University of Iowa
Interdisciplinary Graduate Program in Informatics
Health Informatics - Plan of Study

PhD in Informatics

The Health Informatics subtrack Ph.D. requires a total of 72 semester hours beyond the bachelor's degree. The Ph.D. also requires satisfactory performance on the comprehensive exam, and the production and formal defense of a dissertation that describes original research results. The requirements described here are in addition to the University-wide requirements for the Ph.D. degree described in the Graduate College Manual of Rules and Regulations, Section XII.

Outline for Plan of Study:

Core Courses – Foundation and Disciplinary Requirements (18 semester hours):

I. Foundations of Informatics (9 sh):

Students must complete 3 s.h. in each of areas a, b, and c, below.

a. Introductory Informatics Coursework (3 s.h.)

22C:104 (Introduction to Informatics)

b. Programming Coursework (3 s.h.), either:

22C:109 (Programming Languages and Tools)
051:123 (Bioinformatics Techniques)

c. Data Handling Coursework (3 s.h.), either:

06K:233/21:230 (Text Retrieval)
06K:272 (Advanced Database Analysis)
06K:275 (Knowledge Discovery)
21:124 (Database Systems)
22C:144 (Database Systems)
22C:244 (Database System Implementation)
171:161 (Introduction to Biostatistics)
185:274 (Theory of Statistical Genetics)
22S:130 (Intro to Math Stat I)
22S:131 (Intro to Math Stat II)
22S:152 (Applied Linear Regression)
22S:153 (Math Stat I)
22S:154 (Math Stat II)
22S:164 (Applied Statistics)
22S:166 (Computing in Statistics)

II. Disciplinary Requirements (9 s.h.)

002:128 (Fundamental Genetics)
002:131 (Evolution)
002:160 (Molecular Phylogenetics)
002:162 (Population Genetics and Molecular Evolution)

002:169 (Introduction to Bioinformatics)[b]
002:170 (Bioinformatics)
021:275 (Health Informatics I) also 50:283, 51:187; 56:186; 74:191, 96:283, 174:226
021:280 (Health Informatics II) also 21:280, 51:189, 56:287, 74:192, 96:289)
022:176 (Statistics in Bioinformatics)
051:122 (Computational Genomics)[a]
127:150 (Genetic Analysis of Biological Systems)
156:201 (Principles of Molecular and Cell Biology)
185:278 (Computing Algorithms in Statistical Genetics

The remaining 54 semester hours of courses will be selected in consultation with the student's advisor to design a balanced program of study relevant to the student's particular information science focus. The Informatics (Health Informatics) subtrack will maintain an approved list of elective courses that may be used as a guide.

M.S. in Informatics:

The M.S. will require completion of a minimum of 32 semester hours beyond the bachelor's degree.

Students will also have to successfully complete a master's final examination as outlined in The Manual of Rules and Regulations of the Graduate College, Sections X.H - X.J.

Students will complete 18 s.h. of Core Foundation and Disciplinary Requirements as listed for the PhD above. Note that M.S. students may take 6K:230 as their database course.

The remaining courses may be selected from the list of approved electives or it may be selected from outside this list in consultation with the advisor.

Graduate Certificate Program:

The Certificate is open to graduate students in good standing who wish to complement their own disciplinary studies with foundational and applied knowledge in Health Informatics. Students will complete 18 s.h. of Core Foundation and Disciplinary Requirements as determined with their advisor and as listed for the PhD above.

Plans of study for the informatics certificate may not completely substitute for coursework or examinations required within the requirements of the disciplinary degree program.