Bioengineering - Minor

College of Engineering and Computer Science
Engineering, Room: 107

http://www.cecs.ucf.edu/minors/bioengineering

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The Bioengineering minor prepares engineering and computer science students to pursue graduate academic and professional careers serving a wide range of the medical arena in research and development. Candidates completing this minor will also satisfy course admissions requirements for the UCF Medical School and other medical schools in the US. Engineering and computer science students interested in pursuing an MD degree at UCF or elsewhere are strongly encouraged to seek further advisement from the Office of Pre-Health and Pre-Law Advising. The minor constitutes up to: (a) for the engineering track 21 hours of coursework over the requirements for a bachelor of science degree in an engineering discipline at UCF, and (b) a minimum 17 hours of coursework over the requirements for a bachelors of science degree in computer science at UCF.

Minor Admission Requirements
- Admission Requirements: Entrance into the minor is required upon admission to the University and requires a minimum high school unweighted GPA 3.7, and ACT 30 or SAT 1300. Well-qualified students in the College of Engineering and Computer Science of at least junior standing can also be considered for admission into the minor. In order to remain in the program, students must maintain a UCF Undergraduate GPA 3.0. Candidates should contact the CECS Academic Affairs Office, bioengineering@ucf.edu, for application into the minor. Applications will be reviewed and decisions rendered by an admissions committee.

Minor Requirements
- None

Prerequisite Courses
- None

Required Courses (35 hrs)
- PHY 2048C  Physics for Engineers & Scientists I  4 hrs
- PHY 2049C  Physics for Engineers and Scientists II  4 hrs
- BSC 2010C  Biology I  4 hrs
- BSC 2011C  Biology II  4 hrs
- CHM 2045C  Chemistry Fundamentals I  4 hrs
- CHM 2046  Chemistry Fundamentals II  3 hrs
- CHM 2046L  Chemistry Fundamentals Laboratory  1 hr
- CHM 2210  Organic Chemistry I  3 hrs
- CHM 2211L  Organic Laboratory Techniques I  2 hrs
- CHM 2211  Organic Chemistry II  3 hrs
- EGN 4941  Internship  1 hr

Restricted Electives (6 hrs)
- Students will select either the Engineering Track or Computer Science Track to define their elective choices.

Engineering Track 6 hrs
- Select 1: 3 hrs
  - EMA 5584  Biomaterials or 3 hrs
  - EML 5760  Biomedical Sensors or 3 hrs
  - EEE 5272  Biomedical Process Control or 3 hrs
  - EIN 5248C  Ergonomics  3 hrs

Select 1: 3 hrs
- CAP 5512  Evolutionary Computation or 3 hrs
- BCH 4053  Biochemistry I or 3 hrs
- BSC 3403C  Quantitative Biological Methods or 4 hrs
- BSC 5418  Tissue Engineering or 3 hrs
- MCB 3020C  General Microbiology or 5 hrs
- PCB 3522  Molecular Biology I or 3 hrs
- PCB 3703C  Human Physiology or 4 hrs
- ZOO 3733C  Human Anatomy or 4 hrs
- ZOO 3744  Neurobiology or 3 hrs
- PCB 3063  Genetics  3 hrs

Computer Science Track 6 hrs
- Select 1: 3 hrs
  - CAP 5512  Evolutionary Computation or 3 hrs
  - COT 6417  Algorithms on Strings and Sequences  3 hrs

Select 1: 3 hrs
- BCH 4053  Biochemistry I or 3 hrs
- BSC 3403C  Quantitative Biological Methods or 4 hrs
- BSC 5418  Tissue Engineering or 3 hrs
- MCB 3020C  General Microbiology or 5 hrs
- PCB 3522  Molecular Biology I or 3 hrs
- PCB 3703C  Human Physiology or 4 hrs
- ZOO 3733C  Human Anatomy or 4 hrs
- ZOO 3744  Neurobiology or 3 hrs
- PCB 3063  Genetics  3 hrs

Foreign Language Requirements
- None

Total Semester Hours Required
- 41

Other Requirements
- Open only to engineering and computer science majors.
- A grade of “B” (3.0) or better is required in each course used to satisfy the minor.
- The Bachelors of Science must be completed in order for the minor to be awarded.