Biomedical and General Engineering Department

MS BIOMEDICAL ENGINEERING

General Characteristics
The Master of Science degree program in Biomedical Engineering is well-suited for those individuals who desire depth in engineering application to living systems, with a strong pragmatic and rigorous, hands-on educational experience. Graduates will be well-equipped to make significant contributions to the biomedical field. The MS in Biomedical Engineering program objectives are to:

- Provide graduates with a rigorous, broad-based advanced education in engineering coupled with applied biology that will prepare graduates for the many diverse career opportunities of biomedical engineering.
- Provide an empowering professional degree for students who intend to become practicing engineers.
- Provide job-entry education for the more complex and evolving interdisciplinary area of biomedical engineering.
- Provide a base that enables graduates to maintain currency in their fields.
- Provide preparation for further study in engineering and/or medicine, leading to the Doctor of Engineering, MD, Ph.D, or MD/Ph.D. degrees.

Prerequisites
For admission as a classified graduate student, an applicant must possess a bachelor’s degree in engineering or a closely related physical science with a minimum grade point average of 3.0 in the last 90 quarter units (60 semester units) attempted. Applicants for graduate engineering programs are required to submit scores for the General Test of the Graduate Record Examination. Applicants are also required to submit 3 letters of reference in support of their application. A college level biology course, with laboratory, for biology majors is highly recommended. Applicants who meet these standards but lack prerequisite coursework may be admitted as conditionally classified students and must make up any deficiencies before advancement to candidacy. Applicants from other academic disciplines, such as biology or chemistry are encouraged to apply and may be admitted to the program conditionally in order to make up deficiencies in prerequisite coursework. Information regarding specific admission requirements and classification as a graduate student may be obtained from the Graduate Coordinator, Biomedical Engineering.

Program of Study
Graduate students must file formal study plans with their advisor, department, college, and university graduate studies office as well as fulfill the Graduation Writing Requirement no later than the end of the quarter in which the 12th unit of approved graduate course work is completed. The formal program of study must include a minimum of 45 units with:

- a) At least 23 units of the 45 unit program at the 500 level.
- b) A thesis or project as the mandatory culminating experience.

Curriculum for MS Biomedical Engineering

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BMED 460 Engineering Physiology (4)</td>
<td>4</td>
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<tr>
<td>BMED 512 Biomedical Engineering Horizons (4)</td>
<td>4</td>
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<tr>
<td>BMED 530 Biomaterials (4)</td>
<td>4</td>
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<tr>
<td>BMED 550 Current and Evolving Topics in Biomedical Engineering (4)</td>
<td>4</td>
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<tr>
<td>BMED 563 Biomedical Engineering Graduate Seminar (2)</td>
<td>2</td>
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<tr>
<td>BMED 599 Design Project (Thesis) (9)</td>
<td>9</td>
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</tbody>
</table>

Approved Engineering, Science and Mathematics Electives

- a) A minimum of 8 units from an advisor approved list of mathematics, statistics, biology, or analytic engineering courses, with at least 4 units at the 500 level;
- b) Remaining elective units are advisor approved.

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