

Minors

Bioengineering - Minor

College of Engineering and Computer Science

Engineering, Room: 107

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

Dr. Alain Kassab, Engineering Track, alain.kassab@ucf.edu, 407-823-5778

Dr. Charles Hughes, Computer Science Track, ceh@cs.ucf.edu, 407-823-2762

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

■ Well-qualified students in the College of Engineering and Computer Science with a cumulative UCF GPA of 3.0 or better are welcome to enter the minor. In order to remain in the program, students must maintain a UCF Undergraduate GPA 3.0.

Minor Requirements

■ None

Prerequisite Courses

■ None

Required Courses (32 hrs)

PHY 2048C	General Physics Using Calculus I	4 hrs
PHY 2049C	General Physics Using Calculus II	4 hrs
BSC 2010C	Biology I	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

Select 1: 3 hrs

BSC 2011C	Biology II or	4 hrs
BCH 4053	Biochemistry I	3 hrs

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
BME 5267	Biofluid Mechanics or	3 hrs
EEE 5272	Biomedical Sensors or	3 hrs
EES 4111C	Biological Process Control or	4 hrs
EIN 5248C	Ergonomics or	3 hrs
BME 3211	Engineering Biomechanics or	3 hrs
BME 5268C	Applied and Computational Biofluids	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

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

■ 38

Other Requirements

■ Open only to engineering and computer science majors.

■ A grade of "B-" (2.75) 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.