Biomedical Engineering

Freshman Year

First Semester	SCH	*Second Semester*	SCH
ENGR 196 Engineering Problem Solving	3	ENGR 197 Intro. to Computing	3
Chem. C105 Principles of Chemistry I	3	Chem. C106 Principles of Chemistry II	3
Chem. 125 Experimental Chem. I	2	Eng W131 Elementary Composition I	3
Math 163 Integrated Calculus and Analytic Geometry	5	Math 164 Integrated Calculus and Analytic Geometry II	5
Comm. R110 Fundamentals of Speech Communication	3	Phys 152 Mechanics	4
ENGR 195 Engineering Seminar	1		
TOTAL SCH	**17**		**18**

Sophomore Year

First Semester	SCH	*Second Semester*	SCH
Math 261 Multivariate Calculus	4	Math 262 Linear Algebra Differential Eqns.	4
Phys 251 Elec., Heat, Optics	5	Biol. K101 Concepts of Biology I	5
BME 222 Biomeasurements	4	BME 241Intro. Biomechanics	4
Humanities or Social Science Elective	3	Humanities or Social Science Elective	3
		TCM 360 Communications in Engineering Practice	2
TOTAL SCH	**16**		**18**

Junior Year

First Semester	SCH	*Second Semester*	SCH
Chem. C341 Organic Chemistry I	3	Biol. K324 Cell Biology	3
Chem. C343 Organic Chemistry Lab I	2	Biol. K325 Cell Biology Lab	2
BME 381 Implantable Materials & Biological Response	3	BME 322 Probability & Statistics for BME	3
BME 383 Problems in Implantable Materials & Biological Response	1	BME 352 Tissue Behavior and Properties	3
BME 331 Biosignals and Systems	3	BME 354 Problems in Tissue Behavior and Properties	1
BME 334 Biomedical Computing	3	BME/Tech Elective	3
Humanities or Social Science Elective	3		
TOTAL SCH	**18**		**15**

Senior Year

First Semester	SCH	*Second Semester*	SCH
BME 491 Biomedical Engineering Design I	3	BME 492 Biomedical Engineering Design II	3
BME 411 Quantitative Physiology	3	BME Elective	3
BME 461 Transport Processes in BME	3	BME/Sci/Tech Elective	3
BME Elective	3	BME 402 Senior Seminar	1
BME/Sci/Tech Elective	3	BME 404 Ethics for Biomedical Engineers	1
		Humanities or Social Science Elective	3
TOTAL SCH	**15**		**14**

Rev. 6/1/05 **TOTAL SCH = 131**

Here are the current assignment of numbers for our required BME courses with the credit hours in ( ).

BME 241 Introduction to Biomechanics (4)
BME 222 Biomeasurements (4)
BME 381 Implantable Materials & Biological Response (3)
BME 383 Problems in Implantable Materials & Biological Response (1)
BME 331 Biosignals and Systems (3)
BME 322 Probability & Statistics for BME (3)
BME 352 Tissue Behavior and Properties (3)
BME 354 Problems in Tissue Behavior and Properties (1)
BME 334 Biomedical Computing (3)
BME 411 Quantitative Physiology (3)
BME 461 Transport Processes in BME (3)
BME 491 Biomedical Engineering Design I (3)
BME 492 Biomedical Engineering Design II (3)
BME 402 Senior Seminar (1)
BME 404 Ethics for Biomedical Engineers (1)

Examples of Depth areas for BME

Instrumentation & Signal Processing:
- ECE 266 Digital Logic Design
- ECE 362 Microprocessor Systems and Interfacing
- ECE 410 Introduction to Digital Signal Processing
- BME 595 Biomedical Instrumentation
- BME 595 Biosignal Processing
- BME 595 Sensors and Implantable Devices

Biomechanics:
- ME 272 Mechanics of Materials
- ME 274 Basic Mechanics
- ME 330 Modeling and Analysis of Dynamical Systems
- BME 595 Skeletal Biomechanics
- BME 595 Molecular and Cellular Biomechanics

Biomaterials and Tissue Engineering:
- ME 200 Thermodynamics
- ME 272 Mechanics of Materials
- BME 595 Tissue Engineering
- BME 595 Polymers for BME Applications
- BME 595 Characterization and Processing of Medical Materials

Imaging:
- ECE 340 Simulation, Modeling, and Identification
- ECE 410 Introduction to Digital Signal Processing
- BME 595 Biomedical Instrumentation
- BME 595 Biosignal Processing
- BME 595 Medical Imaging

For Pre-Medicine or Pre-Dental options please see a BME advisor.