

Biomedical Engineering – Program Map:

Biomechanics & Biomaterials (Prosthetics* or Implants/Devices)

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Seminar
1	Principles Chem I / Lab CHEM:1110 (Math & Science)	Engr Calculus I MATH:1550 (Math & Science)	Intro Engineering Problem Solving ENGR:1100 (Engineering Core)	Rhetoric RHET:1030 (Gen Ed)	—	
2	Principles Chem II / Lab CHEM:1120 (Math & Science)	Engr Calculus II MATH:1560 (Math & Science)	Engr Matrix Algebra MATH:2550 (Math & Science)	Physics I / Lab PHYS:1611 (Math & Science)	Intro Engr Computing ENGR:1300 (Engineering Core)	BME Forum BME:1010
3	Foundations of Biology / Lab BIOL:1411 (Math & Science)	Engr Diff Equations MATH:2560 (Math & Science)	Statics ENGR:2110 (Required Engineering)	Electrical Circuits ENGR:2120 (Required Engineering)	Human Anatomy HHP:2100 (Focus Area Elective)	BME Prof Seminar BME:2010
4	Fund Human Physiology HHP:2400 or BME:3260 Quantitative Physiology (Math & Science)	Biostatistics BIOS:4120 or STAT:3510 (Math & Science)	Systems, Instrum, & Data Acquisition / Lab BME:2200 (Biomedical Core)	Biomaterials & Biomechanics / Lab BME:2500 (Biomedical Core)	Dynamics ENGR:2710 (Focus Area Required)	
5	Cell & Tissue Engineering Fundamentals / Lab BME:2400 (Biomedical Core)	Bioimaging & Bioinformatics / Lab BME:2210 (Biomedical Core)	Mech Def Bodies ENGR:2750 (Focus Area Required)	Engr Drawing, Design, & Solid Modeling BME:2710 (Focus Area Elective)	Cultural Perspectives, Values, & Society (Gen Ed)	
6	Thermodynamics ENGR:2130 (Required Engineering)	Physics II / Lab PHYS:1612 (Math & Science)	Med Device Design Fundamentals BME:3710 (Focus Area Elective)	Materials Science ENGR:2720 (Focus Area Required)	Approved Gen Ed course (recommended: Elementary Psych PSY:1001)	
7	BME Senior Design I BME:4910 (BME Core)	Biomaterials & Implant Design BME:5101 (Focus Area Elective)	Med Device Design Studio BME:4710 (Focus Area Elective)	Fluid Mechanics ENGR:2510 (Focus Area Required)	Be Creative (Gen Ed)	
8	BME Senior Design II BME:4920 (BME Core)	Cell Material Interactions BME:5421 or Intro to Applied Biomed FE Modeling BME:5620 or 1+1+1* (Focus Area Elective)	Advanced Med Device Design Studio BME:5715 (Focus Area Elective)	Approved Gen Ed course	Approved Gen Ed course	

At least two Focus Area Electives must be from the list of Engineering Topics.

*Different focus area electives [may be recommended](#) for students pursuing a MS in Prosthetics & Orthotics; 1+1+1 = Human Anatomy Lab (HHP:2110), Human Physiology Lab (HHP:2410), and 1 extra s.h. from ENGR 2510.