Informatics, M.S.

Requirements

The Master of Science program in informatics requires a minimum of 31-33 s.h. of graduate credit, depending on a student’s choice of subprogram: the bioinformatics and computational biology subprogram requires a minimum of 31 s.h. of credit, the geoinformatics subprogram requires a minimum of 32 s.h. of credit, and the information science subprogram requires a minimum of 33 s.h. of credit. Students working toward a Doctor of Philosophy in informatics may be granted a Master of Science degree upon completion of the M.S. requirements.

Credit required for the M.S. includes foundations of informatics coursework and at least 9 s.h. in disciplinary applications of informatics.

Students select an advisor from their subprogram’s affiliated faculty members. In consultation with their advisor, students prepare a study plan, which is reviewed at least once a year.

A final master’s degree examination, either oral or written, is required for the geoinformatics subprogram.

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

Bioinformatics and Computational Biology

Bioinformatics and computational biology students complete the following coursework.

Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR:7270</td>
<td>Engineering Ethics</td>
<td>1</td>
</tr>
<tr>
<td>IGPI:4213/</td>
<td>Bioinformatics</td>
<td>4</td>
</tr>
<tr>
<td>BIOL:4213/</td>
<td>Introduction to Informatics</td>
<td>3</td>
</tr>
<tr>
<td>GENE:4213</td>
<td>Genes, Genomes, and the Human Condition Graduate Lecture</td>
<td>3</td>
</tr>
<tr>
<td>IGPI:5110</td>
<td>Bioinformatics Techniques</td>
<td>3</td>
</tr>
<tr>
<td>IGPI:5211</td>
<td>Computational Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BIOL:5211</td>
<td>Computational Genomics</td>
<td>3</td>
</tr>
</tbody>
</table>

Statistics

Students complete 6 s.h. in approved graduate statistical coursework; consult advisor.

Electives

Students complete 12 s.h. in approved elective coursework; consult advisor.

Geoinformatics

Geoinformatics students complete the following coursework.

Core Informatics Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGPI:5110/CS:5110</td>
<td>Introduction to Informatics</td>
<td>3</td>
</tr>
</tbody>
</table>

One of these:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS:3210</td>
<td>Programming Languages and Tools (when topic is programming with C++ or when topic is programming with Java)</td>
<td>3</td>
</tr>
</tbody>
</table>

GEOG:3050 | Introduction to Geospatial Programming | 3 |

Core Geoinformatics Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGPI:3010/</td>
<td>Geographic Information Systems and Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Core geoinformatics courses (consult advisor) | 9 |

Electives

Students complete 11 s.h. of elective coursework (consult advisor).

Health Informatics

Health informatics students complete the following coursework.

Core and Foundation Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGPI:5110/CS:5110</td>
<td>Introduction to Informatics</td>
<td>3</td>
</tr>
</tbody>
</table>
Informatics, M.S.

IGPI:5200/ HMP:5370/ ISE:5860/ MED:5300/ SLIS:5900

IGPI:5220/ EPID:5200

IGPI:5321/ BME:5320/ ECE:5210

IGPI:6100/ SLIS:6100

CS:3210

One of these:
IGPI:5220/ EPID:5200

IGPI:5321/ BME:5320/ ECE:5210

CS:4400

One of these:
IGPI:6120/ SLIS:6120

BAIS:4480/CS:4480/ ECE:4480

IGPI:3011/ GHS:3010

CS:3210

One of these:
IGPI:3120/ STAT:3120

BAIS:4220/ IGPI:4220

IGPI:5001/ POLI:5001

Electives

Students complete 14 s.h. of approved elective coursework (consult advisor).

Information Science

Information science students complete the following coursework.

Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of these:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGPI:5110/CS:5110</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BAIS:4480/CS:4480/ECE:4480</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CS:3210</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

One of these:
IGPI:6120/ SLIS:6120

CS:4980

One of these:
IGPI:6100/ SLIS:6100

BAIS:4220/ IGPI:4220

CS:4400

One of these:
IGPI:3120/ STAT:3120

IGPI:5001/ POLI:5001

M.S. (Health Informatics Subprogram)/Pharm.D.

The College of Pharmacy and the Graduate College offer the combined Doctor of Pharmacy/Master of Science in informatics with a health informatics subprogram. The combined degree program requires completion of 32 s.h. beyond the bachelor's degree. Students who complete the program are granted both degrees.

The Pharm.D./M.S. program assists students to develop special expertise in information technology, including management of electronic health records, health information exchange standards, electronic prescribing, medication management, decision support, as well as other competencies. Graduates will be prepared for employment in industry or academic institutions with skills to address pharmacotherapy issues as well as information technology management.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College for admission to the M.S. program before entering the spring semester of their first year in the pharmacy program. For more information, see Doctor of Pharmacy, Pharm.D. in the College of Pharmacy section of the Catalog.

Admission

Applicants to the M.S. program should apply to the degree subprogram of their choice; the subprograms make independent admission decisions.

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