PhD in Biomedical and Health Informatics

Admission Requirements

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

- **Prior Degrees** Master's degree in health informatics or related field is preferred. Transfer of graduate credits from another institution will be handled on a course-by-course basis. The complete prior credits transfer process is described on the Graduate College website. Exceptional applicants who have completed a Bachelor of Science degree in health informatics 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. Direct PhD Admission is competitive. For fullest consideration, any student seeking admission should adhere to the early deadlines listed on the Graduate College website.
- **Grade Point Average** At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study and for all 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.
- **Tests Required** GRE General Test with a minimum score of 152 (56th percentile) on the verbal and 151 (56th percentile) on the quantitative sections. The GRE General Test is *recommended* for all applicants and *required* for financial aid applicants including those seeking assistantships, fellowships, and all BHIS stipends and tuition waivers; applicants with no prior master's degree; applicants holding a master's degree with a cumulative GPA less than 3.50/4.00; and applicants with degrees awarded outside of the United States and Canada.
- **Minimum English Competency Test Score** All international students are required to submit Test of English as a Foreign Language (TOEFL), IELTS (International English Language Testing System), or PTE-Academic scores.
  - **TOEFL iBT** 95, with subscores of Reading 24, Listening 22, Speaking 24, and Writing 24. **OR**,
  - **IELTS Academic** 7.0 overall, with 6.5 in each of the four subscores, **OR**,
  - **PTE-Academic** 54, with subscores of Reading 51, Listening 47, Speaking 53, and Writing 56.
- **Letters of Recommendation** Three required, must be on letterhead. Recommenders should explain the context in which they have worked with and know the person about whom they are writing a recommendation. Recommenders should explore the student’s scholarly abilities, professionalism, organizational skills, and provide any other insights into the applicant’s qualities that demonstrate the applicant’s suitability for work at the doctorate level.
- **Personal Statement** Required. The statement should address the applicant’s goals for graduate study, career development, teaching, and research experience.
- **Current Curriculum Vitae** Required. Include scholarly activities and publications to date.
- **Other Requirements** Successful completion of basic computer programming course, preferably Python. This can be fulfilled (with permission of the Director of Graduate Studies) through completion of a nationally recognized MOOC and submission of a signed course certificate as proof of completion. This prerequisite may be waived for those with comparable experience. Prerequisites HIM 486 and BHIS 406. Prerequisite courses are available online and are taught each semester, including summer session. BHIS 406 may be waived for applicants who have worked in an English-speaking healthcare facility, who are licensed clinicians, who have taken medical terminology within the past five years, or who pass proficiency exams. The BHIS 406 proficiency exam is in current use and is available through the Director of Graduate Studies.
- **Deadlines** Application deadlines for this program are listed on the Graduate College website.

Degree Requirements

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

- **Minimum Semester Hours Required** 96 beyond the baccalaureate.
- **Coursework** Students entering with an MS in Health Informatics earned at UIC may be allowed a maximum of 32 semester hours toward the PhD, depending on the electives taken. These students will develop an academic course plan, with approval of their primary advisor, that ensures their completion of any remaining core courses required, as well as additional elective coursework in one or both tracks to fulfill the remaining course semester hours required for the PhD.

Code	Title	Hours
Required Core Courses (35 hours)		
AHS 511	Biostatistics I	
BHIS 499	Information Sources in Biomedical & Health Information Sciences	
BHIS 501	Methods in Biomedical and Health Informatics I	
BHIS 502	Methods in Biomedical and Health Informatics II	
BHIS 505	Ethics and Legal Issues in Health Informatics	
BHIS 507	Literature Reviews and Evidence Synthesis in Health Informatics	
BHIS 510	Informatics and Population Health	
BHIS 531	Health Information Technology and Informatics in Interprofessional Collaborative Practice	
BHIS 591	Research Rotations in Biomedical and Health Informatics (2 hours required for the PhD)	
BHIS 592	Colloquium in Biomedical and Health Informatics (2 hours required for the PhD)	
BHIS 595	Seminar in Biomedical and Health Information Sciences (2 hours required for PhD)	
GC 501	Scientific Integrity and Responsible Research	
NURS 572	Research Design and Methods	
Selectives (13–21 hours)		
Select 13 to 21 hours in one of the following tracks:		

Track 1: Systems Science in BHI	
AHS 512	Biostatistics II (Required)
BHIS 509	Informatics for the Clinical Investigator
BHIS 517	Healthcare Data Security and Cybersecurity Foundations
BHIS 520	Health Information Systems Analysis and Design
BHIS 527	Knowledge Management in Healthcare Organizations
BHIS 529	Transforming Healthcare using Business Intelligence and Predictive Analytics
BHIS 554	Health Informatics Business Intelligence Tools and Application
BHIS 560	Health Care Systems and Personalized Medicine
CS 421	Natural Language Processing
CS 424	Visualization and Visual Analytics
ECON 555	Health Economics I
ECON 556	Health Economics II
MATH 419	Models in Applied Mathematics
Track 2: Social and Organizational Sciences in BHI	
BHIS 504	Qualitative Methods and Health IT Evaluation
BHIS 506	Health Information Technology Evaluation
BHIS 508	Q Research Methodology – Qualitative Research
BHIS 521	Process Innovation with Health Information Technology
BHIS 525	Social and Organizational Issues in Health Informatics
BHIS 534	Health Information Technology and Patient Safety
BHIS 535	Organizational Dynamics and Health Informatics
BHIS 543	Health Care Project Management
BHIS 570	Human Factors and Cognition in Health Information Technology
COMM 416	Conflict and Communication
HPA 444	Strategic Planning and Budgeting/ Finance
HPA 451	Heath Care Finance I
IE 441	Ergonomics and Human Factors

- **Examinations**
  - *Preliminary Examination:* Required. A written and oral test of core competencies is required to evaluate the student's knowledge of the broad area of biomedical and health informatics and their specific content area. All students must take an examination prepared individually by the examination committee following the completion of all coursework.
  - *Dissertation Proposal Examination:* Required. Upon completion of the comprehensive preliminary exam, the dissertation proposal must be defended before the student's dissertation committee (committee approved by the Graduate College).
  - *Dissertation Defense:* Required. A written dissertation with oral defense at a public session before the dissertation committee and other members of the academic community is required.
- **Dissertation** Required. Students must earn 40 to 48 semester hours in BHIS 599. Each student will be required to present two research seminars prior to graduation (mid-thesis and public PhD thesis presentation). Students must be registered during the semester of intended graduation.