Biostatistics, M.S.

Requirements

The Master of Science program in biostatistics requires a minimum of 38 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of coursework may be dismissed from the program.

The program provides training in the design of experiments and in analysis of data related to biomedical or public health problems. It emphasizes mathematical, statistical, and computer methods for dealing with quantitative information and provides opportunities for students to gain statistical consulting experience with a variety of problems.

M.S. students are required to complete an in-depth preceptorship under the direction of a departmental faculty member and a final comprehensive-style examination.

The M.S. with a major in biostatistics requires the following coursework.

Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS:5510</td>
<td>Biostatistical Computing</td>
<td>4</td>
</tr>
<tr>
<td>BIOS:5710 &amp; BIOS:5720</td>
<td>Biostatistical Methods I-II</td>
<td>8</td>
</tr>
<tr>
<td>BIOS:5730</td>
<td>Biostatistical Methods in Categorical Data</td>
<td>3</td>
</tr>
<tr>
<td>BIOS:6610</td>
<td>Statistical Methods in Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>BIOS:7500</td>
<td>Preceptorship in Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>EPI:4400</td>
<td>Epidemiology I: Principles</td>
<td>3</td>
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</table>

One of these sequences:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>STAT:4100-STAT:4101</td>
<td>Mathematical Statistics I-II</td>
<td>6</td>
</tr>
<tr>
<td>STAT:5100-STAT:5101</td>
<td>Statistical Inference I-II (required for students who intend to earn a Ph.D.)</td>
<td>6</td>
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</tbody>
</table>

Public Health Requirement

This course:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>CPH:6100</td>
<td>Essentials of Public Health</td>
<td>2</td>
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</tbody>
</table>

Responsible Conduct of Research Training

This course:

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOS:7270</td>
<td>Scholarly Integrity in Biostatistics</td>
<td>1</td>
</tr>
</tbody>
</table>

Electives

Students complete a minimum of 5-6 s.h. of electives with at least 3 s.h. in quantitative coursework (statistics or biostatistics). It is recommended that students consider a biology/public health course as the other elective, particularly for those who have not had prior exposure to these areas. Electives must be approved by the advisor and the director of graduate studies.
Admission

Applicants to the M.S. program in biostatistics must apply through the Schools of Public Health Application Service (SOPHAS). After the SOPHAS application is verified, the applicant pays a supplemental Graduate College admission fee to the University of Iowa Office of Admissions. For detailed application information, visit Requirements and How to Apply to Biostatistics on the Department of Biostatistics website.

The biostatistics faculty considers several factors when evaluating applications for admission, including Graduate Record Examination (GRE) General Test scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests.

All applicants must hold a bachelor’s degree, have a cumulative g.p.a. of at least 3.00, and have taken the Graduate Record Examination (GRE) General Test. Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). They must score at least 100 (internet-based) on the TOEFL. Applicants with lower scores are not considered for admission. In place of TOEFL scores, the department accepts IELTS. Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). They must score at least 100 (internet-based) on the TOEFL. Applicants with lower scores are not considered for admission. In place of TOEFL scores, the department accepts IELTS.

All biostatistics applicants are required to have strong written and oral communication skills.

All applicants must be competent in at least one computer programming language. They also must have mathematical sciences training in methods and techniques of single variable and multivariable differential and integral calculus, and in linear algebra. Previous coursework or experience in statistical methods or data analysis is preferred.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College website and the Manual of Rules and Regulations for more information.

Students may enter in the fall; the priority application deadline is December 1.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

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Financial Support

A limited number of teaching and research assistantships are available. Assistantships offer financial support and tuition assessed at the resident tuition rate along with a tuition
They also provide valuable on-the-job training experience.

For information on financing education through jobs, grants, and loans, contact the University’s Office of Student Financial Aid.

**Career Advancement**

Graduates find career opportunities in many areas, including pharmaceutics, health care, research companies and institutions, consulting firms, universities, and government agencies.