

# Informatics, Ph.D.

## Requirements

The Doctor of Philosophy program in informatics requires at least 72 s.h. of graduate credit. A total of 19 s.h. of core courses are required plus an additional 12 s.h. of courses approved by a student's committee. The remaining 41 s.h. may be completed with additional coursework or through reading or research hours. Students must maintain a program g.p.a. of at least 3.00.

It requires completion of coursework, satisfactory performance on the qualifying exam, comprehensive exam, and the proposal, plus the production and formal defense of a dissertation describing original research results.

Students select an advisor from among the program faculty. On the rare occasion when students choose a Ph.D. advisor who is outside the program, a co-advisor from the program faculty must be designated.

The Ph.D. with a major in informatics requires the following coursework.

## Core Courses

Students complete a total of 19 s.h. in core coursework. The student's advisor and the rest of the student's committee consisting of at least two other faculty select remaining courses (12 s.h. minimum) for a total of at least 31 s.h. of coursework.

## Programming

Code	Title	Hours
This course:		
CS:5110/IGPI:5110	Introduction to Informatics	3
One of these:		
CS:3210	Programming Languages and Tools	3
CS:3980	Topics in Computer Science I	3
GEOG:5055/ IGPI:5055	Geospatial Programming	3

## Statistics

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Data Science

Code	Title	Hours
One of these:		
BAIS:4480/ ECE:4480	Knowledge Discovery	3
STAT:4540/ IGPI:4540	Statistical Learning	3

An additional course (consult advisor)

## Databases

Code	Title	Hours
One of these:		
CS:4400	Database Systems	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

## Human Factors

Code	Title	Hours
One of these:		
CS:4500	Research Methods in Human-Computer Interaction	3
CS:4510	Human-Computer Interaction for Computer Science	3
GEOG:5540/ IGPI:5540	Geographic Visualization	3

## Ethics

Code	Title	Hours
This course:		
CS:5980	Topics in Computer Science III	1

## Elective Core Coursework

Code	Title	Hours
Coursework selected in consultation with advisor and committee		12

## Electives

The remaining 41 s.h. may be completed with additional coursework or through reading or research hours.

## Comprehensive Examination

Ph.D. students must pass a comprehensive examination at or near completion of their coursework requirements. Students prepare a 20-30 page survey/discussion (along the lines of the introduction and literature review from an eventual thesis) for distribution to their faculty committee, followed at least two weeks later by a 20-40 minute oral presentation, and a question/answer session.

Students may request that the M.S. degree be granted at the time of the comprehensive exam. The M.S. degree without thesis is awarded upon successful completion of the comprehensive exam but may, at the examination committee's discretion, be awarded even if students do not pass the exam. Students also may choose to complete the thesis requirements and be awarded an M.S. with thesis degree.

## Dissertation

Students complete dissertation coursework in consultation with their advisor.

Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded the Doctor of Philosophy degree.

For more information about the Doctor of Philosophy requirements, see the Interdisciplinary Graduate Program in Informatics website.

## Combined Programs

### **Ph.D./M.D.**

Students may work toward the Doctor of Medicine degree and a Ph.D. in informatics in a combined degree program offered by the Carver College of Medicine and the Graduate College. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program (Carver College of Medicine) in the Catalog.

### **Admission**

Students applying to the Ph.D. program do not need a master's degree prior to admission. Students who hold a master's degree upon entering the Ph.D. program may apply to use transfer credit from their master's degree courses toward their Ph.D. program requirements.

Students applying to the Ph.D. program who are not selected for admission are automatically considered for admission to the M.S. program if they do not already hold a master's degree.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. They also must meet the admission requirements of the informatics program; see Ph.D. and M.S. Admission on the program's website.

### **Career Advancement**

The program emphasizes preparation for research, teaching, and scholarly endeavor in academic settings or private, industrial, or governmental laboratories.