Emphasis - Biomedical Engineering

M.S. in Engineering Science

Description

The M.S. in engineering science is offered in a number of emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer engineering, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, material science and engineering, and telecommunications.

Minimum Total Credit Hours: 30

Course Requirements

A student must complete the requirements for an emphasis area. For most emphasis areas, the degree may be completed as a:

- Thesis option (30-hour program, to include 6 hours of thesis),
- Nonthesis option (30- hour program, to include a minimum of 3 hours of a design-oriented project course), or
- Coursework option (30-hour program, to include a final oral examination in front of a committee, but no written report)

Emphasis - Biomedical Engineering

Description

A degree of M.S. in engineering science with an emphasis in biomedical engineering prepares graduates to apply interdisciplinary science and engineering tools to advance biology and medicine. Graduates will be able to independently solve problems, execute complex projects, and pursue successful careers in research, development, or management within engineering or biomedical science fields, as well as professional degrees such as medicine or law.

Course Requirements

The M.S. in engineering science with an emphasis in biomedical engineering requires a minimum of 30 hours of graduate credit with an overall GPA of 3.0. The specific coursework requirements depend on the M.S. option pursued by the student.

Students whose undergraduate degree is not in biomedical engineering or a closely related field may be required to take additional coursework beyond the 30-hour requirement at the discretion of the student's committee. The committee should be formed before the end of the first semester.

Coursework Option

All 30 credit hours come from graded 500+ level coursework agreed upon by the students and their committee. These courses must include at least two BME 500+ level courses (6 credit hours) and BME 600 (3 credit hours). Students must successfully pass a comprehensive final exam before graduation. Parameters for the exam will be agreed upon by the students and their committee, with final approval by the graduate program coordinator. Students must orally defend the comprehensive exam material to their committee.

Nonthesis Option

This option requires at least 27 credit hours of graded 500+ level coursework agreed upon by the students and their committee. These courses must include at least two BME 500+ courses (6 credit hours) and BME 600 (3 credit hours). In addition, students must complete no less than 3 hours of project credit (Engr 693, Engr 694) and successfully defend their project to their committee before graduation.

Thesis Option

Students must take BME 600 (3 credit hours) and 3 hours of BME 601 (1 credit hour). In addition, students must take 18 credit hours of graded 500+ level coursework agreed upon by them and their committee. The coursework must include at least two BME 500+ courses, not including BME 600 or BME 601. In addition, students must complete no less than 6 credit hours of thesis (Engr 697). Students must successfully write and defend a thesis to their committee before graduation.