M.S. Plan II Curriculum

The M.S. graduate curriculum emphasizes physiology, tissue engineering, biomechanics, and transport phenomena. Associated courses are available on campus in applied mathematics, physics, chemistry, biology, solid and fluid mechanics, electronics, computers, information sciences, system analysis, neurosciences, pathology, pharmacology, and clinical subjects. Faculty advisors are available to assist the students in planning for their courses and research.

All courses must be taken for letter grade.

Required Courses for the M.S. Degree: Plan II

Note: The "F,W,S" in parentheses indicate when the course is typically expected to be offered, with "F" indicating Fall, "W" indicating Winter, and "S" indicating Spring.

1. Core Courses (total of six required):

Engineering Physics (three required courses)

- BENG 221. Mathematical Methods for Bioengineering - 4 units (F) prerequisite for BENG 227
- BENG 226. Foundations of Biomechanics – 4 units (S)
- BENG 227. Transport Phenomena in Living Systems – 4 units (S)

Life Sciences (three required courses: 2 + 1)

- BENG 230A. Biochemistry – 4 units (F)
- BENG 230B. Cell and Molecular Biology – 4 units (W)
- Plus one of the following – 4 units:
    - BENG 230C. Cardiovascular Physiology
    - BENG 230D. Respiratory and Renal Physiology
    - BENG 232. Musculoskeletal Health, Injury, and Disease
    - BENG 234. Introduction to Neurophysiology: Molecules to Systems
    - BENG 260/ BGGN 260. Neurodynamics

2. Seminars (both required):

- BENG 281. Seminar in Bioengineering – 1 unit (F,W,S) *Must take each quarter during first year*
- BENG 282. Seminar: Faculty Research – 1 unit (F)

Additional Required Courses for M.S. Degree: Plan II

3. Elective Courses (six required):

Plan II students are required to complete six elective courses to fulfill their degree requirements. All graduate courses offered in the Bioengineering Department (other than the 6 required courses) may be used to fulfill the elective course requirement. Other courses outside of the department may be approved. Consult with the graduate advisor.