Biomedical Engineering – Program Map:

Cellular Engineering (Pre-Medicine)

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)*	Organic Chem I **CHEM:2210** *(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)*	Bioimaging & Bioinformatics / Lab **BME:2210** *(Biomedical Core)*	Cell & Tissue Engineering Fundamentals / Lab **BME:2400** *(Biomedical Core)*	Organic Chem II **CHEM:2220** *(Focus Area Elective)*	
5	Systems, Instrum, & Data Acquisition / Lab **BME:2200** *(Biomedical Core)*	Biomaterials & Biomechanics / Lab **BME:2500** *(Biomedical Core)*	Organic Chem Lab **CHEM:2410** *(Focus Area Elective)*	Mech Def Bodies **ENGR:2750** *(Focus Area Required)*	Cultural Perspectives, Values, & Society *(Gen Ed)*	
6	Thermodynamics **ENGR:2130** *(Required Engineering)*	Biochemistry **BMB:3110** *(Focus Area Elective)*	Physics II / Lab **PHYS:1612** *(Math & Science)*	Cell Material Interactions **BME:5421** *(Focus Area Required)*	Any required focus area course from the other BME focus areas	
7	BME Senior Design I **BME:4910** *(BME Core)*	Focus Area Elective #5 (Engr Topic)	Focus Area Elective #6 (Engr Topic)	Biotransport **BME:5430** *(Focus Area Required)*	Be Creative *(Gen Ed)*	
8	BME Senior Design II **BME:4920** *(BME Core)*	Focus Area Elective #7	Approved Gen Ed course	Approved Gen Ed course	Approved Gen Ed course	

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

Pre-med students should meet with their pre-med advisor to discuss additional non-engineering coursework (such as PSY:1001 and SOC:1010) that may be required/recommended.

Last updated 05/12/2026