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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS:5110/IGPI:5110</td>
<td>Introduction to Informatics</td>
<td>3</td>
</tr>
<tr>
<td>One of these:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS:3210</td>
<td>Programming Languages and Tools</td>
<td>3</td>
</tr>
<tr>
<td>CS:3980</td>
<td>Topics in Computer Science I</td>
<td>3</td>
</tr>
<tr>
<td>GEOG:5055/IGPI:5055</td>
<td>Geospatial Programming</td>
<td>3</td>
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Statistics

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<thead>
<tr>
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<th>Hours</th>
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<tr>
<td>One of these:</td>
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<td></td>
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<tr>
<td>BIOS:4120</td>
<td>Introduction to Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4143/PSQF:4143</td>
<td>Introduction to Statistical Methods</td>
<td>3</td>
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Data Science

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>One of these:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAIS:4480/ ECE:4480</td>
<td>Knowledge Discovery</td>
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</tr>
<tr>
<td>STAT:4540/ IGPI:4540</td>
<td>Statistical Learning</td>
<td>3</td>
</tr>
<tr>
<td>An additional course (consult advisor)</td>
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</table>

Elective Core Coursework

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.

Databases

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>One of these:</td>
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<tr>
<td>CS:4400</td>
<td>Database Systems</td>
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</tr>
<tr>
<td>GEOG:4580/IGPI:4581</td>
<td>Introduction to Geographic Databases</td>
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</table>

Human Factors

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>One of these:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS:4500</td>
<td>Research Methods in Human-Computer Interaction</td>
<td>3</td>
</tr>
<tr>
<td>CS:4510</td>
<td>Human-Computer Interaction for Computer Science</td>
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</tr>
<tr>
<td>GEOG:5540/IGPI:5540</td>
<td>Geographic Visualization</td>
<td>3</td>
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</table>

Ethics

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>One of these:</td>
<td></td>
<td></td>
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<tr>
<td>CS:5980</td>
<td>Topics in Computer Science III</td>
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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.