Minor in Biomedical Engineering (BME)

Biomedical Engineering Minor

To obtain a Biomedical Engineering (BME) minor, students must take at least 18 credits related to Biomedical Engineering. Two courses (8 credits) of biology are required. Two restricted requirements include Intro to Biomedical Engineering (required) and at least 3 credits of engineering electives related to BME. Two more courses (or at least 4 credits) may be chosen from the engineering and/or additional electives. The lists of electives will be modified as new related courses that fall into these categories become available.

REQUIRED courses (11 credits):

CBEN110	FUNDAMENTALS OF BIOLOGY I	4.0
CBEN120	FUNDAMENTALS OF BIOLOGY II	4.0
CBEN310	INTRODUCTION TO BIOMEDICAL ENGINEERING	3.0

Plus at least 3 credits of engineering electives:

BIOL300	QUANTITATIVE BIOLOGY I	3.0
CBEN35X/45X/X98/X99	HONORS UNDERGRADUATE RESEARCH, SPECIAL TOPICS, INDEPENDENT STUDY *	1-4
CBEN360	BIOPROCESS ENGINEERING	3.0
CBEN413	QUANTITATIVE HUMAN BIOLOGY	3.0
CBEN432	TRANSPORT PHENOMENA IN BIOLOGICAL SYSTEMS	3.0
CBEN470	INTRODUCTION TO MICROFLUIDICS	3.0
CBEN555	POLYMER AND COMPLEX FLUIDS COLLOQUIUM	1.0
CSCI478	INTRODUCTION TO BIOINFORMATICS	3.0
MATH472	MATHEMATICAL AND COMPUTATIONAL NEUROSCIENCE	3.0
MEGN330	INTRODUCTION TO BIOMECHANICAL ENGINEERING	3.0
MEGN430	MUSCULOSKELETAL BIOMECHANICS	3.0
MEGN435	MODELING AND SIMULATION OF HUMAN MOVEMENT	3.0
or MEGN535	MODELING AND SIMULATION OF HUMAN MOVEMENT	
MTGN472	BIOMATERIALS I	3.0
MEGN532	EXPERIMENTAL METHODS IN BIOMECHANICS	3.0

Plus at least 4 more credits from the list above and/or the list below:

Additional elective courses related to BME:

CBEN304	ANATOMY AND PHYSIOLOGY	3.0
CBEN305	ANATOMY AND PHYSIOLOGY LAB	1.0
CBEN311	NEUROSCIENCE	3.0
CBEN320	CELL BIOLOGY AND PHYSIOLOGY	3.0
CBEN321	GENETICS	4.0
CBEN331	GENETICS LABORATORY	
CBEN322	BIOLOGICAL PSYCHOLOGY	3.0
CBEN35X/45X/X98/X99	HONORS UNDERGRADUATE RESEARCH, SPECIAL TOPICS, INDEPENDENT STUDY	1-4
CBEN411	NEUROSCIENCE, MEMORY, AND LEARNING (NEUROSCIENCE, MEMORY, AND LEARNING)	3.0
CBEN412	PHARMACOKINETICS (INTRODUCTION TO PHARMACOLOGY)	3.0
CBEN431	IMMUNOLOGY FOR ENGINEERS AND SCIENTISTS	3.0
or CBEN531	IMMUNOLOGY FOR SCIENTISTS AND ENGINEERS	
CBEN454	APPLIED BIOINFORMATICS	3.0
or CBEN554	APPLIED BIOINFORMATICS	
CHGN409	BIOLOGICAL INORGANIC CHEMISTRY	3.0
CHGN428	BIOCHEMISTRY	3.0
CHGN429	BIOCHEMISTRY II	3.0
CHGN441	THE CHEMISTRY AND BIOCHEMISTRY OF PHARMACEUTICALS	3.0
CHGN462	MICROBIOLOGY	3.0
MATH431	MATHEMATICAL BIOLOGY	
MTGN472	BIOMATERIALS I	3.0
or MTGN572	BIOMATERIALS	
PHGN433	BIOPHYSICS	3.0
CHGN431	INTRODUCTORY BIOCHEMISTRY LABORATORY	2.0

*As the content of these courses varies, the course must be noted as relevant to the BME minor to count toward the minor, and noted as having sufficient engineering content to count as an engineering elective course as the engineering electives.