Biomedical Engineering Minor

Return to: Minors

The Biomedical Engineering Minor is open only to non-Engineering students majoring in STEM fields (including Biology, Chemistry, Mathematics, and Physics) who satisfy the prerequisites listed below and are interested in engineering approaches to biomedical problems. The 15-credit minor covers key topics in the discipline. The minor also fulfills the majority of coursework requirements for non-Engineering applicants to the Master's degree program in Biomedical Engineering.

Minor Requirements: 15

Engineering Science Core (9 Credit Hours)

Students must complete any three (9 credit hours) of the following engineering science courses:

- EGN 3311 - Statics **Credit(s): 3**
- EGN 3343 - Thermodynamics I **Credit(s): 3**
- EGN 3373 - Electrical Systems I **Credit(s): 3**
- EGN 3331 - Mechanics of Materials **Credit(s): 3 or**
- EGN 3365 - Materials Engineering I **Credit(s): 3**

Biomedical Engineering Electives (6 Credit Hours)

Students must complete any two (6 credit hours) of the following biomedical engineering courses:

- BME 3053 - Computer Programming for Biomedical Engineers **Credit(s): 3**
- BME 4100 - Introduction to Biomedical Engineering **Credit(s): 3**
- BME 4503 - Biomedical Instrumentation **Credit(s): 3**

Prerequisite courses:

Biology I

- BSC 2010 - Cellular Processes **Credit(s): 3**

Calculus I/II/III

- MAC 2241 - Life Sciences Calculus I **Credit(s): 3**
- MAC 2242 - Life Sciences Calculus II **Credit(s): 3**
- **MAC 2283 - Engineering Calculus III Credit(s): 4**
- **or**
- MAC 2281 - Engineering Calculus I **Credit(s): 4**
- MAC 2282 - Engineering Calculus II **Credit(s): 4**
- MAC 2283 - Engineering Calculus III **Credit(s): 4**
- **or**
- MAC 2311 - Calculus I **Credit(s): 4**
- MAC 2312 - Calculus II **Credit(s): 4**
- MAC 2313 - Calculus III **Credit(s): 4**

Differential Equations

- MAP 2302 - Differential Equations **Credit(s): 3**
- **or**
- EGN 3433 - Modeling and Analysis of Engineering Systems **Credit(s): 3**

Chemistry I/II

- CHM 2045 - General Chemistry I **Credit(s): 3**
- CHM 2046 - General Chemistry II **Credit(s): 3**

Physics I/II

- PHY 2048 - General Physics I - Calculus Based **Credit(s): 3**
- PHY 2049 - General Physics II - Calculus Based **Credit(s): 3**
- **or**

- PHY 2053 - General Physics I **Credit(s): 3**
- PHY 2054 - General Physics II **Credit(s): 3**

Statistics

- STA 2023 - Introductory Statistics I **Credit(s): 3**
- **or**
- EGN 3443 - Probability and Statistics for Engineers **Credit(s): 3**

Other Requirements

Student must register with the Department of Medical Engineering's undergraduate advisor prior to starting this minor program.

Successful completion of the minor requires a minimum 2.0 GPA in minor courses.

Advising Information

Biomedical Engineering Advisor: ENG-BME@usf.edu