Minor

Biomedical Engineering Minor

Dharmakeerthi Nawarathna, BME Minor Coordinator

This interdisciplinary minor is for students who would like to learn about processes encountered in biomedical engineering innovation and enhance their ability to integrate knowledge from different disciplines with principles used in biomedical engineering. The minor offers an opportunity for students to be recognized for study in this growing multidisciplinary field and to enhance competitiveness for job opportunities upon graduation.

Requirements

Course prerequisites for BME 403, BME 404, BME 405, and BME 409 are BIOL 240 or BIOL 250 and MATH 200, MATH 205 or MATH 211. Prerequisite courses are not included in the calculation of the grade point average for the minor.

Course requirements are as follows:

Select two of the following BME courses:		6
BME 403	Introduction to Mathematical Modeling in Physiology	
BME 404	Introduction to Biomaterials	
BME 405	Biomechanics	
BME 409	Introduction to Regenerative Medicine	
Select two elective courses from the following:		6
BIOL 446	Comparative Biomechanics	
BIOL 460	Frontiers in Nanoscience and Nanotechnology	
BIOL 490	Advanced Human Physiology	
BIOL 496	Topics in Biological Sciences (approved by minor advisor)	
CHEM 443	Intermediate Biochemistry	
ECE 454	Introduction to Bioelectrics	
ECE 462	Introduction to Medical Image Analysis (MIA)	
ECE 464	Biomedical Applications of Low Temperature Plasmas	
or BIOL 464	Biomedical Applications of Low Temperature Plasmas	
EXSC 322	Anatomical Kinesiology	
EXSC 417	Biomechanics	
HLSC 405	Interprofessional Study Abroad on Global Health	
MAE 303	Mechanics of Fluids	
MAE 440	Introduction to Finite Element Analysis	
MLS 324	Clinical Instrumentation	
MSIM 451	Analysis for Modeling and Simulation	
NMED 331	Fundamental Concepts in Nuclear Medicine Technology	
NURS 456	Global Health Perspectives	
Total Credit Hours		**12**

Students have the option to substitute one course from those that satisfy their major requirements for one of the minor electives with approval of the minor coordinator.

Students interested in medical simulation are encouraged to select their electives from ECE 462 and MAE 440.

The interdisciplinary minor in biomedical engineering requires 12 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses specified as a requirement for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.