Biomedical Engineering, M.S.

Graduate study in biomedical engineering prepares students to use contemporary methods at an advanced level during a professional career in engineering design, development, and research.

Each student’s course of study is based on individual background and career objectives, and sound academic practice.

An individual program for each student may be developed from courses offered by the biomedical engineering department and other departments, especially mechanical engineering, electrical engineering, physiology, mathematics, and biological sciences. M.S. students who want a more general program may combine emphases, while those who want some specialization in a particular field can achieve their goals through the combination of departmental courses and appropriate electives from other departments in the College of Engineering and the University.

Requirements

The Master of Science program in biomedical engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. Students who choose the nonthesis program must earn at least 6 s.h. of credit in courses numbered 5000 or above. Those who choose the thesis program may count no more than 6 s.h. of thesis research and writing credit toward the degree. The M.S. may be a terminal degree or a step toward the Ph.D.

A tentative plan of study for each student is determined through consultation with an advisor. An M.S. committee of at least three graduate faculty members, including at least two on the biomedical engineering faculty, is appointed by the dean of the Graduate College. A student’s plan of study is reviewed by the committee before the student has completed 18 s.h. of course work. The plan of study then is submitted for review to the department chair.

Students must fulfill the grade-point-average requirements of the Graduate College on a minimum of 30 s.h. of graduate work and must successfully complete the final examination administered by their committee.

M.S. students in biomedical engineering (thesis or nonthesis) must complete the following courses or their equivalents.

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOS:4120 or STAT:3510</td>
<td>Introduction to Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR:7270</td>
<td>Engineering Ethics</td>
<td>1</td>
</tr>
<tr>
<td>HHP:3500</td>
<td>Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>ME:5113</td>
<td>Mathematical Methods in Engineering (or equivalent math course numbered 3000 or above)</td>
<td>3</td>
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Individual study plans should include as much advanced work as individual aptitude and previous preparation permit.

Admission

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

Applicants who have earned a baccalaureate or postbaccalaureate degree in engineering or in the mathematical or physical sciences, with a g.p.a. of at least 3.00, and who have a combined verbal and quantitative score of 310 on the Graduate Record Examination (GRE) General Test are eligible to be considered for admission to the Master of Science program in biomedical engineering.

Reference letters, research interests, previous graduate grade-point average, and other factors may be considered in making admission decisions.

Financial Support

Students are encouraged to apply for fellowships and assistantships. Contact the chair of the Department of Biomedical Engineering.

Career Advancement

The Graduate College at the University of Iowa offers numerous career advancement opportunities and professional development programs for graduate students. Ongoing program offerings, news, and announcements can be found under Professional Development on the Graduate College website.