

Political Science	POLS	572	International Political Economy	4 hours.	Exploration of competing perspectives on nation states and economic systems. Previously listed as POLS 472.
Political Science	POLS	573	Transitions to Democracy	4 hours.	Game-theoretic view of democracy. Process and outcomes of transitions to democracy in capitalist and in communist countries. Civil-military relations in the process of transition. Case studies.
Political Science	POLS	578	Research Topics in International Relations	4 hours.	Advanced graduate seminar exploring international relations theory through readings, discussion, and original research. Prerequisite(s): POLS 571.
Political Science	POLS	579	Research Topics in Comparative Politics	4 hours.	Advanced seminar on selected topics in comparative politics. Topic(s) will vary from semester to semester. May be repeated. Prerequisite(s): POLS 570; and consent of the instructor.
Political Science	POLS	582	The Philosophy of the Social Sciences	4 hours.	The ontological and epistemological foundations of alternative approaches to the study of human beings. Naturalistic, hermeneutic, and critical approaches are addressed and assessed.
Political Science	POLS	589	Research Topics in Political Theory	4 hours.	Detailed analysis of a political theorist or type of political theory, especially designed to meet programmatic and graduate needs. May be repeated. Prerequisite(s): Consent of the instructor.
Political Science	POLS	590	Advanced Public Policy Workshop	4 hours.	Interdisciplinary workshop on preparing a dissertation proposal for public policy analysis students. Same as PPA 590. Prerequisite(s): Advanced standing in the Ph.D. in P.P.A. program and completion of P.P.A. core courses.
Political Science	POLS	591	Publishing Research in Political Science	4 hours.	Interdisciplinary workshop on preparing manuscripts for submission to publishers. May be repeated. Prerequisite(s): Completion of the first year of the MA or PhD in Political Science; and consent of the instructor.
Political Science	POLS	593	Independent Research for Master's Degree	2 hours.	Under the supervision of two faculty members, students will complete a major research paper that combines a review of relevant literature of a political science topic with analysis of original data or research materials. Satisfactory/Unsatisfactory grading only. Prerequisite(s): POLS 401 and POLS 505 and POLS 506; and POLS 541 or POLS 504 or POLS 551 or POLS 570 or POLS 571. Open only to Master's degree students and; approval of the department.
Political Science	POLS	596	Advanced Readings in Political Science	1 TO 4 hours.	Intensive readings on an advanced topic not covered in the regular curriculum. May be repeated with approval. Students may register in more than one section per term. Approval to repeat course granted by the graduate director. Prerequisite(s): POLS 401 and POLS 404 and consent of the instructor.
Political Science	POLS	598	Thesis Research	0 TO 16 hours.	Individual study required of all students pursuing advanced degree in political science under thesis option. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor. Open only to degree candidates.
Political Science	POLS	599	Dissertation Research	0 TO 16 hours.	Individual study required of all students pursuing Ph.D. degree with specialization in political science. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor. Open only to degree candidates.

Prosthodontics - PROS

Prosthodontics	PROS	504	Advanced Dental Materials	3 hours.	A seminar course designed to develop an advanced understanding of dental materials and a fundamental knowledge of materials science. Involves a critical evaluation of the literature. Prerequisite(s): REST 320, REST 321, REST 322, REST 323, REST 330 or the equivalent coursework or matriculation into the Advanced Certificate in Advanced Prosthdontics program.
Prosthodontics	PROS	517	Advanced Occlusion/TMJ Disorders	2 hours.	A lecture and seminar discussion of the advanced concepts of occlusion, articulation, occlusal analysis, diagnosis, and treatment of functional disturbances. Prerequisite(s): Matriculation into the Advanced Certificate in Advanced Prosthodontics program or the M.S. in Oral Sciences program and consent of the department head.

Psychology - PSCH

Psychology	PSCH	403	Writing for Social Scientists	3 hours.	Training to write for the social sciences, including how to edit effectively, formulate a thesis statement, construct an argument, and begin and conclude a paper. Prerequisite(s): Graduate standing or consent of the instructor. Recommended background: PSCH 303 or PSCH 399 or any laboratory course in psychology.
Psychology	PSCH	411	Stereotyping, Prejudice, and Racism	3 hours.	Psychological research and theory concerning stereotyping, prejudice, and racism. Historical conceptualization, development, causes, expression, and psychological consequences of prejudice, as well as theories of prejudice reduction. Prerequisite(s): Graduate standing in psychology or consent of the instructor.
Psychology	PSCH	415	Social Bases of Health Behavior	3 hours.	Psychological theory and research concerning the coronary-prone personality, pain management, controlling adherence to medical regimens, biofeedback, smoking, and weight control. Prerequisite(s): PSCH 270 and consent of the instructor, or graduate standing.
Psychology	PSCH	417	Psychology and Law	3 hours.	Application of psychological theories to the development, operation and effects of law; evaluation of different and similar approaches of law and psychology. Prerequisite(s): PSCH 312 or consent of instructor.
Psychology	PSCH	420	Social Development of Urban Children	3 OR 4 hours.	General principles of social development and socialization during childhood and the factors common to urban children that illustrate and modify these principles. Same as EPSY 420. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to a graduate program in education or psychology, or consent of the instructor.
Psychology	PSCH	422	Advanced Developmental Psychology and Educational Processes	3 hours.	Focuses on cognitive and social development from birth to adolescence. Examines relations between development, learning, and educational processes. Same as ED 422. Prerequisite(s): PSCH 100 and any one from ED 210, PSCH 259, PSCH 320; or graduate standing and consent of the instructor.
Psychology	PSCH	423	Characteristics of Early Adolescence	3 hours.	Physiological, social, emotional and cognitive development of early adolescence. The relationship between these developmental characteristics and success in the middle grades. Same as EPSY 446. Prerequisite(s): ED 210 or ED 421 or ED 422 or PSCH 422 or the equivalent, and approval of the College of Education; or admission to the Ph.D. in Psychology program; or consent of the instructor.
Psychology	PSCH	429	Constructivist Approaches to Development: Piaget and Vygotsky	3 OR 4 hours.	Piaget's and Vygotsky's theories of development of knowledge. Empirical and logico-mathematical forms of knowledge. Thought and action. Thought and language. Same as EPSY 429. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ED 422 or PSCH 422 or the equivalent and graduate standing in education or graduate standing in psychology or consent of the instructor.
Psychology	PSCH	443	Advanced Statistics	3 hours.	Design and analysis of experiments: between, within factorial and mixed factorial designs and introduction to multiple regression. For students planning research careers or advanced degrees. 3 hours. Prerequisite(s): PSCH 343.
Psychology	PSCH	452	Cognitive Psychology of Memory and Attention	3 hours.	A survey of empirical research and theories concerning the human memory system and the encoding, retention, retrieval of information in that system and research and theories of attention. Prerequisite(s): Graduate standing; or PSCH 352 and consent of the instructor.
Psychology	PSCH	454	Cognitive Psychology of Language	3 hours.	Provides students with a survey of methods, theory and research in language and discourse processing. Same as COMM 454, and LING 474. Prerequisite(s): Graduate standing or consent of the instructor.
Psychology	PSCH	455	Cognitive Psychology of Thinking	3 hours.	Introduces students to research and theory concerning higher mental processes, including problem solving, reasoning, judgment, and decision making. Prerequisite(s): Graduate standing; or PSCH 352 and consent of the instructor.
Psychology	PSCH	457	Cognitive Psychology of Skill and Knowledge Acquisition	3 hours.	The course approaches learning from a variety of cognitive perspectives. The instruction is organized around discussions of original research articles. Prerequisite(s): Previous knowledge of Cognitive Psychology (with at least an undergraduate survey course) or admittance into the Cognitive Division graduate program.
Psychology	PSCH	459	Cognitive Methods	3 hours.	Hands-on training in the methods of cognitive psychology, especially computational modeling and the analysis of verbal protocols and other types of trace data. Prerequisite(s): Graduate standing or consent of the instructor.
Psychology	PSCH	460	Advanced Learning	3 hours.	Methods, results, and interpretation of experimental studies of basic learning processes in animal and human subjects. Prerequisite(s): Graduate standing; or PSCH 360 and PSCH 361 and consent of the instructor.
Psychology	PSCH	462	Neural Basis of Learning and Memory	3 hours.	Theory and research on the anatomical, electrophysiological and chemical bases of learning and memory in humans and other animals. Prerequisite(s): Graduate standing; or PSCH 262 and consent of the instructor.
Psychology	PSCH	465	Neural Basis of Perception	3 hours.	Psychophysical and physiological studies of sensory systems and processes. Primary emphasis on the early processing of visual stimuli. Prerequisite(s): Graduate standing; or PSCH 351 and consent of the instructor.
Psychology	PSCH	466	Neural Basis of Motivation	3 hours.	Review of empirical data and theories concerning the physiological basis of motivational processes in animals and humans. Prerequisite(s): Graduate standing; or PSCH 262 and consent of the instructor.

Psychology	PSCH	467	Fundamentals of Neuroscience	3 hours.	Basic principles of neurophysiology and neuropharmacology including logic bases of nerve action, chemistry of synapses and actions of pharmacological agents. Prerequisite(s): PSCH 262 or graduate standing.
Psychology	PSCH	481	Interviewing	1 hours.	Lecture on the theory and practice of clinical interviewing with supervised experience. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in psychology or consent of the instructor.
Psychology	PSCH	483	Neuroanatomy	4 hours.	Organization of the nervous system, with an emphasis on mammals. Same as BIOS 483 and NEUS 483. Animals used in instruction. Prerequisite(s): BIOS 272 or BIOS 286 or BIOS 325 or PSCH 262; or consent of the instructor.
Psychology	PSCH	484	Neuroscience I	3 hours.	Neuroscience as an integrative discipline. Neuroanatomy of vertebrates, neural development, cellular neurobiology, action potential mechanisms, synaptic transmission and neuropharmacology. Same as BIOS 484 and PHIL 484. Prerequisite(s): BIOS 286 or PSCH 262.
Psychology	PSCH	485	Neuroscience II	3 hours.	Integrative neuroscience; continuation of BIOS/PSCH/PHIL 484. Sensory and motor systems; learning, memory, and language. Pathology of nervous systems. Philosophical perspectives, and modeling. Same as BIOS 485 and PHIL 485. Prerequisite(s): BIOS 484.
Psychology	PSCH	494	Special Topics in Psychology	1 TO 4 hours.	Advanced treatment of an announced topic. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.
Psychology	PSCH	495	Seminar in Psychology	1 TO 3 hours.	Seminar devoted to special topics in psychology. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.
Psychology	PSCH	504	Rating Scale and Questionnaire Design and Analysis	4 hours.	Development and administration of rating scales and questionnaires, analysis of data, and reporting of results. The focus is on rating scales. Same as EPSY 504. Prerequisite(s): ED 501, and ED 503 or EPSY 503 or the equivalents or consent of the instructor.
Psychology	PSCH	505	Advanced History of Psychology	3 hours.	The history of scientific psychology, with an emphasis on the forerunners of major contemporary research problems. Prerequisite(s): Graduate standing.
Psychology	PSCH	506	Item Response Theory/Rasch Measurement	4 hours.	Statistical inference with item response theory models, useful to measure an individual's performance on a test or questionnaire. Models include parametric, non-parametric, unidimensional, multidimensional, and cognitive. Same as EPSY 506. May be repeated to a maximum of 8 hours. Extensive computer use required. Prerequisite(s): ED 501 and EPSY 503 and EPSY 546 or the equivalent. Appropriate score on the department placement test. Graduate or professional standing required or consent of the instructor.
Psychology	PSCH	507	Emerging Research Issues	1 hours.	Weekly seminar that introduces Ph.D. students in psychology to the current research of each faculty member in the department of psychology. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 2 hours. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	508	Colloquium on the Teaching of Psychology	1 hours.	Required training to prepare graduate students for contact teaching in the Department of Psychology. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	512	Attitudes and Social Cognition	3 hours.	Survey of theory and research in social psychology, including attitudes and social cognition. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	513	Interpersonal Relations and Group Processes	3 hours.	Survey of theory and research in social psychology, including interpersonal relations and group processes. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	515	Psychology of Women and Gender	3 hours.	Critical examination of psychological theories and research on women and gender, including biological, psychoanalytic, socialization, power, and social constructionist perspectives. Same as GWS 515. Prerequisite(s): Graduate standing in psychology; or PSCH 315 or GWS 315, and consent of the instructor.
Psychology	PSCH	516	Research Methods in Social Psychology	3 hours.	Critical analysis of current theories in social psychology. Prerequisite(s): PSCH 512 and PSCH 513 and PSCH 514; or consent of the instructor.
Psychology	PSCH	517	Social Psychology of Education	4 hours.	Social psychological factors influencing academic and social outcomes in schools. Achievement motivation, peer relations, social values in relation to student characteristics and school practice. Same as EPSY 502. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program; or consent of the instructor.
Psychology	PSCH	518	Seminar in Social and Personality Psychology	1 TO 4 hours.	Critical discussion of selected topics, such as helping and altruism, social judgment, group processes, attitude formation and change. Content varies. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	519	Current Topics in Social Psychology	1 hours.	Discussion of recently published research and ongoing research by department faculty and graduate students. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	520	Development in Infancy and Early Childhood	4 hours.	Consideration of development in the preschool years. Stress on theory, research, individual child study, and educational implications. Same as EPSY 526. Prerequisite(s): ED 422 or PSCH 422 or the equivalent.
Psychology	PSCH	521	Violence Against Women	4 hours.	Examines the extent, causes, and consequences of sexual assault, intimate partner violence (e.g., domestic violence, dating violence), and sexual harassment, and considers the impact of

					culture and community on violence and its victims. Same as GWS 521. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	525	Achievement Motivation	4 hours.	The psychology of achievement motivation will be explored from the perspectives of personality, social, and educational psychology. Same as EPSY 530. Prerequisite(s): Graduate standing in education or psychology or consent of the instructor.
Psychology	PSCH	526	Developmental Psychopathology	3 hours.	Major sources and manifestations of maladjustment in childhood with an emphasis on emotional and intellectual handicaps. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	527	Seminar in Moral Development, Character Formation, and Education	4 hours.	Philosophical assumptions, psychology research, and theory underlying current approaches to moral and character education. Cultural and developmental factors in value formation. Same as EPSY 527. Prerequisite(s): ED 422 or PSCH 422 or the equivalent, or admission to the Ph.D. in Education program, Ph.D. in Psychology program, or Ph.D. in Social Work program, or consent of the instructor.
Psychology	PSCH	531	Community Research	3 hours.	Intro to research design for community and action research; data collection techniques; perspectives on the relationship between researchers and communities; ethical issues; and philosophies of science informing community-based research.
Psychology	PSCH	532	Community Intervention	3 hours.	Theory, research and practice of community interventions in public, nonprofit and voluntary settings, such as disability organizations; intervention types and effectiveness; role of community intervenor. Same as DHD 532. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	533	Advanced Community and Prevention Research	3 hours.	Overview of community psychology theory and intervention research in areas like prevention, empowerment, diversity, ecology, competence enhancement, and social change from historical and contemporary perspectives. Prerequisite(s): Graduate standing in psychology or consent of the instructor.
Psychology	PSCH	534	Community and Preventive Intervention Theory	3 hours.	Emphasizes issues related to the conceptualization, design, implementation, and evaluation of community interventions. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	537	Seminar in Action Research	3 hours.	Supervised action research in community settings including entry, data collection, ethics, feedback and report preparation. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Graduate standing in the Community and Prevention Research Specialization of the Ph.D. in Psychology program or consent of the instructor.
Psychology	PSCH	538	Seminar in Community and Prevention Research	1 TO 4 hours.	Examination of a selected topic in community and prevention research. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	539	Current Topics in Community and Prevention Research	1 hours.	Ongoing seminar with faculty and graduate students to discuss contemporary issues in community and prevention research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	540	Research with Diverse Groups	3 hours.	Highlights some of the issues relevant to doing research with diverse groups, such as race/ethnicity, gender, social class, age, disability.
Psychology	PSCH	541	Introduction to Computing in Psychology	1 hours.	An introduction to applications of computing in psychological research. Several projects are required. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	543	Research Design and Analysis	4 hours.	Experimental design, advanced analysis of variance (ANOVA) and statistical analyses for experimental and quasi-experimental designs, interpretation and writing results in APA style, SPSS. Prerequisite(s): Graduate standing in psychology or consent of the instructor.
Psychology	PSCH	544	Latent Variable Models	3 hours.	Statistical methods and practical issues relevant to latent variable models with special emphasis on factor analysis and structural equation modeling. Prerequisite(s): PSCH 545.
Psychology	PSCH	545	Multivariate Analysis	3 hours.	The statistical analysis of functional relationships among two or more variables; multivariate regression, canonical correlation, discriminant analysis, multivariate analysis of variance, principal components, factor analysis, logistic regression, cluster analysis. Prerequisite(s): PSCH 543, and graduate standing in psychology; or consent of the instructor.
Psychology	PSCH	546	Theory and Practice in Program Evaluation	3 hours.	Introduction to theory, design and practice of program evaluation. Emphasis will be on theories of social programming, selecting appropriate methods, and politics of evaluation. Prerequisite(s): PSCH 531 or the equivalent and PSCH 543 and PSCH 545; or consent of the instructor.
Psychology	PSCH	548	Seminar in Methods and Measurement	1 TO 4 hours.	Seminar on a preannounced topic in methodology, measurement or mathematical psychology. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	549	Current Topics in Psychology and Law	1 hours.	Discussion of recently published research and ongoing research in psychology and law by department faculty, graduate students and outside speakers. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	550	Proseminar in Educational Psychology	2 hours.	Interdisciplinary colloquia on selected topics in educational psychology. Serves as introduction to faculty research foci. Same as EPSY 500. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program, or consent of the instructor.
Psychology	PSCH	551	Cognition and	4 hours.	Current research on relations among cognitive processes, learning, and instruction. Same as

			Instruction		EPSY 501. Prerequisite(s): Admission to the Ph.D. in Education program or the Ph.D. in Psychology program, or consent of the instructor.
Psychology	PSCH	552	Cognition and Instruction: Advanced Constructivist Approaches	4 hours.	Piaget's and Vygotsky's theories of knowledge development. Emphasis on competing approaches concerning the relation of thought to action, to language, and to social relations. Same as EPSY 529. Prerequisite(s): EPSY 429 or PSCH 429 or the equivalent, and admission into a Ph.D. program in the College of Education or psychology or consent of instructor.
Psychology	PSCH	558	Seminar in Cognitive Psychology	1 TO 4 hours.	Detailed critical review of selected topics in cognitive psychology: emphasis on current research and theoretical developments. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	559	Current Topics in Cognitive Psychology	1 hours.	Discussion of current research and theoretical issues in broad areas of cognitive psychology. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	564	Clinical Psychopharmacology	3 hours.	Behavioral, cognitive, and biological effects of psychotropic drugs in psychiatric populations. Theoretical, methodological and empirical issues related to the pharmacological treatment of psychopathology. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	568	Seminar in Behavioral Neuroscience	1 TO 4 hours.	Current research issues and studies in Behavioral Neuroscience are discussed in terms of methodology and theory. Topic to be announced each semester. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	569	Current Topics in Behavioral Neuroscience	1 hours.	Presentation of current research projects by staff and students. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	570	Personality Psychology	3 hours.	Contemporary research in personality psychology and a review of theoretical approaches to the study of personality structure and processes. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	571	Psychopathology	3 hours.	Detailed consideration of disorders of behavior including description, etiology, prognosis and experimental and clinical research; consideration of development and functions of classification systems of abnormal behavior and their relation to clinical decision making. Prerequisite(s): PSCH 570 and consent of the instructor
Psychology	PSCH	573	Cognitive and Behavioral Assessment	3 hours.	Theory and research-based coverage of intellectual, neuropsychological, and behavioral assessment. Focus is on methods and interpretation of psychological testing including both objective and projective methods. Prerequisite(s): PSCH 572 and consent of the instructor.
Psychology	PSCH	574	Techniques of Psychological Intervention	3 hours.	Intervention skills, modalities, concepts and techniques for different patient populations and presenting problems. Topics will vary each semester and include: cognitive-behavior therapy, psychodynamic therapy, group therapy and family therapy. May be repeated. Students may register in more than one section per term. Prerequisite(s): PSCH 571 and consent of the instructor.
Psychology	PSCH	575	Psychotherapy Theory and Research	3 hours.	Research methods and theory related to psychotherapy and behavior change, with an emphasis on design, evaluation, and results of empirically-based psychotherapy studies. Prerequisite(s): PSCH 571 and consent of the instructor.
Psychology	PSCH	577	Ethics and Professional Development	3 hours.	Ethical dimensions of psychology including clinical practice, research and teaching; ethical codes, confidentiality, client rights, dual relationships, legal issues, competency, social responsibility, moral reasoning, values. Prerequisite(s): Graduate standing in psychology or consent of the instructor.
Psychology	PSCH	578	Seminar in Clinical Psychology	1 TO 4 hours.	In-depth coverage of selected current topics in clinical psychology. Emphasis is on current research. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	579	Current Topics in Clinical Psychology	1 hours.	Research and case presentations in clinical psychology. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	581	Practicum in Interviewing	1 hours.	Interviewing practicum through the Office of Applied Psychological Services. Students observe and conduct clinical interviews under supervision. 1 graduate hour.Satisfactory/Unsatisfactory grading only. Prerequisite(s): PSCH 481 and consent of the instructor.
Psychology	PSCH	582	Practicum in Psychological Assessment	4 hours.	Supervised practice in psychodiagnostic testing in various facilities associated with the graduate training program in clinical psychology. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): PSCH 573 and consent of the instructor.
Psychology	PSCH	583	Practicum in Clinical Intervention	4 hours.	Instruction and supervision in the practice of psychological intervention, application of basic psychological principles to varied parent populations. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): PSCH 574 and consent of the instructor.
Psychology	PSCH	584	Practicum for Clinical Trainees on Assessment, Intervention and Research	0 TO 3 hours.	Presentation and discussion of trainee assessment, intervention, and research projects. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Acceptance into either an NIMH- or OAPS- sponsored training program.
Psychology	PSCH	587	Practicum in Instruction in	0 TO 9 hours.	Seminar on course planning and supervised teaching of an undergraduate course. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Students

			Psychology		may register in more than one section per term. Students register for 2 to 9 hours. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	591	Research Apprenticeship	2 TO 3 hours.	Directed training in conducting research in specific areas of Psychology, and in developing skills related to the research. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 5 hours. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	594	Advanced Special Topics in Psychology	1 TO 4 hours.	Advanced treatment of an announced topic. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	595	Methods and Measurement in Clinical Psychology	2 hours.	Provides students with an overview of research methods, process concerns, ethics, and issues that are relevant to the field of clinical psychology. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	596	Independent Study	1 TO 12 hours.	Research on or study of topics not included in regular classes or thesis and dissertation research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	598	Thesis Research	0 TO 16 hours.	Research on the topic of the master's thesis. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours. Prerequisite(s): Consent of the instructor.
Psychology	PSCH	599	Dissertation Research	0 TO 16 hours.	Research on the topic of the doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Public Administration - PA

Public Administration	PA	400	Public Administration Theory	3 OR 4 hours.	Theoretical developments; including bureaucracy, administrative state, politics and administration, market and bureaucratic alternatives, organizational decision making, organizational culture, ethics in public sector organizations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	407	Data Analysis for Public Administration	4 hours.	Topics and methods of analyzing information relevant to the administration and management of public programs and organizations. Includes causation, univariate statistics, significance testing, correlation, and regression. Prerequisite(s): Appropriate score on the department placement test; and graduate standing; or consent of the instructor. Admission to the MPA program or consent of the instructor.
Public Administration	PA	410	Economics for Public Administration and Policy Decisions	3 OR 4 hours.	Basic economic tools and methods relevant to public administration and current policy, including opportunity cost, competition versus monopoly, economic efficiency, equity, market failure, public goods, and externalities. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Appropriate score on the department placement test and graduate standing and admission to the MPA program; or consent of the instructor.
Public Administration	PA	421	Public Management	3 OR 4 hours.	Theories, concepts, and applications of management in public organizations. Topics include bureaucracy, public versus private organizations, leadership, motivation, and managing organization change, discretion, and networks. Previously listed as PA 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	447	Survey Planning and Design	3 hours.	Theory and applications of sample survey planning and design for conducting research in health sciences and related fields. Addresses three major topics: survey design and planning, sampling, and data collection procedures. Same as CHSC 447. Prerequisite(s): Graduate or professional standing and BSTT 400 and CHSC 446; or approval of the department.Recommended background: Credit in CHSC 446 or the equivalent.
Public Administration	PA	460	Data Management	4 hours.	Database theory and constructing and managing databases relevant to the operation of government. Utilizes database software and allows students to gain practice with complex database programs and development of a database system. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	461	Management of Information Technology in Government	4 hours.	Concepts and methods of planning, implementing, and managing new information technology or modifying existing technology. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	462	Project Management for Public Managers	4 hours.	Discusses the theory, principles, tools, and techniques behind solid project management. The Project Management Institute's (PMI) standards for project management will be emphasized throughout the course.
Public Administration	PA	463	Introduction to e-Government	4 hours.	Application of the Internet and related technologies for public management. Topics include, Web-based service delivery, online governance, the technological divide, the use of social media, and the changing role of public managers. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	464	Technology and Innovation Theory	4 hours.	The course focuses on theories surrounding the creation, development, transfer, and use of technology. Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	465	Geographic Information Systems for Public Managers	4 hours.	Individuals completing this course will have an understanding of some fundamental GIS tools and applications as well as the challenges in implementing and sustaining a GIS function in the public setting.
Public Administration	PA	466	Science, Technology and Public Policy	4 hours.	This course addresses the relationships between public policy and science and technology in the United States. Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	490	Field Experience in Public Administration	4 hours.	Students work in an organization such as a government agency, community group, or nonprofit organization. Students are required to submit written work and meet with professor on periodic basis to review work experience. Satisfactory/Unsatisfactory grading only. May be repeated. A maximum of 4 hours of credit may be applied to the Master of Public Administration program. Field work required. Students who have no prior work experience in the public or non-profit sectors are strongly recommended to register for this course. Prerequisite(s): Graduate standing required; and admission to the MPA program or consent of the instructor.
Public Administration	PA	494	Special Topics in Public Administration	3 OR 4 hours.	Consideration of timely or enduring issues in public administration not available in regularly offered courses. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	502	The Legal Context of Public Administration	4 hours.	Legal basis and statutory framework for administrative agencies and actions in government. Relationship between courts and public agencies, rulemaking and adjudicative powers of public agencies, and impact of specific laws on government. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public	PA	503	Public Personnel	4 hours.	History and current innovations in managing personnel and other areas of human resources.

Administration			Management		Compensation, classification, affirmative action, performance appraisal, labor relations, and unions. Statutory and court decisions affecting government personnel issues. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	504	Budgeting for Public Administration	4 hours.	Processes and methods relevant to government finances and fiscal health: revenues, taxation, budget formulation, operating budgets, cost analysis, planning and performance, budget reforms, politics, capital budgeting, role of budgeting in management. Prerequisite(s): Admission to the MPA Program or consent of the instructor.
Public Administration	PA	506	Policy Development and Analysis for Public Administrators	4 hours.	Examines the process by which public policies are formulated, decided on, implemented, and evaluated. Techniques of analysis appropriate for various policy issues, and substantive policy issues facing us today. Prerequisite(s): Grade of C or better in PA 407 and admission to the MPA program or consent of the instructor.
Public Administration	PA	510	Organization Theory and Behavior in Public Administration Research	4 hours.	Analysis of major analytical models of organizations; decision-making; control and accountability; change and development; interorganizational relations; the organization-environment interface. Prerequisite(s): Admission to the Ph.D. in Public Administration program or approval of the program director.
Public Administration	PA	511	The History and Development of Public Administration Research and Theory	4 hours.	The history and development of modern public administration, with emphasis on the U.S. model. Major scholarly movements; institutional developments; other factors shaping the present state of the discipline. Prerequisite(s): Admission to the Ph.D in Public Administration program or approval of the program director.
Public Administration	PA	515	The Bureaucracy and the Policy Process	4 hours.	Theories and research issues concerning the role of administrators in policy formation. Case studies and research on federal, state, and local agencies. Prerequisite(s): Admission to the Ph.D. in Public Administration program or approval of the program director.
Public Administration	PA	521	Strategic Management: Planning and Measurement	4 hours.	This course addresses strategies and issues relating to the strategic management of public and quasi-public organizations. It addresses strategic planning and performance measurement processes within organizations. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	522	Ethics and Accountability	4 hours.	Better government through institutionalizing ethics and accountability. Effectiveness of boards of ethics, Inspector General, codes of ethics, and educational programs. History of ethics within the Western intellectual tradition. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	523	Intergovernmental Management	4 hours.	Relationships between federal, state and local governments focusing on management of overlapping programmatic, regulatory and fiscal responsibilities. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	524	Leadership in Public Sector Organizations	4 hours.	Examines theories and practices of leadership in public sector organizations. Global, political, social, and organizational contexts of public sector leaders and interface between administrators, appointees, elected officials. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	526	Public Decision Analysis	4 hours.	Provides an introductory treatment of decision analysis. The intended participants are students who want to learn more about decision making under uncertainty and tools that can be used to support it. Prerequisite(s): PA 407 or consent of the instructor.
Public Administration	PA	527	Public Management Theory	4 hours.	Addresses the development of the public management subfield within the field of public administration. It covers the development of public management theory from its early stages to current questions and theoretical approaches. Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	528	Public Program Evaluation	4 hours.	Theory and procedures for evaluating the effectiveness of programs administered by public and non-profit organizations. Includes application of research design, quantitative, and qualitative methodologies. Prerequisite(s): PA 542 or equivalent; and admission to the Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	529	Change and Reform in Public Organizations	4 hours.	Examines how large, bureaucratic organizations change how they do business. Can improved efficiency and effectiveness result from such change? What techniques are being applied by public organizations to achieve such change? Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	530	History and Theory of the Nonprofit Sector	4 hours.	History of philanthropy in the U.S., noprofits in an international context, the civic base of the nonprofit sector, and the historical and modern relationships between the government and the nonprofit sector.
Public Administration	PA	532	Labor Management Relations in the Public Sector	4 hours.	Skills and knowledge to manage labor relations in government. Constitutional influences on public employment, rights of public employees, mgmt and labor unions; civil service laws, collective bargaining, non-discrimination, and equal opportunity. Prerequisite(s): PA 503; and admission to the MPA program or consent of the instructor.
Public Administration	PA	533	Managing Workplace Diversity	4 hours.	Examines discrimination and diversity in public sector workplaces along several dimensions including race, ethnicity, sex, age, sexual preference, and physical ability. Prerequisite(s): PA 503; and admission to the MPA program or consent of the instructor.
Public Administration	PA	534	Human Resource Development and Management in	4 hours.	Topics in public personnel administration; work motivation, performance appraisal, high performance work systems, equal employment opportunity, affirmative action, strategic human resource management and representative bureaucracy. Prerequisite(s): Admission to a Ph.D.

			Public Administration		program or consent of the instructor.
Public Administration	PA	536	Financial Management and Fundraising in Nonprofit Organizations	4 hours.	Financial management and fundraising activities in nonprofit organizations. Financial accounting, developing nonprofit resources, fundraising, fund development, marketing, philanthropy, grant-writing, and nonprofit budgeting. Prerequisite(s): PA 504 and PA 538; or consent of the instructor.
Public Administration	PA	537	Local Government Management	4 hours.	Issues in the management of local government, including the metropolitan and regional context, the evolving role of managers and special considerations in finance, reform, service delivery, economic development, and democracy at the local level. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	538	Nonprofit Management	4 hours.	Examines management in nonprofit organizations: volunteer management, membership, fundraising, faith-based organizations, grant management, service delivery, philanthropies and missions, finance and reporting requirements, and performance. Prerequisite(s): Admission to the MPA program or consent of the instructor.
Public Administration	PA	540	Research Design for Public Administration	4 hours.	Logic and methods of quantitative and non-quantitative research in public administration. Issues in measurement; causal inference; experimental and quasi-experimental designs; and methods of data collection. Prerequisite(s): Admission to the Ph.D. in Public Administration program or approval of the program director.
Public Administration	PA	541	Advanced Data Analysis I	4 hours.	Elements of matrix theory; introduction to the theory of estimation; hypothesis testing; logit and probit models; factor analysis; and principal components analysis. Application of techniques to public administration research. Prerequisite(s): Graduate standing; and PA 540 or equivalent or approval of the instructor.
Public Administration	PA	542	Advanced Data Analysis II	4 hours.	For those likely to pursue careers in the more quantitative aspects of public administration research. Discrete multivariate analysis and regression; multivariate analysis of variance; other advanced techniques. Prerequisite(s): Graduate standing; and PA 541or equivalent or approval of the instructor.
Public Administration	PA	544	Qualitative Research Methods in Public Administration	4 hours.	The uses, strengths and limitations of qualitative methods of research and analysis including case studies, participant-observer, and ethnography will be explored. Prerequisite(s): Graduate or professional standing; PA 540 or equivalent; or consent of the instructor.
Public Administration	PA	545	Research Topics in Public Administration I	2 hours.	Provides Ph.D. students with a better understanding of current research topics in PA. Students will read current working papers and published articles so as to develop the tools needed for critical analysis of current research. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Ph.D. program in Public Administration and advanced standing or consent of the instructor.
Public Administration	PA	546	Research Topics in Public Administration II	2 hours.	Continuation of PA 545. Students critically analyze current research and will develop a research topic of their own focusing on the elements needed to write a quality research paper. Satisfactory/Unsatisfactory grading only. Prerequisite(s): PA 545; and admission to the PhD program in Public Administration with advanced standing or consent of the instructor.
Public Administration	PA	550	Financial Management of Government	4 hours.	Overview of issues and concepts important for admin and mgmnt of govt's financial affairs: govt accounting, purchasing, cash management and investment, risk management, pension and benefits administration, debt management and capital financing. Prerequisite(s): PA 504; and admission to the MPA program or consent of the instructor.
Public Administration	PA	551	Governmental Accounting	4 hours.	Introduction to major concepts, principles, and objectives of governmental accounting (including fund accounting) and budgetary control systems for local and state government. Designed for students with little or no background in accounting. Prerequisite(s): PA 504; and admission to the MPA program or consent of the instructor.
Public Administration	PA	552	Public Capital Budgeting and Finance	4 hours.	Examines governmental capital budgeting processes, linkages between the capital budget and capital improvement plan, and methods and techniques of financing capital projects including debt financing. Prerequisite(s): PA 504; and admission to the MPA program or consent of the instructor.
Public Administration	PA	553	State and Local Public Finance	4 hours.	Analyzes expenditures and revenues of state and local govts and public sector responses to market failures. Examines state and local revenue sources and discusses governmental provision of services. Prerequisite(s): PA 504; and admission in the MPA program or consent of the instructor.
Public Administration	PA	554	Financial Management in Public Administration	4 hours.	Principles of financial management and applications in various institutional and programmatic settings. Forecasting techniques, computer applications, innovations in public borrowing and debt management. Prerequisite(s): Graduate or professional standing; and PA 410 and PA 504 or equivalents; or consent of the instructor.
Public Administration	PA	567	Topics in Political Communication	4 hours.	Intensive study of selected aspects; organizational communication in public institutions, urban political communication patterns, communication elites. Independent research using a variety of community research techniques. Same as COMM 567 and POLS 567. Prerequisite(s): Consent of the instructor.
Public Administration	PA	575	Survey Planning and Management	2 hours.	Leads students through the steps of planning and conducting a survey including linking survey goals or research questions to survey design, sampling, sample management, and basic descriptive analysis of survey data. Extensive computer use required. Field work required. Meets eight weeks of the semester. Prerequisite(s): Consent of the instructor.

Public Administration	PA	576	Applied Survey Sampling	2 hours.	Provides an overview of current methods and issues in survey sample design. Emphasis will be placed on practical application of sampling methods and procedures to applied research problems. Extensive computer use required. Meets eight weeks of the semester. Prerequisite(s): Consent of the instructor.
Public Administration	PA	577	Survey Questionnaire Design	3 hours.	Concepts and strategies for developing survey questionnaires for various modes of survey data collection. Same as CHSC 577. Prerequisite(s): Graduate or professional standing and CHSC 446 or CHSC 447; or approval of the department.
Public Administration	PA	578	Surveys, Public Opinion, and Public Policy	4 hours.	Addresses the nature of the relationship between public policy and public opinion and the role that surveys play in that relationship. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	579	Practicum in Survey Methodology	2 TO 6 hours.	Students learn about survey research by participating in the process of conducting a survey or surveys. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	580	Survey Nonresponse	2 hours.	Provides an overview of current problems in survey nonresponse and related questions of impact on data quality. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	581	Cross-Cultural Survey Research Methods	2 hours.	Provides graduate students with a clear understanding of the methodological issues involved in collecting survey data across multiple cultural groups and best practices when conducting cross-cultural research. Recommended background: Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	582	Survey Data Collection Methods	2 hours.	This course will address the impact of data collection methods on survey responses and data quality. Prerequisite(s): Graduate or professional standing or consent of the instructor.
Public Administration	PA	583	The Psychology of Survey Measurement: Cognitive and Social Processes	2 hours.	Introduces students to one approach to survey methodology ? the examination of the psychological processes through which survey respondents answer questions. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	584	Internet Surveys	2 hours.	Examines current developments in the collection of survey data via the internet, including both the methodological strengths and weaknesses of this approach, as well as current standards for best practice. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	585	Survey Research Ethics	2 hours.	Students will be exposed to survey research ethical issues. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	586	The History of Survey Methodology	2 hours.	Examines the history of surveys, their development and change over time. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	587	Seminar on Special Topics in Survey Methodology	2 hours.	This seminar is for special topics in survey methodology not covered in the other elective courses. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	588	Survey Data Reduction and Analysis	2 hours.	Provides an in-depth overview of available procedures and standards for survey data reduction and data analysis activities. Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	590	Public Administration Capstone	4 hours.	Integration of classroom learning with practical experience. Students will work in groups to solve real problems for public and non-profit organizations. Extensive collaboration required among group members outside of class time. Students should expect significant field work at their assigned organizations. Students are responsible to the course professor and to the project supervisor in their assigned organizations. Because the coursework is team-based, students are not allowed to drop this course once teams are created. Prerequisite(s): Consent of the instructor and enrollment in the MPA program. Course must be taken in the last two semesters in the MPA program or consent of the instructor.
Public Administration	PA	593	Independent Research in Public Administration	1 TO 8 hours.	Advanced study and analysis of a topic selected by a student under the supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the director of graduate studies and consent of the instructor.
Public Administration	PA	594	Special Topics in Public Administration	1 TO 4 hours.	Advanced study of an announced topic. May be repeated. Students may register in more than one section per term. Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.
Public Administration	PA	596	Independent Study in Public Administration	1 TO 4 hours.	Advanced study and analysis of a topic under guidance of select faculty. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the director of graduate studies and consent of the instructor.
Public Administration	PA	599	Ph.D. Thesis Research	0 TO 16 hours.	Individual study and research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Open only to degree candidates, upon approval of topic by dissertation committee.

Public Health - PUBH

Public Health	PUBH	410	Historical and Contemporary Public Health Challenges I	2 hours.	Part one of a two course sequence, historical and contemporary case studies of social movement(s) will be examined to demonstrate the inter-relatedness of social justice, science/medicine, culture, politics, geography and the public's health. Prerequisite(s): Senior standing in the BA in Public Health program or consent of the instructor.
Public Health	PUBH	411	Historical and Contemporary Public Health Challenges II	2 hours.	Part two of a two course sequence, historical and contemporary case studies of social movement(s) will be examined to demonstrate the inter-relatedness of social justice, science/medicine, culture, politics, geography and the public's health. Prerequisite(s): PUBH 410 and senior standing in the BA in Public Health program or consent of the instructor.

Public Policy Analysis - PPA

PPA	401	Data Analysis I	3 OR 4 hours.	Statistical inference for the social sciences. Emphasis on univariate and bivariate statistics. Same as POLS 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 200 and POLS 201; or graduate standing.
PPA	500	Introduction to Policy and Governance	4 hours.	Introduces the intellectual traditions and debates that have characterized the study of public policy and the social order. Society-centered and state-centered explanations for policy will be explored. Same as POLS 500. Consent of the department required for nondegree graduate students.
PPA	501	Data Analysis II	4 hours.	Interpretation and application of multivariate methods of analysis in the social sciences. Regression specification and diagnostics, limited dependent variable models, measurement issues. Same as POLS 501. Prerequisite(s): POLS 401 or PPA 401.
PPA	541	Policy Formation, Implementation and Evaluation	4 hours.	Introduction to political science theories of how elections, interest groups and state structure affect the formulation of public solutions to societal problems. Same as POLS 541. Prerequisite(s): Consent of the department required for nondegree graduate students.
PPA	584	Methods of Policy Analysis	4 hours.	Analytic, allocative and evaluative techniques in public policy analysis. Preparation of case studies in problem analysis and policy recommendation. Same as UPP 584. Prerequisite(s): Consent of the instructor.
PPA	590	Advanced Public Policy Workshop	4 hours.	Interdisciplinary workshop on preparing a dissertation proposal for public policy analysis students. Same as POLS 590. Prerequisite(s): Advanced standing in the Ph.D. in Public Policy Analysis program and completion of core P.P.A. courses.

Religious Studies - RELS

Religious Studies	RELS	446	Race, Ethnicity, and Gender in American Religion	3 OR 4 hours.	Religious institutions in the U.S. as a crucible for racial, ethnic, and gender identities, group formation, and intergroup relations; major world religions represented in the U.S. Same as SOC 446. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 100 and junior standing or above; or consent of instructor.
Religious Studies	RELS	478	The Bible as Literature	3 OR 4 hours.	Literary analysis of the English Bible (including the Apocrypha) in its historical and religious contexts; study of the King James Version and successive revisions of it. Same as ENGL 478, and JST 478. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in ENGL 240; and Grade of C or better in ENGL 241or Grade of C or better in ENGL 242 or Grade of C or better in ENGL 243; or consent of the instructor.
Religious Studies	RELS	495	Topics in Religious History	3 OR 4 hours.	Specific topics are announced each term. Same as HIST 495. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

Russian - RUSS

Russian	RUSS	410	Structure of Modern Russian	3 OR 4 hours.	A synchronic linguistic analysis of Russian substantives, adjectives, pronouns, verbs, deverbal nouns, and minor parts of speech from a syntagmatic and paradigmatic point of view. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): At least 4 semester hours of Russian or the equivalent.
Russian	RUSS	411	Reading Russian Literature in the Original I	3 OR 4 hours.	Reading some of the highlights of 19th-century Russian short prose and poetry in the original. 3 undergraduate hours. 4 graduate hours. Taught in Russian, all readings in Russian. Prerequisite(s): RUSS 202; or consent of the instructor.
Russian	RUSS	412	Reading Russian Literature in the Original II	3 OR 4 hours.	Continuation of RUSS 411. Reading some of the highlights of 20th- and 21st-century Russian short prose and poetry in the original. 3 undergraduate hours; 4 graduate hours.Taught in Russian, all readings in Russian. Prerequisite(s): RUSS 411; or consent of the instructor.
Russian	RUSS	440	Topics in Russian Culture and Cultural Studies	3 OR 4 hours.	Exploration of various topics in Russian culture through an interdisciplinary prism, addressing intersections between visual and verbal arts as well as high and popular culture. Content varies.3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 6 hours for undergraduate students or 8 hours for graduate students, if topics vary, and with consent of the instructor. Taught in English. All texts are available in English. Students pursuing a major or minor in Russian, or an MA or PhD in Slavic Studies, will be required to read primary texts in the target language. Prerequisite(s): Junior standing or above; or consent of the instructor.
Russian	RUSS	460	Studies in Russian Literature	3 OR 4 hours.	Study of a major author, movement, genre, or special topic. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): 24 hours of Russian or consent of the instructor.
Russian	RUSS	499	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Graduate students may register for more than one section per term. Prerequisite(s): Senior or graduate standing, consent of the instructor and the head of the department.
Russian	RUSS	525	Studies in the Russian Novel	4 hours.	Extensive reading and independent critical analysis of the nineteenth-century classic Russian novels. Authors may include, but are not limited to, Pushkin, Lermontov, Tolstoy, Dostoevsky, Turgenev, and Gogol. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary and with consent of instructor. Taught in English. Recommended background: RUSS 411 and RUSS 412.
Russian	RUSS	530	Studies in Russian Poetry	4 hours.	The development of Russian poetry from the 18th century to the present. Contemporary theories on poetry. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary and with consent of instructor. Taught in English. Recommended background: RUSS 411 and RUSS 412.
Russian	RUSS	535	Experimental Prose and Metafiction	4 hours.	In-depth exploration of six metafictional novels dealing with defining aesthetics and rethinking the place of the writer vis-a-vis his age, his reader, and his self. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary and with consent of instructor. Taught in English. Recommended background: RUSS 411 and RUSS 412.
Russian	RUSS	540	Imitation and Originality	4 hours.	Practices of imitation and parody in Russian literature, the role of those practices in Russian literary history, and their relationship to literary evolution and ideological change. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary and with consent of instructor. Taught in Russian. Recommended background: RUSS 411 and RUSS 412.
Russian	RUSS	560	Russian Modernism and the Avant-Garde	4 hours.	In-depth exploration of various theories of the avant-garde and of avant-garde practices in literature, film, architecture, visual and performing arts. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary, and with consent of the instructor. Taught in English.
Russian	RUSS	575	Workshops in Translation	4 hours.	Focuses on the translation of literary and non-literary texts. Various theoretical approaches to translation and trace the evolution of notions of conveying from one language to another. Topics may vary. May be repeated to a maximum of 8 hours, if topics vary, and with consent of the instructor. Taught in English. Recommended Background: RUSS 411 and RUSS 412.
Russian	RUSS	596	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and the head of the department.

Slavic and Baltic Languages and Literatures - SLAV

Slavic and Baltic Languages and Literatures	SLAV	460	Studies in East European Literatures and Culture	3 OR 4 hours.	Study of a topic, author, genre, or movement. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): 24 hours of Slavic or Baltic or consent of the instructor.
Slavic and Baltic Languages and Literatures	SLAV	470	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Slavic and Baltic Languages and Literatures	SLAV	471	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in SLAV 470, and approval of the department.
Slavic and Baltic Languages and Literatures	SLAV	499	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Graduate students may register for more than one section per term. Prerequisite(s): Senior or graduate standing, consent of the instructor and the head of the department.
Slavic and Baltic Languages and Literatures	SLAV	515	Topics in Contemporary Serbian Linguistics	4 hours.	Variable content. May be repeated to a maximum of 12 hours. Prerequisite(s): SLAV 410.
Slavic and Baltic Languages and Literatures	SLAV	535	Topics in Comparative Slavic Linguistics	4 hours.	Comparative study of various linguistic aspects of the Slavic languages. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	536	Topics in Comparative Slavic Literatures	4 hours.	Comparative study of a literary topic or movement. Content varies. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	542	Studies in Serbian Poetry	4 hours.	Specific topics are announced each semester. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	545	Studies in Serbian Prose I	4 hours.	Specific topics of the Serbian short story and novel are announced each term. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	550	Studies in Yugoslav Literary Historiography and Criticism	4 hours.	Major concepts and movements in the South Slavic literary history. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	560	Studies in Ukrainian Renaissance and Baroque Literature	4 hours.	Ukrainian prose, poetry and drama of the sixteenth, seventeenth, and eighteenth centuries.
Slavic and Baltic Languages and Literatures	SLAV	562	Studies in Ukrainian Romantic and Post-Romantic Poetry	4 hours.	Study of a period or movement in the nineteenth and early twentieth-century Ukrainian poetry. Content varies. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	565	Studies in Nineteenth Century Ukrainian Prose	4 hours.	Study of a genre, topic, period, movement or author. Content varies. May be repeated to a maximum of 12 hours.
Slavic and Baltic Languages and Literatures	SLAV	575	Studies in Slavic Literary Theory	4 hours.	Russian, Czech, Polish and Serbian contributions to literary theory: Formalism, structuralism, semiotics, phenomenology. May be repeated to a maximum of 12 hours. Taught in English.
Slavic and Baltic Languages and Literatures	SLAV	576	Methods and Principles of Translation	4 hours.	Introduction to theory and methods of literary translation. Extensive practice translating expository prose, literary prose, and poetry from Slavic languages into English. Taught in English.
Slavic and Baltic	SLAV	596	Independent Study	1 TO 4 hours.	Investigation of special problems under the general direction of a faculty member. May be repeated up to 8 time(s). Students may register in more than one section per term. Prerequisite(s):

Languages and Literatures					Consent of the instructor and the head of the department.
Slavic and Baltic Languages and Literatures	SLAV	599	Ph.D. Thesis Research	0 TO 16 hours.	The writing of a Ph.D. thesis based on original research in the area of the candidate's major specialization (literature or culture). Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Students may apply a maximum of 26 credit hours toward the degree. Prerequisite(s): Admission to candidacy for the doctoral degree and consent of the Director of Graduate Studies.

Social Work - SOCW

Social Work	SOCW	410	Human Behavior and the Social Environment	3 hours.	Human development through the life span including urban family, group, community, and organizational interactions with social, cultural, psychological factors. Credit is not given for SOCW 410 if the student has credit for SOCW 535. Some sections may be fully or partially online. Prerequisite(s): Graduate standing and consent of the instructor or admission to the MSW program.
Social Work	SOCW	411	Social Work in a Multicultural Society	3 hours.	Examines complex interaction between majority and minority racial/ethnic groups; diversity, ethnic sensitivity, oppression; focus on racial and ethnic minority groups, particularly African Americans, Latinos, Asian Americans, and Native Americans. Credit is not given for SOCW 411 if the student has credit for SOCW 537. Prerequisite(s): Admission to MSW program.
Social Work	SOCW	420	Policy I: Social Welfare Policy and Services	3 hours.	Social work and social welfare policy; history, structure and development of current policies; policy analysis and policy advocacy skills for social and economic justice. Credit is not given for SOCW 420 if the student has credit for SOCW 550. Prerequisite(s): Graduate standing and Admission to the MSW program.
Social Work	SOCW	430	Practice I: Generalist Practice with Individuals, Families, and Groups	3 hours.	Generalist practice principles applied to individuals, families, and groups including content on community context, racial and ethnic minorities, poor, oppressed, and other urban vulnerable communities. Credit is not given for SOCW 430 if the student has credit for SOCW 501. Prerequisite(s): Graduate standing and Admission to the MSW program.
Social Work	SOCW	431	Practice II: Generalist Practice with Task Groups, Organizations, and Communities	3 hours.	Generalist practice principles applied to task groups, organizations, and communities including focus on community context and the poor, oppressed and other urban vulnerable communities. Credit is not given for SOCW 431 if the student has credit for SOCW 502. Prerequisite(s): SOCW 430 and graduate standing.
Social Work	SOCW	460	Research I: Social Work Research	3 hours.	Prepares students to demonstrate basic competencies in the knowledge, values, and skills of research methodology in social work, including problem formulation, design of research, measurement, sampling, data analysis. Credit is not given for SOCW 460 if the student has credit for SOCW 560. Prerequisite(s): Graduate standing and Admission to the MSW program.
Social Work	SOCW	480	Special Studies in School Social Work Practice	3 hours.	Ecological and strengths-based interventions in urban school systems. Extensive computer use required. This course is fully online. Prerequisite(s): Admission to the post-MSW Type 73 program and graduate standing.
Social Work	SOCW	503	Family Practice in Urban Communities	3 hours.	Empowering at-risk urban families using strengths-based intervention; brief treatment models; attention to diversity, community, poor, and other urban at-risk populations. Prerequisite(s): SOCW 430.
Social Work	SOCW	504	Group Theory and Practice	3 hours.	Theory and practice of social work with empower groups in both clinical and large system settings; diversity and equity issues. Prerequisite(s): SOCW 430.
Social Work	SOCW	508	Models of Social Work Scholarship and Knowledge Development I	3 hours.	Functions of scholarship in social work, contributions of scholarship to social and economic justice, research methodologies and knowledge building precesses for practice and policy analysis. Extensive computer use required. Previously listed as SOCW 592. Prerequisite(s): Admission to the Ph.D. in Social Work program or consent of the instructor.
Social Work	SOCW	509	Models of Social Work Scholarship & Knowledge Development II	3 hours.	Functions and processes of research in social work, knowledge-building methodologies and the contributions of multiple research models to the growth of knowledge for the profession. Extensive computer use required. Prerequisite(s): SOCW 508.
Social Work	SOCW	511	Practice With Children	3 hours.	Direct treatment with urban at-risk children including situations involving homelessness, substance-abuse, violence; treatment modalities emphasizing family, community, culture. Prerequisite(s): SOCW 430.
Social Work	SOCW	517	Practice with Family Violence, Neglect, and Abuse	3 hours.	Ecological approach to family violence: physical, psychological and sexual abuse of children, women and elders at practice and policy levels; urban vulnerable population. Prerequisite(s): SOCW 430; or consent of the instructor.
Social Work	SOCW	519	Practice III: Community Health and Urban Development	3 hours.	Advanced integrated practice with urban communities at levels of individuals, families, groups, organizations and communities. Emphasis in diversity, strengths, capacity-building and small systems. Prerequisite(s): Grade of C or better in SOCW 431.
Social Work	SOCW	520	Practice IV: Community Health and Urban Development	3 hours.	Advanced, integrated practice with urban communities with emphasis on diversity, strengths, capacity-building and large systems. Prerequisite(s): Grade of C or better in SOCW 519.
Social Work	SOCW	521	Aging Populations: Social Work Response	3 hours.	Psychological, social, biological aging factors of individuals and families; emphasis on practice skills for community, long-term care and hospital-based services with urban emphases. Prerequisite(s): SOCW 410; or consent of the instructor.
Social Work	SOCW	522	Crisis Intervention	3 hours.	Nature of crises including suicide and large-scale disaster; strengths-based interventions in urban settings: medical and mental health facilities, schools, community centers, and neighborhoods. Prerequisite(s): SOCW 430.
Social Work	SOCW	523	Drug and Alcohol	3 hours.	History and pharmacology of alcohol and other drugs; etiology of abuse and dependence;

			Abuse and Social Work		assessment and treatment models; practice in multi-disciplinary settings; emphasis on urban systems. Prerequisite(s): SOCW 430.
Social Work	SOCW	525	Social Work with Women	3 hours.	Research, policy, and practice approaches to working with women in diverse urban settings; empowerment and diversity perspectives. Same as GWS 525. Prerequisite(s): SOCW 410; or consent of the instructor.
Social Work	SOCW	527	Topics in Social Services	3 hours.	Critical review of selected areas of social work, social services, and social welfare. May be repeated. Students may register in more than one section per term. Depending on the section of this course, field trips may be part of the course. Prerequisite(s): Admission to the MSW program or consent of the instructor.
Social Work	SOCW	529	Kinship Care: A Comprehensive Overview	3 hours.	Provides a comprehensive overview focusing on the growing number of children who are raised by relatives other than their parents. Extensive computer use required. This course may be offered fully online or in a blended-online format. Please check the Schedule of Classes for information on the format of the course offering. Prerequisite(s): Consent of the instructor. Recommended background: Interest in children, families and family caregiving.
Social Work	SOCW	530	Leadership and Professional Development	3 hours.	Social work leadership and professional development including writing for publication, communication skills, personal leadership plan development, theory and practice of leadership at individual agency and community levels. Prerequisite(s): SOCW 410.
Social Work	SOCW	531	Policy II: Community Health and Urban Development	3 hours.	Advanced policy content for urban communities including health disparities, discrimination, urban poverty and social dislocation. Analytical and policy practice skills addressed. Prerequisite(s): Grade of C or better in SOCW 420.
Social Work	SOCW	532	Social Work in Corrections	3 hours.	Policy and practice roles of social workers in correctional settings with emphasis on race, ethnicity, gender, sexual orientation and poverty factors. Prerequisite(s): SOCW 410; or consent of the instructor.
Social Work	SOCW	533	Sexual Minority Communities	3 hours.	Community and social justice framework applied to gay, lesbian, bisexual and transgendered populations; historical development of sexual minority communities; overview of social work response. Prerequisite(s): Admission to the MSW program or consent of the instructor.
Social Work	SOCW	534	Independent Study in Practice	1 TO 3 hours.	Independent study in practice area not covered by existing course offerings. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor and approval of the college.
Social Work	SOCW	538	Social Work and Human Rights	3 hours.	Assists students to understand the historical development of human rights principles related to vulnerable populations to prepare for advocacy for this population. Prerequisite(s): SOCW 410 and consent of the instructor.
Social Work	SOCW	539	Mental Health Issues with Children and Adolescents	3 hours.	Critical, strengths-based understanding of current classification and diagnostic systems for assessment and treatment planning with children and adolescents. Prerequisite(s): SOCW 410 or consent of the instructor.
Social Work	SOCW	540	Mental Health Issues with Adults	3 hours.	Critical, strengths-based understanding of current classification and diagnostic systems for assessment and treatment planning with adults. Prerequisite(s): SOCW 410 or consent of the instructor.
Social Work	SOCW	544	Community Violence	3 hours.	Urban community violence; impact on individuals and society; policies and theories critically studied from race, class, and gender perspectives; social work implications. Prerequisite(s): SOCW 410 or consent of the instructor.
Social Work	SOCW	545	HIV/AIDS: Social Work Challenges	3 hours.	HIV prevention and intervention in urban settings; system and ecological understanding of impact of HIV on society and role of social work practice and policy. Prerequisite(s): SOCW 410 or consent of the instructor.
Social Work	SOCW	546	Public Health Aspects of Adolescence and Youth	3 hours.	Overview of critical health and developmental issues impacting adolescents, including youth participation in health initiatives. Crosscutting perspectives of social identity, gender, culture and social class are emphasized. Same as CHSC 544. Prerequisite(s): CHSC 446; and graduate or professional standing; or approval of the department. Recommended background: Research, policy and/or practice and interest in adolescence and in community development and intervention studies; ethnic/minority studies; education; health and social/human service professions.
Social Work	SOCW	547	Advanced Child Welfare Practice	3 hours.	Focuses on practice in child welfare with children and families who have experienced abuse or neglect and addresses theoretical and programmatic aspects of child welfare practice, with particular attention to practice in Illinois. Course information: Prerequisite(s): SOCW 430 and SOCW 431 and SOCW 410 and SOCW 460 and SOCW 411 and SOCW 420.
Social Work	SOCW	548	Social Entrepreneurship	3 hours.	Introduction to global spectrum of socially responsible ventures providing innovative solutions to poverty and other social issues through entrepreneurship. Course information: Prerequisite(s): SOCW 431.
Social Work	SOCW	549	Independent Study in Human Behavior and the Social Environment	1 TO 3 hours.	Independent study in human behavior and social environment areas not covered by existing course offerings. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor and approval of the college.
Social Work	SOCW	551	Policy II: School Social Work Policy	3 hours.	Critical analysis of federal, state, and local policies relevant to social work practice in urban school systems. Prerequisite(s): SOCW 420.
Social Work	SOCW	552	Policy II: Child and Family Policy	3 hours.	Critical analysis of policies affecting welfare of families and children; focus on child welfare, juvenile justice, adult criminal justice, mental health, and special education systems.

					Prerequisite(s): SOCW 420.
Social Work	SOCW	553	Policy II: Health Care Systems & Policies	3 hours.	Critical analysis of current health care programs and policies including policy change skills; content on urban poor and at-risk populations. Prerequisite(s): SOCW 420.
Social Work	SOCW	554	Policy II: Mental Health Policy	3 hours.	Critical analysis of policies and structures in mental health delivery system with a focus on persons with chronic mental illness. Prerequisite(s): SOCW 420.
Social Work	SOCW	556	Policy II: Community and Administrative Practice	3 hours.	Critical analysis of national, state, and local policies affecting urban community building and development. Prerequisite(s): SOCW 420.
Social Work	SOCW	558	Social Work and the Law	3 hours.	Social work input in legal system: family law, family violence, crime, delinquency, civil rights, education, health, mental health, social advocacy, social work practice regulation. Prerequisite(s): SOCW 420 or consent of the instructor.
Social Work	SOCW	559	Independent Study in Social Welfare Policy and Services	1 TO 3 hours.	Independent study in social welfare policy and services areas not covered by existing course offerings. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor and approval of the college.
Social Work	SOCW	563	Program Evaluation	3 hours.	Prepares students to demonstrate advanced competencies in designing needs assessments and program evaluations. Emphasis on evaluation of programs serving urban at-risk populations. Prerequisite(s): SOCW 460 or consent of the instructor.
Social Work	SOCW	565	Research Seminars: Social Service Issues	3 hours.	Methodologies and results of research in selected fields of social services; special issues and problems in practice; relationship of research, theory, and practice; priorities for future research. Prerequisite(s): SOCW 460 or consent of the instructor.
Social Work	SOCW	567	Research Project	0 TO 9 hours.	Application of research methods to social work problems in an individual or group project or library research project. Preparation of a formal report based on field study processes and findings. Satisfactory/Unsatisfactory grading only. May be repeated. If taken for a minimum of 3 credits this course will be accepted as meeting MSW degree requirements for advanced research in all concentrations except the School Social Work concentration. Prerequisite(s): Grade of A in SOCW 460 or an equivalent course or consent of the instructor; and approval of the college.
Social Work	SOCW	569	Independent Study in Research	1 TO 3 hours.	Independent study in research methodology or areas not covered by existing course offerings. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor and approval of the college.
Social Work	SOCW	570	Field Instruction I	5 hours.	Students are assigned to social agencies where, under the supervision of an agency field instructor, selected micro and macro system cases are carried for social work services. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Social Work	SOCW	571	Field Instruction II	5 hours.	Students are assigned to social agencies where, under the supervision of an agency field instructor, they carry selected cases or groups for social work services. Satisfactory/Unsatisfactory grading only. Prerequisite(s): SOCW 570 and consent of the instructor.
Social Work	SOCW	572	Field Instruction III	8 hours.	Students are assigned to social agencies where, under the supervision of an agency field instructor, selected micro and macro system cases are carried for social work services. Satisfactory/Unsatisfactory grading only. Prerequisite(s): SOCW 571 and consent of the instructor.
Social Work	SOCW	573	Field Instruction IV	8 hours.	Students are assigned to social agencies where, under the supervision of an agency field instructor, selected micro and macro system cases are carried for social work services. Satisfactory/Unsatisfactory grading only. Prerequisite(s): SOCW 572 and consent of the instructor.
Social Work	SOCW	574	Special Studies in Field Instruction I	2 TO 4 hours.	Practicum experiences in approved social agencies/organizations where students carry selected cases applying knowledge to skill applications under the supervision of an agency field instructor. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Social Work	SOCW	575	Special Studies in Field Instruction II	2 TO 4 hours.	Practicum experiences in approved social agencies/organizations where students carry selected cases applying knowledge to skill applications under the supervision of an agency field instructor. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Social Work	SOCW	577	Social Welfare History	3 hours.	Social work history in context of political, economic, and social developments; focus on gender, class, and race; critical application of theoretical models. Prerequisite(s): Admission to the Ph.D. in Social Work program or consent of the instructor.
Social Work	SOCW	579	Integrative Seminar	2 hours.	Application of concepts of social work practice, policy, and research to selected fields of social service. Focus on appropriate service delivery models and intervention strategies. May be repeated to a maximum of 4 hours. Prerequisite(s): Concurrent registration in SOCW 575 and consent of the instructor.
Social Work	SOCW	580	Practice III: Community and Administrative Practice	3 hours.	Management of human service organizations; resource acquisition and management; planning; community relations; focus on urban, community-based agencies. Prerequisite(s): SOCW 431.
Social Work	SOCW	581	Practice IV: Community and Administrative	3 hours.	Advanced urban community building and developing; emphasis on poor, at-risk communities. Prerequisite(s): SOCW 580.

			Practice		
Social Work	SOCW	582	Practice III: Practice with Children and Families	3 hours.	Ecological and strengths-based practice with urban children and families using systems of care, family-centered, trauma-informed framework; special focus on child welfare. Prerequisite(s): SOCW 431.
Social Work	SOCW	583	Practice IV: Practice with Children and Families	3 hours.	Advanced critical analysis and application of ecological, evidence-based practice approches and strengths-based practice frameworks to issues facing urban at-risk children and families involved with courts, schools, and child welfare systems. Prerequisite(s): SOCW 582.
Social Work	SOCW	584	Practice III: Health Care	3 hours.	Theoretical basis and skills for health social work in diverse settings; bio-psychological understanding of health and disease; emphasis on direct practice with urban clients and families. Prerequisite(s): SOCW 431.
Social Work	SOCW	585	Practice IV: Health Care	3 hours.	Advanced knowledge and skills in health care settings; specific populations including urban poor and at-risk populations; emphasis on urban community and organizational levels. Prerequisite(s): SOCW 584.
Social Work	SOCW	586	Practice III: Mental Health	3 hours.	Strengths-based assessment and treatment planning in urban settings; diversity issues; managed care settings; critical use of current mental health diagnostic and classification systems. Prerequisite(s): SOCW 431.
Social Work	SOCW	587	Practice IV: Mental Health	3 hours.	Advanced urban mental health practice; diversity issues; focus on children and adolescents and their families; critical application of current mental health diagnosis and classification. Prerequisite(s): SOCW 586.
Social Work	SOCW	588	Practice III: School Social Work	3 hours.	Response to intervention, tier-based model, ecological and strengths-based perspectives for the development of basic competencies for urban school social work; diversity issues. Students take a (free) online course as part of the course requirement. Prerequisite(s): SOCW 431 and consent of the instructor.
Social Work	SOCW	589	Practice IV: School Social Work	3 hours.	Response to intervention, tier-based model, ecological systems, strengths perspective for practice in urban school systems; use of groups, consultation, classroom interventions, family empowerment, community interventions; diversity issues. Students take a (free) online course as part of the course requirement. Prerequisite(s): SOCW 588.
Social Work	SOCW	590	Analysis of Social Work Practice Approaches	3 hours.	Historical and current developments in the conceptualization of social work practice. Implications of practice approaches for contributing to social justice. Values and ethics addressed. Extensive computer use required. Prerequisite(s): Admission to the Ph.D. in Social Work program or consent of the instructor.
Social Work	SOCW	591	Social Welfare Policy Analysis and Development	3 hours.	Analysis of social welfare policies with particular attention to issues of social and economic justice; conceptual models for analysis; application of models to selected problems. Prerequisite(s): Admission to the PhD in Social Work program or consent of the instructor.
Social Work	SOCW	593	Quantitative Methods in Social Work Research	3 hours.	Selected statistical and analytical methods as applied to social issues. Use of computerized tools, sampling, hypothesis testing, descriptive and inferential procedure, introduction to multivariate analysis. Extensive computer use required. Prerequisite(s): Admission to Ph.D. in Social Work program or consent of the instructor.
Social Work	SOCW	594	Dissertation Proseminar in Social Work	3 hours.	Preparation in development of dissertation focus and planning of dissertation research. Readings are assigned and discussed in class. Emphasis on ideas for dissertation topic, its formulation, operationalization, and research design. Prerequisite(s): SOCW 592 and SOCW 593.
Social Work	SOCW	595	Seminar in Social Work Education	3 hours.	Preparation for roles as social work educators. Historical development of social work education with special emphasis on relation between curriculum design and the accreditation process. Pedagogical issues such as selecting educational objectives, teaching methods, and evaluation of student performance. Students must participate in a teaching laboratory. Prerequisite(s): Admission to the Ph.D. in Social Work program.
Social Work	SOCW	596	Proseminar on Selected Topics and Issues in Social Work	3 hours.	Review and critique of selected areas of social work content, theory, or practice. State of current knowledge and needed research stressed. May be repeated. Prerequisite(s): Admission to the Ph.D. in Social Work program or consent of the instructor.
Social Work	SOCW	599	Ph.D. Thesis Research	0 TO 16 hours.	Individual research, under faculty direction, on social work doctoral dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

Sociology - SOC

Sociology	SOC	401	Sociological Statistics	4 hours.	Descriptive and inferential statistics for graduate and advanced undergraduate sociology majors and related fields. Tests of means, regression, correlation, analysis of variance, and related topics. Prerequisite(s): SOC 201 and two additional 200-level sociology electives; or graduate standing or consent of the instructor.
Sociology	SOC	402	Intermediate Sociological Statistics	4 hours.	Covers general linear models emphasizing regression, analysis of variance and covariance, simple structural equation models, simple categorical methods and elementary matrix algebra. Prerequisite(s): SOC 401.
Sociology	SOC	405	Writing in the Social Sciences	3 OR 4 hours.	Leads to effective, clear writing for a social science audience. Teaches how to organize ideas, avoid tiresome jargon, and write with precision. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 6 hours of upper-division social science courses.
Sociology	SOC	406	Urban Ethnography	3 OR 4 hours.	The study of processes and meanings in African American communities in urban areas, interviews, participant observation, focus groups. Same as AAST 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100; and junior standing or above.
Sociology	SOC	407	Seminar in Comparative Racialization	3 OR 4 hours.	Provides an interdisciplinary and comparative approach to the making and remaking of "race" and the resultant racialized experiences of different groups in the U.S. and globally. Same as AAST 407. Prerequisite(s): AAST 247 or AAST 248 or AAST 340 or SOC 225; and senior standing or above; or consent of the instructor.
Sociology	SOC	424	Sociology of Gender	3 OR 4 hours.	Variety and change in gender roles; patterns and consequences of gender inequality; gender and sexuality; gender and social institutions such as family, economy. Same as GWS 425. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 224, or any 100 or 200-level GWS course and an additional 200 or 300-level elective in sociology or gender and women studies; Junior standing or above; or graduate standing; or consent of the instructor.
Sociology	SOC	425	Race and Ethnicity	3 OR 4 hours.	Critical examination of the conceptual frameworks and empirical findings in the study of race and ethnicity. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 225 an additional 200- or 300- level elective in Sociology; or consent of the instructor.
Sociology	SOC	426	Topics in Race, Ethnicity, and Gender	3 OR 4 hours.	Intensive examination of a specialized topic in race, ethnicity and gender. The specific topic of the course varies depending on the faculty offering it. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Students may register in more than one section per term. Prerequisite(s): SOC 224; or SOC 225; and junior standing or above and an additional 200 or 300-level elective in sociology; or consent of the instructor.
Sociology	SOC	428	Asian/Asian American Women in the Global Economy	3 OR 4 hours.	Examines the racialization and feminization of a global division of labor and focuses primarily on Asian and Asian American women's participation and incorporation as workers and key actors in the development of the global economy. Same as ASAM 428 and GWS 428. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): At least one ASAM or GWS or SOC course; or consent of the instructor.
Sociology	SOC	433	Latin American Migration to the U.S.	3 OR 4 hours.	Latin American migration to the U.S. International migration theories, family remittances, transnational linkages, dual citizenship, and past and current U.S. immigration policy debates. Same as LALS 433. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Sociology	SOC	440	Topics in Organizations and Institutions	3 OR 4 hours.	Intensive examination of a specialized topic announced when the class is scheduled. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Students may register in more than one section per term. Prerequisite(s): SOC 244 or MGMT 340, and an additional 200-level sociology elective, and junior standing; or consent of the instructor.
Sociology	SOC	441	Social Stratification	3 OR 4 hours.	The nature of systems of differentiation and ranking in societies and their consequences; emphasis on class structure in the United States; prestige, status, power, and social mobility in the United States and other societies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 241 and an additional 200 or 300-level elective in Sociology; and Junior standing or above; or consent of the instructor.
Sociology	SOC	445	Sociology of the Family	3 OR 4 hours.	Variety and change in family patterns; family formation and break-up; parents' and childrens' effects on each other; influences of culture and political economy; consequences for other institutions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 224, or SOC 245 and an additional 200 or 300-level Sociology elective; and Junior standing or above; or consent of the instructor.
Sociology	SOC	446	Race, Ethnicity, and Gender in American Religion	3 OR 4 hours.	Religious institutions in the U.S. as a crucible for racial, ethnic, and gender identities, group formation, and intergroup relations; major world religions represented in the U.S. Same as RELS 446. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 246 and an additional 200 or 300- level elective in Sociology; and Junior standing or above; or consent of instructor.
Sociology	SOC	447	Organizations	3 OR 4 hours.	Characteristics of business, government, and not-for-profit organizations; approaches used to study organizations; theoretical and empirical analysis of organizational processes. Same as MGMT 447. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 241 or MGMT 340 or SOC 244 and an additional 200 or 300-level elective in sociology; and junior standing or above; or consent of the instructor.
Sociology	SOC	448	Sociology of Development	3 OR 4 hours.	Historical, economic, political, social, and geographic factors shaping national and international development experiences and outcomes. 3 undergraduate hours. 4 graduate hours. Prerequisite(s):

					6 hours of upper-division social science courses or consent of the instructor.
Sociology	SOC	451	Medical Sociology	3 OR 4 hours.	Survey of major topics in sociology of health and medicine including social definitions of health and illness, patient practitioner interaction, the organization of health institutions and professions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.
Sociology	SOC	455	Topics in Medical Sociology	3 OR 4 hours.	Intensive examination of a specialized topic announced when the class is scheduled. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): SOC 451 or consent of the instructor.
Sociology	SOC	465	Topics in Sociology of Politics	3 OR 4 hours.	Intensive examination of a specialized topic announced when the class is scheduled. Same as POLS 465. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.
Sociology	SOC	471	Population	3 OR 4 hours.	The measurement and study of major trends and differentials in fertility, mortality, migration, growth, and compositional characteristics of the population of the United States and other nations. Same as EPID 471. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 201 and an additional 200 or 300-level course in sociology; and junior standing or above; or consent of the instructor.
Sociology	SOC	473	Cities and Regions	3 OR 4 hours.	Characteristics, conditions, and consequences of structure and change of cities and metropolitan regions. Spatial, political economy, cultural perspectives. Census, ecological, historical, comparative data for cities. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 201 and an additional 200 or 300-level course in sociology; and junior standing or above; or consent of the instructor.
Sociology	SOC	476	Topics in Urban Sociology	3 OR 4 hours.	Intensive examination of a specialized topic announced when the class is scheduled. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.
Sociology	SOC	485	Classical Social Theory	3 OR 4 hours.	Survey and analysis of classical European and American social theory. Examination of how theorists such as Marx, Weber, Durkheim, Veblen and Park defined and described society within their own social contexts and how we derive meaning from these theories. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 385; and senior standing or above; or consent of the instructor.
Sociology	SOC	487	Current Social Theory	3 OR 4 hours.	Review and evaluation of major currents in sociological theory since the 1940s. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 385; and senior standing or above; or consent of the instructor.
Sociology	SOC	490	Senior Research Experience	4 hours.	The course integrates theory, methods and analytical skills to a substantive area of sociology. Students will gain hands-on experience by collecting data, analyzing data, writing up their findings and presenting their projects to the class. May be repeated to a maximum of 8 hours, with approval of the deparment. Students may register for more than one section per term. Previously listed at SOC 400. Prerequisite(s): SOC 300 and SOC 385; and senior standing or above and one 400-level elective in sociology and consent of the instructor.
Sociology	SOC	496	Independent Study or Research	1 TO 9 hours.	Extensive readings in specialized areas of sociology or empirical research for advanced undergraduate or graduate students. May be repeated with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Undergraduate students may repeat course for maximum of 9 hours of credit. Prerequisite(s): 18 hours of sociology, excluding SOC 296 and SOC 299, consent of the instructor, and approval of the department.
Sociology	SOC	499	Senior Thesis	1 TO 4 hours.	Individual study for students working on a senior thesis under the supervision of a faculty advisor. This course is required for students graduating with highest departmental distinction. May be repeated to a maximum of 8 hours, with approval of the department. Students may register for more than one section per term. Previously listed as SOC 299. Prerequisite(s): SOC 490; and senior standing or above; and consent of the instructor.
Sociology	SOC	500	Sociological Research Methods I	4 hours.	Introduction to research design, data gathering and data reduction; logic of problem formulation, units of analysis, measurement, data analysis.
Sociology	SOC	501	Sociological Research Methods II	4 hours.	Evaluating sociological research, data analysis and reporting; proposal writing and evaluation; professional issues including research ethics; student presentation of master's research proposals. May be repeated to a maximum of 12 hours. Prerequisite(s): SOC 500.
Sociology	SOC	509	Seminar: Sociological Research Methods	4 hours.	Research practicum of specialized social science research methods. 4 hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): SOC 500 and SOC 501.
Sociology	SOC	520	Seminar: Race, Ethnicity, and Gender	4 hours.	Intensive analysis of specialized topics. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Sociology	SOC	524	Gender	4 hours.	Review of a wide range of theories that explain the development and maintenance of gender, focusing on how gender stratification has developed historically and how and why individuals "do gender" in their daily lives. Prerequisite(s): Consent of the instructor.

Sociology	SOC	525	Sociology of Race and Ethnicity	4 hours.	A survey of classical and contemporary research on "race" and "ethnicity" focusing on how their meaning is both ascribed and achieved and the relationship of these categories to individual and collective life chances. Prerequisite(s): Consent of the instructor.
Sociology	SOC	528	Societal Analysis of Aging, Health and the Life Course	3 hours.	Analysis of health, aging and health care issues from life course perspectives, including the application of concepts, theories and methods from both sociology and public health. Same as CHSC 528. Prerequisite(s): Graduate or professional standing; or approval of the department.
Sociology	SOC	540	Seminar: Social Institutions	4 hours.	Intensive analysis of specialized topics in social institutions. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Sociology	SOC	541	Sociology of Social Stratification	4 hours.	Provides students with an overview of sociological research on social stratification emphasizing individual and structural elements. Prerequisite(s): Consent of the instructor.
Sociology	SOC	547	Social Organization	4 hours.	Intensive analysis of specialized topics. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Sociology	SOC	548	Seminar: Comparative Societies	1 TO 7 hours.	Intensive analysis of specialized topics. May be repeated. Students may register in more than one section per term.
Sociology	SOC	550	Proseminar on Current Research in Health, Illness, and Medicine	4 hours.	Review and critique of current research in the following health areas: health care systems, social epidemiology, and health and illness behavior. Prerequisite(s): SOC 451.
Sociology	SOC	551	Seminar: Sociology of Health and Medicine	1 TO 7 hours.	Intensive analysis of specialized topics. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Sociology	SOC	565	Seminar: Political Sociology	1 TO 7 hours.	Intensive analysis of specialized topics. May be repeated to a maximum of 12 hours. Students may register in more than one section per term.
Sociology	SOC	571	Seminar: Population and Human Ecology	1 TO 7 hours.	Intensive analysis of specialized topics. May be repeated to a maximum of 12 hours. Students may register in more than one section per term.
Sociology	SOC	572	Sociology of Education	4 hours.	Education as a social institution in interaction with other institutions, such as the economy. Topics include the emergence of national systems of education, purposes of education, inequality and educational reform. Same as EDPS 572. Prerequisite(s): Consent of the instructor.
Sociology	SOC	585	Classical Sociological Theory	4 hours.	Examination of how theorists have defined and described society within their own social contexts and how we derive meaning from these theories. Prerequisite(s): Consent of the instructor.
Sociology	SOC	587	Contemporary Sociological Theory	4 hours.	Sociological theory since World War II. Course content will be both "substantive", covering widely divergent schools of thought, and "methodological", analyzing and constructing theories as explanatory systems. Prerequisite(s): Consent of the instructor.
Sociology	SOC	593	Colloquium on College Teaching of Sociology	4 hours.	Covers strategies and techniques for contemporary university teaching and for the teaching of sociology at the college level. May be repeated.
Sociology	SOC	595	ProSeminar	1 hours.	Presentation and discussion of issues of professional concern to sociologists including current research, consulting, teaching and applied sociology. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term.
Sociology	SOC	596	Independent Study	1 TO 12 hours.	Research on special problems not included in the graduate thesis. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and approval of the department.
Sociology	SOC	597	Masters Project Research	1 TO 4 hours.	Supervised writing and research on topic of the master's paper. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 12 hours.
Sociology	SOC	599	Thesis Research	0 TO 16 hours.	Supervised dissertation research. Satisfactory/Unsatisfactory grading only. May be repeated.

Spanish - SPAN

Spanish	SPAN	400	History of the Spanish Language	3 OR 4 hours.	Origins and development of Spanish; phonological, morphological, syntactic development of the language; foreign influences; origin of dialects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 362 or SPAN 401 or consent of the instructor.
Spanish	SPAN	401	Intensive Introduction to Hispanic Linguistics	4 hours.	An intensive introduction to phonetics/phonology, syntax, and semantics of Spanish. Prerequisite(s): Graduate Standing.
Spanish	SPAN	402	Spanish Syntax	3 OR 4 hours.	Introduction to the generative approach to Spanish syntax. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 361 or consent of the instructor.
Spanish	SPAN	403	Advanced Spanish Syntax	3 OR 4 hours.	In-depth examination of current theoretical issues in Spanish syntax. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 402 or consent of the instructor.
Spanish	SPAN	404	Spanish Phonology and Morphology	3 OR 4 hours.	Analysis of the phonological and morphological structure of Spanish. Emphasis on the production and mental representation of sounds. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 362 or consent of the instructor.
Spanish	SPAN	405	Advanced Spanish Phonology and Morphology	3 OR 4 hours.	Advanced and detailed study of the phonological and morphological structure of Spanish. Emphasis on current theories. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 404 or consent of the instructor.
Spanish	SPAN	406	Spanish Sociolinguistics	3 OR 4 hours.	Past and current theoretical and empirical sociolinguistics as applied to the study of variation within Spanish and U.S. Hispanic communities. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 363 or consent of the instructor.
Spanish	SPAN	407	Methods of Literary and Cultural Analysis	3 OR 4 hours.	Introduction to basic tools and critical vocabulary to conduct advanced work in Hispanic literature. 3 undergraduate hours. 4 graduate horus. Taught in Spanish or English. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	408	Hispanic Dialectology	3 OR 4 hours.	Descriptive and historical analysis of the most salient linguistic phenomena of peninsular and American Spanish dialects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 362 or SPAN 401; or consent of the instructor.
Spanish	SPAN	409	Semantics and Pragmatics in Spanish	3 OR 4 hours.	Introduction to the study of meaning in language with a focus on Spanish. Includes formal/compositional semantics and an introduction to pragmatics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 365 or SPAN 401; or consent of the instructor.
Spanish	SPAN	411	Topics in Medieval and Early Modern Spanish Literature and Culture	3 OR 4 hours.	Exploration of topics and theoretical approaches to the literature and culture of medieval and early modern Spain. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above. Completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	414	Topics in Cervantes' Don Quijote	3 OR 4 hours.	Examination of current critical and theoretical approaches to Cervantes Don Quijote, including questions of gender, class, historiography, and ideology. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	421	Topics in 18th and 19th Century Spanish Literature and Culture	3 OR 4 hours.	Exploration of topics and theoretical approaches to Peninsular literature and culture from the Neoclassical period through the Generation of 1898. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	422	Topics in 20th and 21st Century Spanish Literature and Culture	3 OR 4 hours.	Exploration of topics; sociological and historical approaches to the literature and culture from the vanguard movements of the early 20th century through the present day. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	427	Studies in Language Policy and Cultural Identity	3 OR 4 hours.	Examines the development, articulation, and effects of language policies on identity formation and culture. Focuses on the United States and the Spanish language, although other countries and languages are included. Same as LALS 427. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above. Reading and writing knowledge of Spanish.
Spanish	SPAN	430	Topics in Colonial History, Literature and Culture	3 OR 4 hours.	Topics in colonial literature, history and culture intended to introduce students to the main methodologies, paradigms, issues and critical approaches to colonial studies. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the intstructor.
Spanish	SPAN	431	Topics in Latin American Letters from the Revolutionary Era to Independence	3 OR 4 hours.	Nineteenth-century literary trends from the beginnings of the novel through Romanticism and Realism to Urban naturalism. Prose and poetry. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	434	Topics in Latin American Letters from Modernismo to the Early 1970's	3 OR 4 hours.	Emergence of new literary and cultural trends from the beginning of the 20th century to the end of the so-called Latin American Boom. It may include fiction, poetry, film, theater, as well as less traditional genres. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above and completion of two 300-level courses in Spanish literature; or consent of the instructor.

Spanish	SPAN	435	Topics in Contemporary Urban Latin American and Latino Culture, Literature and the Arts	3 OR 4 hours.	Study of particular cultural, artistic or literary phenomenon in urban Latin American and Latino culture, literature or the arts. Emphasis on cultural studies and/or literary analysis. Critical writing is an important component of the course. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Junior standing or above for undergraduate students, completion of two 300-level courses in Spanish literature; or consent of the instructor.
Spanish	SPAN	436	Special Topics in the Teaching of Spanish	1 TO 4 hours.	Course content is announced prior to each term in which course is given. May be repeated. Students may register in more than one section per term. Taught in English. Some semesters, may be taught in Spanish. Prerequisite(s): Approval of the department.
Spanish	SPAN	440	Theory and Methods in Teaching Heritage Speakers	3 OR 4 hours.	Reviews theories in bilingual development, sociolinguistics, and language teaching in order to understand best practices in and develop coherent materials for teaching heritage language learners. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and consent of the instructor. Recommended background: Credit or concurrent registration in SPAN 363 or Credit or concurrent registration in SPAN 448 or Credit or concurrent registration in SPAN 449.
Spanish	SPAN	448	Foundations of Second Language Teaching	3 OR 4 hours.	Provides an introduction to second language acquisition research and its implications for communicative language teaching. Emphasis is on creating activities to develop high school students' communicative abilities in speaking and listening. Same as FR 448, and GER 448. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor and three courses at the 200 and 300 levels.
Spanish	SPAN	449	Teaching Second Language Literacy and Cultural Awareness	3 OR 4 hours.	Examines the nature of literacy as a reciprocal relationship between readers, writers, texts and culture. Students learn the practical and theoretical foundations of classroom teaching of second language reading and writing skills. Same as FR 449, and GER 449. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor.
Spanish	SPAN	451	Educational Practice with Seminar I	6 hours.	The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.
Spanish	SPAN	452	Educational Practice with Seminar II	6 hours.	The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in SPAN 451, and approval of the department.
Spanish	SPAN	487	Computer Assisted Language Learning	3 OR 4 hours.	An introduction to computer assisted language learning (CALL): the use of computer technology in second language reading and research. The effectiveness of CALL technology is assessed based on SLA theory and research studies. Same as GER 487 and LING 487. 3 undergraduate hours. 4 graduate hours. Taught in English. Extensive computer use required. Prerequisite(s): LING 483 or CIE 483 or GER 448 or FR 448 or SPAN 448 or GER 449 or FR 449 or SPAN 449; or SPAN 502 or FR 502 or the equivalent; and senior standing or above.
Spanish	SPAN	494	Special Topics	3 OR 4 hours.	Topics will vary from term to term and may cover such areas as literary theory or culture. Same as FR 494 and ITAL 494. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Taught in English. Prerequisite(s): Junior standing or above; and approval of the department.
Spanish	SPAN	505	Seminar in Spanish Theoretical and Descriptive Linguistics	4 hours.	Topics in phonology, morphology, syntax, semantics, pragmatics or dialectology of Spanish. May be repeated to a maximum of 16 hours if topics vary. Prerequisite(s): Consent of the instructor.
Spanish	SPAN	507	Seminar in Second Language Acquisition and Bilingualism	4 hours.	Current theoretical and research directions of bilingualism and second language acquisition by non-natives. May include original empirical research projects. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the instructor.
Spanish	SPAN	515	Advanced Seminar in Medieval and Early Modern Spanish Literature and Culture	4 hours.	Examination of topics using selected literary, historical and philosophical readings from Medieval and Early Modern Spain. May be repeated up to 1 time(s). May be taught in English or Spanish. Recommended background: Credit or concurrent registration in SPAN 409 and SPAN 411.
Spanish	SPAN	520	Advanced Seminar on Modern and/or Contemporary Spanish Literature and Culture	4 hours.	Particular areas, genres, works or figures in 19th, 20th or 21st Century Spanish literature and culture. May be repeated to a maximum of 8 hours. May be taught in English or Spanish.
Spanish	SPAN	522	Advanced Seminar on Hispanic Colonial and Postcolonial Letters and Culture	4 hours.	An in-depth examination of problems and issues that concern the study of colonial and postcolonial cultures and societies. May be repeated to a maximum of 8 hours. May be taught in English or Spanish.

Spanish	SPAN	523	Advanced Seminar on Postmodern Latin American Literature, Film and Culture	4 hours.	An in-depth examination of issues, trends and problems that concern recent and contemporary Latin American literature, film and other art forms. May be repeated to a maximum of 8 hours. May be taught in English or Spanish.
Spanish	SPAN	525	Advanced Seminar on Trans-American, Transatlantic and/or US Latino Studies	4 hours.	Intensive study of relevant issues in comparative Transatlantic, Trans-American and/or US Latino literatures and cultures. May be repeated up to 1 time(s). May be taught in English or Spanish.
Spanish	SPAN	535	Concepts and Methodologies in Hispanic Literary and Cultural Studies	4 hours.	Study of concepts and methodologies in current Hispanic literary and cultural studies. May be repeated to a maximum of 8 hours. Prerequisite(s): SPAN 407 or consent of the instructor.
Spanish	SPAN	540	Seminar on Language in Context	4 hours.	Past and current theoretical and empirical directions as applied to the study of oral and written discourse and its social context. May be repeated to a maximum of 8 hours. Prerequisite(s): SPAN 406; or consent of the instructor.
Spanish	SPAN	551	Research Practicum in Sociolinguistics	4 hours.	Strategies and methods for studying language use in communities: participant-observation, interviewing, elicitation, using public-domain data, note-taking vs. tape recording, and issues of transcription and ethics. Same as LING 551. May be repeated to a maximum of 12 hours. Prerequisite(s): LING 480; or consent of the instructor.
Spanish	SPAN	556	Second Language Learning	4 hours.	An introduction to research findings and methods in second language learning. Same as LING 556. Prerequisite(s): Consent of the instructor.
Spanish	SPAN	557	Theories in Second Language Acquisition	4 hours.	Review of current linguistic, cognitive, and socio-cultural theories with the following in mind: What do these theories purport to explain? What methodologies are used by researchers working within the theories? Taught in English. Prerequisite(s): LING 556 or SPAN 556; or consent of the instructor.
Spanish	SPAN	570	Seminar in Literary Theory and Criticism	4 hours.	Theories of literary production and reception; their application to the practice of literary criticism. Specific themes and topics vary. Same as FR 570. May be repeated to a maximum of 8 hours with approval. Approval to repeat course granted by the instructor. Taught in English.
Spanish	SPAN	590	Preliminary Examination and Dissertation Prospectus Preparation	1 TO 16 hours.	Under the supervision of a faculty mentor, the student will prepare for the preliminary examination and prepare the dissertation prospectus required by the department. Satisfactory/Unsatisfactory grading only. May be repeated for a maximum of 16 hours of credit. A maximum of 16 credit hours can be applied toward the degree. Approval of the Department and completion of all required course work for the Ph.D. in Hispanic Studies. May be taken concurrently with non-required or elective course work.
Spanish	SPAN	594	Special Topics in Hispanic Studies	4 hours.	Topics which involve multiple approaches to problems in linguistics and literature, or which cross the chronological and geographical boundaries established in the seminars. May be repeated to a maximum of 16 hours. Prerequisite(s): Consent of the instructor.
Spanish	SPAN	596	Independent Study	1 TO 4 hours.	Provides for areas of study not regularly covered by departmental offerings. Study proposals must conform to departmental guidelines. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Spanish	SPAN	598	M.A. Thesis Research	0 TO 16 hours.	Students involved in thesis research and writing are assigned to the course at the discretion of the graduate committee. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the graduate committee.
Spanish	SPAN	599	Ph.D. Thesis Research	0 TO 16 hours.	The writing of a Ph.D. thesis based on original research in the area of the candidate's major specialization (literature, linguistics, or culture). Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 24 hours. Prerequisite(s): Admission to candidacy for the doctoral degree and consent of director of graduate studies.

Special Education - SPED

Special Education	SPED	410	Survey of Characteristics of Learners with Disabilities	3 hours.	Fulfills requirements for Illinois House Bill 150. Field experience required. Learning and personality characteristics of exceptional learners. Diagnostic processes and educational approaches are examined. Prerequisite(s): ED 210 or ED 421 or graduate standing and consent of the instructor.
Special Education	SPED	415	Characteristics of Exceptional Learners	2 hours.	Provides a foundation for the understanding of the exceptional learner in an inclusive environment. No graduation credit for students enrolled in a secondary education, social work or any graduate degree program. Prerequisite(s): Junior standing or above and admission to the B.A. in Urban Education, Concentration in Elementary Education program or consent of the instructor.
Special Education	SPED	416	Methods of Instruction for Exceptional Learners	2 hours.	The purpose of this course is to address issues of instruction for individuals with special needs. Topics include effective instructional and accommodative practices and strategies in multiple areas (math, literacy, science, social studies, art). Prerequisite(s): Junior standing or above and Admission to the Bachelor of Arts in Elementary Education program. Successful completion of SPED 415.
Special Education	SPED	423	Assessment of Monolingual and LEP Children with Disabilities	3 hours.	To prepare students in use of formal and informal assessments to inform placement, instructional planning, and evaluation of English Language Learners with disabilities. Prerequisite(s): Open only to Master's degree students; and consent of the instructor. Assumes previous assessment of students with disabilities coursework and practicum that is part of certification requirements as for Learning Behavior Specialist I certification; and provision of direct services to students with disabilities. Recommended Background: Minimum one year teaching experience.
Special Education	SPED	424	Assessment of Students with Special Needs	3 OR 4 hours.	Theoretical basis and practical application of standardized and alternative testing of children with learning and behavior difficulties. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPED 410
Special Education	SPED	426	Curricular/Behavioral Considerations for Learners with Special Needs	3 OR 4 hours.	Instructional practices related to academics, classroom management, individualized and group instruction for students with special needs. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPED 424 or the equivalent or consent of the instructor.
Special Education	SPED	427	Instructional and Behavioral Methods for English Language Learners with Disabilities	3 hours.	To prepare students in the use of best practice instruction and the promotion of prosocial behavior within the context of teaching English Language Learners with disabilities. Prerequisite(s): Open only to Master's degree students; and consent of the instructor and successful completion of SPED 423 or equivalent. Assumes previous instructional planning for students with disabilities and practicum that is part of the certification requirements for the Learning Behavior Specialist I certification; and minimum one year teaching experience or providing direct services to students with disabilities. Recommended background: Illinois State Board of Education certification: Learning Behavior Specialist I; minimum one year teaching experience.
Special Education	SPED	442	Language Development and Disorders	3 OR 4 hours.	Theory and research on the acquisition of phonology, syntax, semantics and pragmatics in children with and without disabilities. Models for language assessment and intervention. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPED 410
Special Education	SPED	444	Assistive Technology for Literacy, Learning and Participation in Pre-K through High School	3 hours.	Use of communication systems, computers, adapted equipment and strategies to foster participation and inclusion of students in grades preschool through high school. Same as DHD 444.
Special Education	SPED	448	Topics in Special Education	1 TO 4 hours.	Course or workshop on preannounced topic on the education of handicapped children, adolescents, or adults. May be repeated. Students may register in more than one section per term. Prerequisite(s): SPED 410 and consent of the instructor.
Special Education	SPED	449	Early Childhood/Early Childhood Special Education: Perspectives, Policies and History	3 hours.	Perspectives, policies, history, and foundations of Early Childhood Education and Early Childhood Special Education. Emphasis on the effects of changing economic, political, legal, social, and views of human development. Same as EPSY 449 and EDPS 449.
Special Education	SPED	461	Political and Socio-Cultural Perspectives on Special Education	3 hours.	Students will examine issues of access and equity through legislation, litigation, and socio-cultural perspectives and be introduced to major theoretical frameworks that influence special education programs. Same as ED 461. Field work required.
Special Education	SPED	462	Assessment of Individuals with Disabilities	3 hours.	To prepare students in the use of formal and informal assessment in making decisions regarding placement, instructional planning, and evaluation of students with disabilities. Field work required. Prerequisite(s): ED 461 or SPED 461 or the equivalent or consent of the instructor.
Special Education	SPED	463	Instructional Adaptations in Reading and Writing I	3 hours.	Emphasizes the components of designing, implementing, and assessing reading and writing instruction for individuals with disabilities at the elementary level. Field work required. Prerequisite(s): ED 461 or SPED 461 or the equivalent or consent of the instructor.
Special Education	SPED	465	Cognitive Development and	3 hours.	Theory and research on cognitive development in children with disabilities from infancy through adolescence, in the context of typical development. Models for cognitive assessment and

			Disabilities		intervention. Same as EPSY 465. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Special Education	SPED	466	Language Development, Diversity, and Disabilities	3 hours.	Theory and research on language development in children with disabilities, in the context of typical development. Models for language assessment and intervention. Same as EPSY 466. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Special Education	SPED	467	Social and Emotional Development and Disabilities	3 hours.	Exploration of the risk factors and different theoretical approaches associated with the social and emotional development of youth ages 5-21 with and without disabilities. Same as EPSY 467. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Special Education	SPED	471	Curricular Adaptations for Learners with Significant Disabilities	3 hours.	Addresses methods of instruction, assessment, planning for instruction, development and evaluation of learning environments, and instructional delivery for students with significant disabilities. Field work required. Prerequisite(s): SPED 465 and SPED 466 and SPED 467; or consent of the instructor.
Special Education	SPED	472	Promoting Academic and Prosocial Behavior I	3 hours.	The importance of school-wide and classroom structure and climate in the educational process. Strategies to promote academic success and desired social behavior. Same as ED 472. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Special Education	SPED	473	Teaching Math and Science with Adaptations	3 hours.	Provides prospective teachers with assessment strategies and a range of adaptations, modifications, and interventions in math and science for students with disabilities. Same as ED 473. Field work required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.
Special Education	SPED	480	Technology and Multimedia: Learning Tools in the Classroom	3 OR 4 hours.	New technologies to support teaching and learning in pre-college classrooms. Same as CI 480. 3 undergraduate hours. 4 graduate hours.
Special Education	SPED	481	Theoretical Foundations and Issues of Bilingual Special Education	3 hours.	Theoretical, pedagogical foundations of Bilingual Special Education to provide experienced special educators with research-based knowledge and practices to serve English Language Learners with disabilities. Prerequisite(s): Open only to Master's degree students; and consent of the instructor; and Learning Behavior Specialist certification. Recommended Background: Minimum one year teaching experience or related services certificate to serve students with disabilities.
Special Education	SPED	500	Research Methods in Special Education	4 hours.	Research strategies and statistical methods for the assessment of applied and theoretical research studies in special education. Prerequisite(s): SPED 410 or consent of the instructor.
Special Education	SPED	506	Characteristics and Assessment of Young Children with Disabilities	4 hours.	Biological and environmental factors in infancy may cause developmental disabilities. Impact of such factors on child development will be reviewed. Approprite assessment techniques reviewed. Field work required.
Special Education	SPED	507	Children with Disabilities and the Family	4 hours.	Strategies for working with families of young children with disabilities. Focus on parents and siblings within community context. Design and implementation of indiviaual family service plans. Prerequisite(s): SPED 506 or SPED 511 or SPED 513 or SPED 515.
Special Education	SPED	508	Methods of Instruction & Assessment of Young Children with Disabilities	4 hours.	Intervention and assessment methods for infants and young children at-risk for or showing developmental delays. Systems perspective on utilizing family and community to support intervention. Field work required. Prerequisite(s): Grade of B or better in SPED 506; or consent of the instructor.
Special Education	SPED	509	Educational Implications of Learners with Low-Incidence and Multiple Disabilites	3 hours.	Development of knowledge and skills to research, synthesize and apply psychological, sociological, and educational issues for students with multiple and low incidence disabilities. Previously listed as SPED 513. In partial fulfillment of LBSII programs for Behavior Intervention Specialist and Multiple Disabilities Specialist. Prerequisite(s): Must have an LBSI Certificate and Admission to the LBSII Program or admission as a doctorate student or consent of the instructor.
Special Education	SPED	510	Advanced Curricular Adapations for Learners with Significant and Multiple Disabilities	3 hours.	Development of knowledge and skills to plan and create curriculum, teach and assess instructional delivery for students with significant disabilities. Previously listed as SPED 511. In partial fulfillment of LBSII programs for Curriculum Adaptation Specialist, Behavior Intervention Specialist and Multiple Disabilities Specialist. Prerequisite(s): Admission to the LBSII Program or admission as a doctorate student or consent of the instructor.
Special Education	SPED	512	Curricular and Social Adaptations for Working with Learners with High Incidence Disabilities	3 hours.	Development and evaluation of differentiated instruction and learning opportunities for students with mild disabilities, including collaborative approaches and attention to families. Field work required. In partial fulfillment of LBSII programs for Behavior Intervention Specialist and Multiple Disabilities Specialist. Prerequisite(s): SPED 511 and Admission to the LBSII Program or admission as a doctorate student or consent of the instructor.
Special Education	SPED	514	Principles of ABA and Experimental Analysis of Behavior	3 hours.	Development of knowledge and skills to conduct behavioral assessments in school, home, and clinical settings, and to create behavior plans for school and community inclusion. Prerequisite(s): SPED 513 and Admission to the LBSII Program or admission as a doctorate student or consent of the instructor.
Special	SPED	515	Transition Planning	3 hours.	Development of knowledge and skills to provide individuals with disabilities-specific skills to

Education			and Vocational Programming for Students with Disabilities, Part 1		enhance successful transitions especially for adolescents and young adults with disabilities. Prerequisite(s): SPED 513 and Admission to the LBSII program or admission as a doctorate student or consent of the instructor.
Special Education	SPED	516	Transition Planning and Vocational Programming for Students with Disabilities, Part 2	3 hours.	Provides teachers of individuals with disabilities with skills to enhance opportunities for successful transitions. Required course for LBSII. Prerequisite(s): SPED 515 or consent of the instructor.
Special Education	SPED	517	Analysis of Behavior in Applied Contexts	3 hours.	Development of knowledge and skills to create curriculum and instruction for students with serious emotional and behavioral disorders and study school-wide support systems. Prerequisite(s): SPED 516 and Admission to the LBSII Program or admission as a doctorate student or consent of the instructor.
Special Education	SPED	522	Advanced Procedures in Special Educator as Consultant	4 hours.	Development of knowledge and skills to collaborate and show leadership in educational settings through use of consultation models and current school-wide support models. Field work required. Prerequisite(s): SPED 410 and Admission to the LBSII Program or admission as a doctorate student or consent of the instructor.
Special Education	SPED	537	Special Education Practicum	6 TO 12 hours.	Practice teaching in the field of special education; focus on teaching students who are experiencing social and/or emotional disturbance, mental retardation, or learning disabilities. Prerequisite(s): Completion of 100 clock hours of pre-student teaching field experiences, completion of a sequence in an area of special education, and consent of the advisor. Applications are due two semesters in advance.
Special Education	SPED	538	Internship in University Teaching	4 hours.	Field-based internship in teaching at the university level for students in the PhD Program in Special Education. 4 hours. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Field work required. Prerequisite(s): SPED 564 and consent of the instructor. Coursework and experience in special education, as determined by the instructor and enrollment in the PhD in Special Education.
Special Education	SPED	564	Proseminar in Special Education	4 hours.	Various areas of special education research are reviewed. Topics include areas of faculty research. Prerequisite(s): SPED 500 or consent of the instructor; and admission to Ph.D. in Special Education program.
Special Education	SPED	572	Promoting Academic and Prosocial Behavior II	2 hours.	Provides an in-depth examination of serious problem behavior and the skills to develop individualized programs to address the academic and social needs of challenging students. Field work required. Prerequisite(s): SPED 472; or consent of the instructor.
Special Education	SPED	573	Understanding Research in Special Education	3 hours.	Overview of research methodology appropriate for teachers of special populations with emphasis on developing skills in critically reading research reports. Prerequisite(s): ED 461 or SPED 461 or the equivalent or consent of the instructor.
Special Education	SPED	576	Internship in Assessment	3 hours.	Internship experiences in an assessment clinic for special education majors. Field work required. Prerequisite(s): SPED 462 or the equivalent or consent of the instructor.
Special Education	SPED	577	Field Teaching Internship Experience	3 hours.	Field-based internship experiences for special education. Field work required. Prerequisite(s): Approval of the program faculty.
Special Education	SPED	578	Classroom-Based Inquiry Internship	3 hours.	Field-based internship experiences in special education classrooms. Field work required. Prerequisite(s): Approval of the program faculty.
Special Education	SPED	579	Research Internship	3 hours.	Students work on a specific research project under the direction of a faculty member. Field work required. Prerequisite(s): SPED 573 or the equivalent and consent of the instructor.
Special Education	SPED	580	Student Teaching in Special Education	6 hours.	Practice teaching in the field of special education. Field work required. Prerequisite(s): SPED 463 and SPED 471 and SPED 473 and SPED 572 and SPED 573 and SPED 576 and SPED 577 and approval of the program faculty.
Special Education	SPED	582	Forging Collaborations with Family and Community	3 hours.	Develops skills necessary to work in partnership with the families of children with disabilities, and community members. Same as EPSY 582. Prerequisite(s): ED 461 or SPED 461 or the equivalent or consent of the instructor.
Special Education	SPED	583	Instructional Adaptations in Reading and Writing II	3 hours.	Students learn advanced strategies for designing,implementing,and assessing reading and writing instruction for individuals with disabilities at the middle school and secondary level. Field work required. Prerequisite(s): ED 461 or SPED 461; and SPED 463; or consent of the instructor.
Special Education	SPED	592	Seminar on Theory and Research in Special Education	4 hours.	Systematic in depth review of theory and research on selected topics in special education. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): SPED 500 and consent of the instructor.
Special Education	SPED	593	Ph.D. Research Project	1 TO 8 hours.	Students design, implement, and analyze results of a research problem in this area of specialization. Completed study is reviewed by faculty. May be repeated to a maximum of 8 hours. Prerequisite(s): Admission to the Ph.D. in Education program.
Special Education	SPED	595	Seminar in Special Education	4 hours.	Discussion of current literature in the field of special education. Satisfactory/Unsatisfactory grading only. Prerequisite(s): SPED 564.
Special Education	SPED	596	Independent Study	1 TO 4 hours.	Students independently study related topics not covered by courses, under faculty supervision. May be repeated to a maximum of 12 hours. Students may register in more than one section per

					term. Prerequisite(s): SPED 500 or the equivalent, and consent of advisor and instructor.
Special Education	SPED	599	Thesis Research	0 TO 16 hours.	Research on the topic of the student's dissertation. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the dissertation advisor.

Statistics - STAT

Statistics	STAT	401	Introduction to Probability	3 OR 4 hours.	Probability spaces, random variables and their distributions, conditional distribution and stochastic independence, special distributions, sampling distributions, limit theorems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 210.
Statistics	STAT	411	Statistical Theory	3 OR 4 hours.	Estimation, tests of statistical hypotheses, best tests, sufficient statistics, Rao-Cramer inequality, sequential probability ratio tests, the multivariate normal distribution, nonparametric methods. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in STAT 401.
Statistics	STAT	416	Nonparametric Statistical Methods	3 OR 4 hours.	Distribution free tests for location and dispersion problems, one-way and two-way layouts, the independence problem, regression problems involving slopes, detecting broad alternatives, resampling methods. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in STAT 381 or STAT 411.
Statistics	STAT	431	Introduction to Survey Sampling	3 OR 4 hours.	Simple random sampling; sampling proportions; estimation of sample size; stratified random sampling; ratio estimators; regression estimators; systematic and cluster sampling. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in STAT 411 or STAT 481.
Statistics	STAT	451	Computational Statistics	3 OR 4 hours.	Modern computationally-intensive statistical methods including Monte Carlo integration and simulation, optimization and maximum likelihood estimation, EM algorithm, MCMC, sampling and resampling methods, non-parametric density estimation. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): STAT 411.
Statistics	STAT	461	Applied Probability Models I	3 OR 4 hours.	Computing probabilities and expectations by conditioning, Markov chains, Chapman-Kolmogorov equations, branching processes, Poisson processes and exponential distribution, continuous-time Markov chains, reversibility, uniformization. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in STAT 401.
Statistics	STAT	471	Linear and Non-Linear Programming	3 OR 4 hours.	Linear programming, simplex algorithm, degeneracy, duality theorem sensitivity analysis, convexity, network simplex methods, assignment problems. Constrained and unconstrained minima. Quasi-Newton methods. Ellipsoidal methods of Kachian. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 310.
Statistics	STAT	473	Game Theory	3 OR 4 hours.	Games in extensive and normal form. Minimax theorem. Solving matrix games via linear programming. Nash equilibria for nonzero-sum games, Shapley value, bargaining models. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 310 or STAT 401.
Statistics	STAT	475	Mathematics and Statistics for Actuarial Sciences I	3 OR 4 hours.	Financial mathematics as it pertains to the valuation of deterministic cash flows. Basic concepts and techniques regarding the theory of interest. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Math 210.
Statistics	STAT	481	Applied Statistical Methods II	3 OR 4 hours.	Linear regression, introduction to model building, analysis of variance, analysis of enumerative data, nonparametric statistics, product and system reliability, quality control. SAS and SPSSX applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in STAT 381.
Statistics	STAT	486	Statistical Consulting	3 OR 4 hours.	Introduction to statistical consulting methods and techniques. Handling and transformation of raw data sets in CMS. Statistical analysis of data sets with SAS and SPSSX. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in STAT 411 or STAT 481.
Statistics	STAT	494	Special Topics in Statistics, Probability and Operations Research	3 OR 4 hours.	Course content announced prior to each semester in which it is given. Topics drawn from areas such as distribution theory; Bayesian inference; discrete optimization; applied probability models; resampling techniques; biostatistics; environmental sampling. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Statistics	STAT	496	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and approval of the department.
Statistics	STAT	501	Probability Theory I	4 hours.	Abstract measure theory, probability measures, Kolmogorov extension theorem, sums of independent random variables, the strong and weak laws of large numbers, the central limit theorem, characteristic functions, law of iterated logarithm, infinitely divisible laws. Prerequisite(s): MATH 534 or consent of the instructor.
Statistics	STAT	502	Probability Theory II	4 hours.	Radon-Nikodym theorem, conditional expectations, martingales, stationary processes, ergodic theorem, stationary Gaussian processes, Markov chains, introduction to stochastic processes, Brownian motions. Prerequisite(s): STAT 501.
Statistics	STAT	511	Advanced Statistical Theory I	4 hours.	Statistical models, criteria of optimum estimation, large sample theory, optimum tests and confidence intervals, best unbiased tests in exponential families, invariance principle, likelihood ratio tests. Prerequisite(s): STAT 411.
Statistics	STAT	512	Advanced Statistical Theory II	4 hours.	Basic concepts in decision theory, prior and posterior distributions, Bayesian decision theory, hierarchical models, robustness, minimax analysis, invariance principle, sequential analysis, completeness. Prerequisite(s): STAT 511.
Statistics	STAT	521	Linear Statistical Inference	4 hours.	Estimation and testing in linear models, generalized inverses of matrices, n-dimensional normal distribution, quadratic forms, likelihood ratio tests, best invariant tests, analysis of variance.

					Prerequisite(s): STAT 411.
Statistics	STAT	522	Multivariate Statistical Analysis	4 hours.	Multivariate normal distribution, estimation of mean vector and covariance matrix, T-square statistic, discriminant analysis, general linear hypothesis, principal components, canonical correlations, factor analysis. Prerequisite(s): STAT 521.
Statistics	STAT	531	Sampling Theory I	4 hours.	Foundations of survey design and inference for finite populations;the Horvitz-Thompson estimator;simple random, cluster,systematic survey designs;auxiliary size measures in design and inference. Prerequisite(s): STAT 411.
Statistics	STAT	532	Sampling Theory II	4 hours.	Uses of auxiliary size measures in survey sampling; cluster sampling; systematic sampling; stratified sampling; superpopulation methods; randomized response methods; resampling; nonresponse; small area estimations. Prerequisite(s): STAT 531.
Statistics	STAT	535	Optimal Design Theory I	4 hours.	Gauss-Markov theorem,optimality criteria, optimal designs for 1-way, 2-way elimination of heterogeneity models,repeated measurements, treatment-control ; Equivalence theorem,approximate designs for polynomial regression. Prerequisite(s): STAT 521.
Statistics	STAT	536	Optimal Design Theory II	4 hours.	Construction of optimal designs: BIB , Latin square and generalized Youden , repeated measurements , treatment-control studies; construction of factorial designs including orthogonal arrays Prerequisite(s): STAT 535 or consent of the instructor.
Statistics	STAT	571	Noncooperative Games	4 hours.	Extensive games. Separation and fixed point theorems. General minimax theorems. Nash equilibria. War duels. Completely mixed games. Games with convex payoff. Stochastic games. Prerequisite(s): STAT 461 or MATH 411.
Statistics	STAT	572	Cooperative Game Theory	4 hours.	Utility Theory. Games with side payments, stable sets, core, bargaining sets,Shapley value,Nucleolus. Market games. NTU value. Multilinear extensions, non-atomic games . Prerequisite(s): STAT 571 or consent of the instructor.
Statistics	STAT	591	Advanced Topics in Statistics, Probability and Operations Research	4 hours.	Special topics. Topics drawn from areas such as: Data analysis; Bayesion inference; Nonlinear models; Time series; Computer aided design; reliability models; game theory. May be repeated. Prerequisite(s): Approval of the department.
Statistics	STAT	593	Graduate Student Seminar	1 hours.	For graduate students who wish to receive credit for participating in a learning seminar whose weekly time commitment is not sufficient for a reading course. This seminar must be sponsored by a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Statistics	STAT	595	Research Seminar	1 hours.	Current developments in research with presentations by faculty, students, and visitors. Researchers and practitioners from academia, industry and government will present talks on topics of current interest. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.
Statistics	STAT	596	Independent Study	1 TO 4 hours.	Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.
Statistics	STAT	598	Master's Thesis	0 TO 16 hours.	Research work under the supervision of a faculty member leading to the completion of a master's thesis. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the department.
Statistics	STAT	599	Doctoral Thesis Research	0 TO 16 hours.	Research work under the supervision of a faculty member leading to the completion of a doctoral thesis. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

Study Abroad - SABR

Study Abroad	SABR	491	Study Abroad	0 TO 18 hours.	Credit for foreign study. Final determination of credit is approved by the department/college and is based on the student's completion of the work. May be repeated. Students do not register for this course. Special administrative course created to transcript study abroad courses. Course detail is added directly to students' academic records by the Office of Registration and Records.
Study Abroad	SABR	591	Study Abroad	0 TO 18 hours.	Credit for foreign study. Final determination of credit is approved by the department/college and is based on the student's completion of the work. May be repeated. Students do not register for this course. Special administrative course created to transcript study abroad courses. Course detail is added directly to students' academic records by the Office of Registration and Records.

Surgery - SURG

Surgery	SURG	597	Project Research	0 TO 16 hours.	Research investigation of problems in surgery. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.
Surgery	SURG	598	Master's Thesis Research	0 TO 16 hours.	Research investigation of problems in surgery. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Consent of the instructor.

Theatre - THTR

Theatre	THTR	410	Movement for Stage III	3 OR 4 hours.	Specialized topics in performance skills and physical theatre - incorporates clown, circus techniques, and mask work. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 310 and advanced physical performance experience; or consent of the instructor.
Theatre	THTR	423	Playwriting	3 OR 4 hours.	The development of scripts for stage performance. Same as ENGL 495. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and approval of the department and submission and approval of a playwriting sample or dialog-centered fiction prior to registration.
Theatre	THTR	444	Drama in Its Cultural Context I	3 OR 4 hours.	Drama in its social and cultural context, through the seventeenth century. 3 undergraduate hours. 4 graduate hours.
Theatre	THTR	445	Drama in Its Cultural Context II	3 OR 4 hours.	Drama in its social and cultural context, eighteenth to twentieth centuries. 3 undergraduate hours. 4 graduate hours.
Theatre	THTR	451	Advanced Acting: American Drama	3 OR 4 hours.	Techniques of performing classical and modern American drama. Focus on character development and interpreting dramatic action. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 210 and Grade of B or better in THTR 260; and Grade of B or better in THTR 262 or Grade of B or better in THTR 263; and sophomore standing or above.
Theatre	THTR	452	Advanced Acting: Shakespeare	3 OR 4 hours.	Techniques of performing monologues and scenes from Shakespeare's plays. Focus on Magical Realism and techniques of performing in verse. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 210 and Grade of B or better in THTR 261; and Grade of B or better in THTR 262 or Grade of B or better in THTR 263; and junior standing or above; or consent of the instructor.
Theatre	THTR	455	Acting: Comedy	3 OR 4 hours.	Techniques of performing classic comedy. Emphasis on the "Commedia dell'arte" and improvisational comedy. Topics vary. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 262 or graduate standing in theatre.
Theatre	THTR	458	Advanced Acting: Chekhov	3 OR 4 hours.	Techniques of performing scenes from Chekhov's plays and short stories. Focus on Naturalistic theater, Psychological Realism and craft of transforming into the character. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 452; or consent of the instructor or graduate standing in theatre.
Theatre	THTR	459	Advanced Acting: Ensemble	3 OR 4 hours.	Process and scoring of character development in a full-length twentieth-century play. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Grade of B or better in THTR 451 and Grade of B or better in THTR 452 and Grade of B or better in THTR 458; and junior standing or above; or consent of the instructor.
Theatre	THTR	462	Voice for the Stage III	3 OR 4 hours.	Advanced techniques in the integration of voice, speech, dialects, and other text-related vocal performance skills. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 452; and junior standing or above or graduate standing in theatre.
Theatre	THTR	464	Special Projects in Theatrical Design	3 OR 4 hours.	Twentieth-century styles: design for the contemporary stage. Problems in conceptualization, realization, and execution. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): THTR 250 or THTR 256; or THTR 257 and THTR 259; or graduate standing in theatre.
Theatre	THTR	465	Stage Direction	3 OR 4 hours.	Exploration of conceptual planning and implementation skills for the stage director ranging from script interpretation to rehearsal and performance. Performance projects required. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 210 and Grade of B or better in THTR 250; and Grade of B or better in THTR 256 or Grade of B or better in THTR 257; or graduate standing in theatre.
Theatre	THTR	466	Special Projects in Performance Training	3 OR 4 hours.	Training in varying advanced techniques of performance. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): THTR 262; or for graduate students, consent of the instructor.
Theatre	THTR	467	Advanced Acting: Brecht, Beckett, Pinter	3 OR 4 hours.	Techniques of performing styles in the theatre of alienation and the theatre of the absurd. Focus on interpreting characters from plays by Brecht, Beckett and Pinter. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): THTR 459; and senior standing or above; or consent of the instructor.
Theatre	THTR	470	Contemporary Performance Techniques	3 OR 4 hours.	The relationship of contemporary theory and performance techniques with attention to both text and non-text based forms. Topics vary. Performance projects required. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s).
Theatre	THTR	472	Investigative Collaboration	3 OR 4 hours.	Collaboration as the primary means for theatrical creation. Production teams assigned to joint-production projects. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s).
Theatre	THTR	474	Internship	1 TO 8 hours.	Students work in an approved professional setting. Individual projects developed through conferences with a faculty member and a field supervisor. May be repeated for a maximum of 1-6 hours for undergraduate students; or 1-8 hours for graduate students. Undergraduate credit should be in multiples of 3. Only three hours may be applied toward theatre major requirements. Prerequisite(s): Senior standing or above and 12 hours of upper-division courses in theatre, with a 3.00 grade point average in those courses.
Theatre	THTR	475	Advanced Acting: Audition	3 OR 4 hours.	Selection and performing of audition pieces from theater, film, and television. Professional seminars and discussions with actors, directors, agents and casting directors. 3 undergraduate

					hours. 4 graduate hours. Prerequisite(s): Senior standing or above; or consent of the instructor.
Theatre	THTR	491	Study Abroad in Theatre	0 TO 16 hours.	Study abroad within an approved foreign exchange program or departmentsponsored program. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): Approval of the department.
Theatre	THTR	498	Independent Study	1 TO 4 hours.	Individual investigation of special problems that may be student-initiated or related to faculty research. May also be used for special University-sponsored projects, such as interdisciplinary seminars. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Senior or graduate standing and approval of the department.
Theatre	THTR	502	Introduction to Research in Theatre	4 hours.	Focuses on the research directors and scholars need to do to make informed choices.
Theatre	THTR	522	Theories of Theatre	4 hours.	Nature of the theatrical experience. Emphasis on topics varies, for example theory of comedy; semiotics of theatre; dada, surrealism, expressionism, futurism. May be repeated to a maximum of 12 hours. Prerequisite(s): At least three of the following: THTR 209; THTR 245; THTR 262; THTR 284, THTR 425; or consent of the instructor.
Theatre	THTR	523	Special Topics in Dramatic Criticism	4 hours.	Intensive analysis of an individual critic or school, or critical history of an important play. May be repeated to a maximum of 12 hours.
Theatre	THTR	596	Independent Research	1 TO 4 hours.	Department approved research projects not included in thesis research. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the director of graduate studies.
Theatre	THTR	597	Thesis Production	0 TO 8 hours.	Under the guidance of an advisor and committee, the student creates a theatre or video production, together with a written explanation of the work's intended significance. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of faculty thesis production committee.
Theatre	THTR	598	Thesis Research	0 TO 16 hours.	Under the guidance of an advisor and committee, the student develops and conducts a research project addressing a theatre problem of a basic or applied nature. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of faculty thesis research committee.

Urban and Public Affairs - UPA

Urban and Public Affairs	UPA	490	International Student Exchange Program	0 TO 18 hours.	The Student Exchange Program enables the reciprocal exchange of students between UIC and colleges or universities in other countries. There are a variety of programs tailored to meet the needs of CUPPA students. May be repeated for a maximum of 36 credit hours per academic year or for a total of 48 hours, all of which must be earned within one calendar year. Determination of the number of credits to be granted is part of the proposal approval process. Field work required. Prerequisite(s): Completion of the English Composition requirement; and junior standing or above; and approval of the College of Urban Planning and Public Affairs; and approval of the Office of International Affairs.
Urban and Public Affairs	UPA	491	Internship Experience in UPA	3 hours.	Two hundred twenty-five hours of service learning/practical experience through an internship placement approved by the Urban and Public Affairs program. Satisfactory/Unsatisfactory grading only. Field work required. Junior standing or above; and approval of the UPA program; and completion of 12 hours of credit towards the UPA degree.
Urban and Public Affairs	UPA	492	Topics in Urban and Public Affairs	3 hours.	In depth study of selected issues of urban and public affairs. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the BA Program in Urban and Public Affairs or consent of the instructor.
Urban and Public Affairs	UPA	493	Topics in Urban and Public Affairs and Administration	3 hours.	In-depth study of selected issues on urban and public affairs. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Urban and Public Affairs	UPA	494	Senior Capstone Experience in Urban and Public Affairs I	3 hours.	A selection of a capstone topic and introductory research on the topic. Field work required. Prerequisite(s): Senior standing or above; Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Urban and Public Affairs	UPA	495	Senior Capstone Experience in Urban and Public Affairs II	3 hours.	Students synthesize and draw upon knowledge learned in the program to engage in projects in the urban community. Field work required. Prerequisite(s): Senior standing or above; Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Urban and Public Affairs	UPA	496	Senior Capstone Expeience in Urban and Public Affairs I: Public Administration	3 hours.	Selection of capstone topic and introductory research on that topic. Field work required. Prerequisite(s): Senior standing or above; Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Urban and Public Affairs	UPA	497	Senior Capstone Experience in Urban and Public Affairs II: Public Administration	3 hours.	Students synthesize and draw upon knowledge gained in the UPA major to engage in projects in the urban community. This course is an extension of UPA 496. Field work required. Prerequisite(s): Senior standing or above; Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Urban and Public Affairs	UPA	498	Independent Study in Urban Planning and Public Affairs	1 TO 3 hours.	Provides an opportunity for students to pursue an independent project that is not availble through the required UPA coursework. May be repeated for a maximum of 6 hours. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Urban and Public Affairs	UPA	499	Independent Study in Urban Planning and Public Affairs and Administration	1 TO 3 hours.	Provides an opportunity for students to pursue an independent project that is not available through the required UPA coursework. May be repeated for a maximum of 6 hours. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

Urban Planning and Policy - UPP

Urban Planning and Policy	UPP	403	Introduction to Urban Planning	3 OR 4 hours.	Patterns of city growth, physical, socio-economic, and environmental issues. Contemporary planning issues. Future of cities. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Advanced undergraduate standing or consent of the instructor.
Urban Planning and Policy	UPP	405	Quantitative Reasoning for Planning	3 OR 4 hours.	Addresses basic issues of quantitative reasoning in planning and policy, including use of data sources, organizing, sorting, managing, and analyzing data. Emphasizes presenting findings visually and in writing. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above. Recommended background: Grade of B or better or concurrent registration in UPP 202.
Urban Planning and Policy	UPP	420	Great Cities: London and Chicago	1 TO 8 hours.	Comparative investigation of urban, economic, social, and political issues in the two global cities. Includes classes, study, and living in London. Field work required. Prerequisite(s): Junior standing or above and selection by the Office of Study Abroad admission committee.
Urban Planning and Policy	UPP	460	Introduction to Geospatial Analysis and Visualization	3 OR 4 hours.	Exploration of geospatial analysis and visualization theory and tools; how to appropriately choose and use tools. Cognition, communication, modeling, cartography, web authoring, 3-D visualization, and aerial and satellite photography.3 undergraduate hours. 4 graduate hours. Extensive computer use required. Centrino 2 Duo processor, 2 GB RAM and 100 GB hard drive minimum recommendations. Prerequisite(s): Junior standing or above; and approval of the deparment. Priority registration will be given to students admitted to the campus certificate program in Geospatial Analysis and Visualization.
Urban Planning and Policy	UPP	461	Geographic Information Systems for Planning	3 OR 4 hours.	Applications of Geographic Information Systems to urban planning and policy making. Same as GEOG 469. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and consent of the instructor. Priority registration will be given to students admitted to a campus certificate program in Geospatial Analysis and Visualization, graduate students in Urban Planning and Policy, or students in the Master of Arts in Real Estate program.
Urban Planning and Policy	UPP	462	Intermediate GIS for Planning	3 OR 4 hours.	To reinforce and expand on topics taught in UPP 461 and introduce more advanced features of GIS and its applications to urban planning and policy. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above; and approval of the deparment. Priority registration will be given to students admitted to the campus certificate program in Geospatial Analysis and Visualization.
Urban Planning and Policy	UPP	463	Complexity-based Models for Planning and Policy	3 OR 4 hours.	Introduction to complexity-based models and their possible applications to a range of planning and public policy issues. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above; and approval of the deparment. Priority registration will be given to students admitted to the campus certificate program in Geospatial Analysis and Visualization. Recommended background: Experience in object-oriented programming is helpful but not required.
Urban Planning and Policy	UPP	464	Advanced Visualization Techniques	3 OR 4 hours.	Specialized computational abilities for various planning areas including: database and spreadsheet analyses, spatial information systems, imageries and image editing, 3D modeling and virtual reality, hypermedia or multimedia, and the internet. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Centrino 2 Duo with at least 2GB RAM and 110 GB hard drive minimum recommended specifications. Prerequisite(s): Junior standing or above; and approval of the deparment. Priority registration will be given to students admitted to the campus certificate program in Geospatial Analysis and Visualization.
Urban Planning and Policy	UPP	465	Topics in Geospatial Analysis and Visualization	3 OR 4 hours.	Intensive exploration of specialized topics in Geospatial Analysis and Visualization. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 9 hours for undergraduate students and 12 hours for graduate students. Students may register in more than one section per term. Extensive computer use required. Prerequisite(s): Grade of B or better in UPP 460; or Grade of B or better in UPP 461; and appropriate score on the department placement test; and senior standing or above; and consent of the instructor.
Urban Planning and Policy	UPP	470	Cohort Seminar for Urban Developers	3 OR 4 hours.	Application of the financial calculator, use of spreadsheets, and other tools commonly used in real estate-based urban development projects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	471	Housing and Community Development for Urban Developers	3 OR 4 hours.	Housing policy at federal, state and local levels affecting urban housing markets. Emphasis on assessment of market conditions affecting community development decisions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): UPP 470 or consent of the instructor.
Urban Planning and Policy	UPP	472	Development Finance For Urban Developers	3 OR 4 hours.	Key financial principles of real estate development, particularly those related to the financing of affordable housing. How to develop a real estate pro forma. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	473	Organizational Essentials for Urban Developers	3 OR 4 hours.	Theory and practice of management in public and non-profit settings. Focus on developing communication, leadership and legal skills for each step in development. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	474	Community Development Process for Urban Developers	3 OR 4 hours.	Developing affordable housing: development team, acquisition strategy, legal issues, construction management and project sustainability, as it pertains to different types of housing developments. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.

Urban Planning and Policy	UPP	475	Sustaining the Housing for Urban Developers	3 OR 4 hours.	Introduces students to a range of management issues: property management and maintenance, resident relations and services, and financial/ asset management as it relates to sustaining affordable housing. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	493	Topics in Urban Planning and Policy	1 TO 4 hours.	Intensive analysis of selected planning problems or policy issues. May be repeated to a maximum of 12 hours. Students may register for more than one section per term. Prerequisite(s): Junior standing or above; and consent of the instructor.
Urban Planning and Policy	UPP	500	History and Theory of Urban Planning	4 hours.	Course surveys the history and theory of the planning profession and introduces major currents of thought and innovation that have guided and continue to shape theoretical and practical planning problems. Prerequisite(s): Admission to the Urban Planning and Policy program or consent of the instructor.
Urban Planning and Policy	UPP	501	Urban Space, Place and Institutions	4 hours.	Students will learn to use a variety of social science disciplines to explain and interpret the form and function of urban space, including urbanization, suburbanization, regionalism, globalization, and sustainability. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or the Master of Arts in Real Estate; or consent of the instructor.
Urban Planning and Policy	UPP	502	Planning Skills: Computers, Methods and Communication	4 hours.	Introduction to methods for collecting, analyzing, and presenting socio-economic and spatial data with a focus on computer-based methods and an emphasis on effective communication of findings and dispute resolution strategies. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	505	Plan Making	4 hours.	Lecture to instruct students on making plans. Students learn to combine knowledge, skills and values in each of three major areas of plan making: framing problems, composing alternatives and devising implementation strategy. Prerequisite(s): Admission to the Master of Urban Planning and Policy program and credit or concurrent registration in UPP 502; or consent of the instructor. Corequisite(s): Requires concurrent registration in UPP 506.
Urban Planning and Policy	UPP	506	Plan-Making Studio	4 hours.	Instructs students on making plans. Students learn to combine knowledge, skills and values in each of these major areas of plan making: framing problems, composing alternatives and devising implementation strategy. Prerequisite(s): Admission to the Master of Urban Planning and Policy program and credit or concurrent registration in UPP 502; or consent of the instructor. Corerequisite(s): Requires concurrent registration in UPP 505.
Urban Planning and Policy	UPP	507	Computer Topics in Urban Planning	4 hours.	Specialized computational abilities for various planning areas including data base, project scheduling, statistics, graphics, and simulations. Topics will vary each semester. Prerequisite(s): Graduate standing in the Urban Planning and Policy program.
Urban Planning and Policy	UPP	510	Data Analysis for Planning and Management I	4 hours.	Basic introduction to data analysis techniques most commonly used in urban planning. Addresses issues of decision-making based on limited or imperfect information. Prerequisite(s): Graduate standing in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	514	Economic Analysis for Planning and Management	4 hours.	Basic micro, macro, and welfare economics theory; related analytical concepts including input-output, economic base, benefit cost. Economic forces which shape urban areas and affect public policy. Prerequisite(s): Graduate standing in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	516	Issues of Class and Race in Planning	4 hours.	Critically examines the significant role of race, class, ethnicity and gender as factors in planning public policy formation, implementation, and evaluation. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	517	Regional and Metropolitan-Wide Planning	4 hours.	History of regional planning. Prerequisite(s): UPP 500.
Urban Planning and Policy	UPP	520	Globalization and International Planning I: Theory and Applications	4 hours.	Overview of international development theories and their practical applications. Particular emphasis is placed on globalization. Urban versions and applications of these theories. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	521	Globalization and International Planning II: Comparative Planning and Policies	4 hours.	Policies and practice of public sector planning and development in three regional areas of the world: Europe, South America, and Asia. Prerequisite(s): UPP 520 or consent of the instructor.
Urban Planning and Policy	UPP	525	Globalization and International Planning: Special Topics	1 TO 4 hours.	Special topics selected for intensive analysis in international development planning. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	530	Economic Development I: Analysis	4 hours.	Theoretical perspectives, data, data sources and research techniques for analysis of regional, metropolitan and neighborhood economies. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or the Master of Arts in Real Estate; or consent of the instructor. Recommended background: UPP 514.
Urban Planning and Policy	UPP	531	Economic Development II: Planning	4 hours.	Overview of development strategies including financing, business development, industry retention and human resources; implementation and evaluation. Prerequisite(s): Admission to a degree program in Urban Planning and Policy and UPP 530; or consent of the instructor.

Urban Planning and Policy	UPP	533	Development Finance Analysis	4 hours.	Financial feasibility analysis for residential, commercial, and industrial projects. Financial valuation and accounting principles, legal interests in real estate, and tax issues affecting cash flow and returns on investment. Graduate standing in Urban Planning and Policy or enrollment in the Master of Arts in Real Estate program; or consent of the instructor. Recommended background: UPP 514.
Urban Planning and Policy	UPP	535	Economic Development: Special Topics	1 TO 4 hours.	Special topics selected for intensive analysis in economic development. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	536	Urban Employment Planning	4 hours.	The importance of employment as a focus in planning and policy making. History, theories and methodologies of urban markets; labor market analysis methodologies and emergent public policies. Prerequisite(s): Graduate standing and UPP 514; or consent of the instructor.
Urban Planning and Policy	UPP	540	Community Development I: Theory	4 hours.	Critically examines community development as a field of practice, policy intervention, implementation and analysis; emphasis on community and social dynamics of disadvantaged groups. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	541	Community Development II: Practice	4 hours.	Examines the methods and techniques used or adapted in community development as a field of planning practice, analysis and evaluation: emphasis on community based settings, applications and foci. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	542	Metropolitan Housing Planning	4 hours.	Urban housing market structure and dynamics; impacts of government housing policy on market; development of local housing plans. Prerequisite(s): Graduate standing and UPP 514; or consent of the instructor.
Urban Planning and Policy	UPP	543	Planning for Healthy Cities	4 hours.	Investigates the needs of special populations such as the elderly or mentally ill, the role of the planner in serving these groups and community based strategies to meet needs. Prerequisite(s): Graduate standing.
Urban Planning and Policy	UPP	544	Urban Revitailization and Gentrification	4 hours.	Urban change in U.S. cities since World War II that is associated with socioeconomic restructure under globalization. The course examines restructure under the new global order and its impact on cities and urban planning and different social groups. Graduate standing in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	545	Community Development: Special Topics	1 TO 4 hours.	Special topics selected for intensive analysis in community development. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	547	Community Organization Practice	4 hours.	Critically examines the context, development, status, and problematics of organizing groups within communities of place, conditions and interest at various levels of analysis, relative to public formation, implementation and evaluation. Prerequisite(s): UPP 540 and UPP 541 and consent of the adviser and the instructor.
Urban Planning and Policy	UPP	548	Community Development Methods and Techniques	4 hours.	Community development methods including needs assessment, asset mapping, capacity building, resources moblization, project planning and program evaluation. Includes field work. Prerequisite(s): Credit or concurrent registration in UPP 540 and credit or concurrent registration in UPP 541 and consent of the instructor.
Urban Planning and Policy	UPP	550	Urban Design I: Theoretical Foundations	4 hours.	Physical form, economic characteristics, social qualities and government structure of cities, suburbs and regions; theories of urban spatial organization and planning. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	551	Urban Design II: Methods	4 hours.	Introduction to urban design skills including free-hand 2-D sketch, 3-D rendering, PhotoShop and SketchUp (optional). Prerequisite(s): Graduate standing in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	552	Spatial Planning III:Studio	4 hours.	Analysis, evaluation, and development of land use plans for selected projects and clients. Prerequisite(s): Admission to a degree program in Urban Planning and Policy, and UPP 557 and UPP 558; or consent of the instructor.
Urban Planning and Policy	UPP	553	Land Use Law	4 hours.	Legal constraints on land use control; constitutional and statutory principles and judicial review. Prerequisite(s): Graduate standing or consent of instructor.
Urban Planning and Policy	UPP	555	Physical Planning: Special Topics	1 TO 4 hours.	Special topics selected for intensive analysis in such areas as housing and urban design. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	556	Urban Design III: Studio	4 TO 8 hours.	Methods and tools for analysis, policy making and evaluation of urban spaces including theoretical approaches and trends, design elements, social dimensions, methods, policy formulation, computer applications, and project examples. Prerequisite(s): Admission to a degree program in Urban Planning and Policy, and UPP 550 and UPP 551; or consent of the instructor.
Urban Planning and Policy	UPP	557	Spatial Planning II: Methods	4 hours.	Quantitative and qualitative tools for analysis and evaluation of spatial plans, from the regional, to the city, suburb and block, including standards and analyses of plans at different scales, spatial interdependence, and spatial reasoning. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or consent of the instructor.
Urban Planning and Policy	UPP	558	Spatial Planning I: Theoretical Foundation	4 hours.	Urban spatial planning strategies and various land use control techniques which can be employed to carry out development policies; social implications of land use policy and practice. Prerequisite(s): Admission to a degree program in Urban Planning and Policy or consent of the

					instructor.
Urban Planning and Policy	UPP	560	Urban Transportation I: Introduction	4 hours.	Transportation planning and linkages between it and urban land use and regional economic development. Recent trends, traditional problems and emerging issues.
Urban Planning and Policy	UPP	561	Urban Transportation II: Policy and Methods	4 hours.	Formation and implementation of transportation policy at the national, regional, and local levels. Students will prepare an in-depth study of a major policy issue. Prerequisite(s): UPP 560 or consent of the instructor.
Urban Planning and Policy	UPP	562	Urban Transportation III: Laboratory	4 hours.	Software packages for urban transportation planning, transportation GIS and air quality modeling. Heavy reliance on case studies. Prerequisite(s): UPP 561 or consent of the instructor.
Urban Planning and Policy	UPP	563	Transportation Management	4 hours.	Transit system planning, scheduling, pricing policy, and management; traffic control techniques and demand management; paratransit alternatives. Prerequisite(s): UPP 560.
Urban Planning and Policy	UPP	565	Transportation: Special Topics	1 TO 4 hours.	Examination of specific and current problems in urban and regional transportation. Topics to be determined at the time the course is offered. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	567	Principles of Computational Transportation Science	4 hours.	Builds on the fundamentals of transportation science and emphasizes its high-level computational aspects. Topics covered include database design and theory, spatial and temporal information systems issues and travel modeling. Same as CME 567 and CS 567. Prerequisite(s): Grade of B or better or concurrent registration in UPP 560. Open only to Ph.D. students; or consent of the instructor.
Urban Planning and Policy	UPP	569	Infrastructure Management	4 hours.	Integrated approach to the management of infrastructure systems: design, construction, operations, maintenance and rehabilitation of facilities. Performance of facilities, approaches to management, and available tools and developing technologies. Same as CME 580. Prerequisite(s): IE 201 or the equivalent or consent of instructor. Recommended background: Familiarity with computer spreadsheets.
Urban Planning and Policy	UPP	570	Environmental Planning and Policy	4 hours.	Provides a foundation in the principles of environmental planning and policy, major federal/state programs, environmental risk and avoidance, and environmental justice. Previously listed as UPP 554. Prerequisite(s): Graduate standing and consent of the instructor.
Urban Planning and Policy	UPP	571	Economic and Environmental Planning	4 hours.	Explores the sources of environmental problems and the economic methods used to address these problems. Previously listed as UPP 537. Prerequisite(s): UPP 570; and UPP 514; and graduate standing; or consent of the instructor.
Urban Planning and Policy	UPP	572	Systems Methods for Environmental Planning and Policy	4 hours.	Explores methods/analytical techniques for examining environmental impacts of urbanization. Explores evolution of environmental policy and development of methods to forecast distribution of environmental risk. Prerequisite(s): UPP 570 or consent of the instructor.
Urban Planning and Policy	UPP	575	Special Topics in Environmental Planning and Policy	4 hours.	Intensive exploration of specialized topics in environmental planning and policy. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	580	Dissertation Proposal Workshop	1 hours.	Faculty-led workshop to assist students writing dissertation proposals identify their relevant literature, select appropriate methods, and demonstrate the significance of their original research. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 2 hours. Prerequisite(s): Completion of the first year of the program; and consent of the instructor. PhD in Urban Planning and Policy students will generally take this course after or just before completing the preliminary examination.
Urban Planning and Policy	UPP	583	Advanced Planning Theory	4 hours.	Study of theoretical ideas and debates about planning; the rational model and its competitors; critical review of planning methods and practice; composing alternative plans. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	584	Methods of Policy Analysis	4 hours.	Analytic, allocative and evaluative techniques in public policy analysis. Preparation of case studies in problem analysis and policy recommendation. Same as PPA 584. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	586	Topics in Urban Planning Research	4 hours.	Course highlights research activities and oppotunities related to research centers. May be repeated.
Urban Planning and Policy	UPP	587	Planning and Policy Research Practicum	4 hours.	Ph.D. students work with a faculty member on engaged research related to their discipline. The topic and scope is determined by mutual agreement. Prerequisite(s): UPP 586 and consent of the instructor. Open only to Ph.D. degree students.
Urban Planning and Policy	UPP	588	Research Design and Evaluation	4 hours.	Methods used to evaluate policies and programs; quasi-experimental designs, valuation problems, and emerging evaluation methods. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	589	Data Analysis for Planning and Management II	4 hours.	Advanced topics in data analysis and model building including specific models used in urban planning. Prerequisite(s): UPP 510 or consent of the instructor.
Urban Planning and	UPP	590	Professional Practice Experience	4 hours.	300 hours of practical planning experience through an internship placement approved by the Urban Planning and Policy Program. Satisfactory/Unsatisfactory grading only. Field work required.

Policy					Prerequisite(s): Approval of the Department and completion of 12 hours of credit towards the Master of Urban Planning and Policy degree.
Urban Planning and Policy	UPP	591	Professional Practice	1 hours.	Reviews issues and problems in professional practice; analyzes prerequisites for rational, strategic, and ethical planning; considers career options; and defines professional goals. Prerequisite(s): Graduate standing in Urban Planning and Policy.
Urban Planning and Policy	UPP	592	International Student Exchange Program	1 TO 18 hours.	The Student Exchange Program enables the reciprocal exchange of students between UIC and colleges or universities in other countries. UPP has a number of negotiated agreements to meet the needs of students wishing to study abroad. Determination of the number of credits to be granted is part of the proposal approval process. Prerequisite(s): Graduate standing in Urban Planning and Policy, completion of one semester of coursework in UPP, and acceptance into an exchange program approved by the Office of International Affairs.
Urban Planning and Policy	UPP	593	Independent Research in Urban Planning and Policy	1 TO 8 hours.	Advanced study and analysis of a topic selected by a student under the guidance of a faculty advisor. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	594	Topics in Urban Planning and Policy	1 TO 4 hours.	Intensive analysis of selected planning problems or policy issues. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	596	Independent Study in Urban Planning and Policy	1 TO 4 hours.	Advanced study and analysis of topic selected by student under the guidance of faculty advisor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
Urban Planning and Policy	UPP	597	Master's Project Research	0 TO 4 hours.	Preparation of plan, research report, or other document which demonstrates readiness for professional planning responsibility. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to degree candidates, upon approval of student's faculty advisor.
Urban Planning and Policy	UPP	598	Master's Thesis Research	0 TO 16 hours.	Preparation of a major research paper under the guidance of a faculty committee. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Open only to degree candidates, upon consent of the director of graduate studies.
Urban Planning and Policy	UPP	599	Ph.D. Thesis Research	0 TO 16 hours.	Individual study and research. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Open only to degree candidates, upon approval of topic by the dissertation committee.