

## 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 <b>CHEM:1110</b> <i>(Math &amp; Science)</i>	Engr Calculus I <b>MATH:1550</b> <i>(Math &amp; Science)</i>	Intro Engineering Problem Solving <b>ENGR:1100</b> <i>(Engineering Core)</i>	Rhetoric <b>RHET:1030</b> <i>(Gen Ed)</i>	—	
2	Principles Chem II / Lab <b>CHEM:1120</b> <i>(Math &amp; Science)</i>	Engr Calculus II <b>MATH:1560</b> <i>(Math &amp; Science)</i>	Engr Matrix Algebra <b>MATH:2550</b> <i>(Math &amp; Science)</i>	Physics I / Lab <b>PHYS:1611</b> <i>(Math &amp; Science)</i>	Intro Engr Computing <b>ENGR:1300</b> <i>(Engineering Core)</i>	BME Forum <b>BME:1010</b>
3	Foundations of Biology / Lab <b>BIOL:1411</b> <i>(Math &amp; Science)</i>	Engr Diff Equations <b>MATH:2560</b> <i>(Math &amp; Science)</i>	Statics <b>ENGR:2110</b> <i>(Required Engineering)</i>	Electrical Circuits <b>ENGR:2120</b> <i>(Required Engineering)</i>	Organic Chem I <b>CHEM:2210</b> <i>(Focus Area Elective)</i>	BME Prof Seminar <b>BME:2010</b>
4	Fund Human Physiology <b>HHP:2400</b> or <b>BME:3260</b> Quantitative Physiology <i>(Math &amp; Science)</i>	Biostatistics <b>BIOS:4120</b> or <b>STAT:3510</b> <i>(Math &amp; Science)</i>	Bioimaging & Bioinformatics / Lab <b>BME:2210</b> <i>(Biomedical Core)</i>	Cell Biology for Engr / Lab <b>BME:2400</b> <i>(Biomedical Core)</i>	Organic Chem II <b>CHEM:2220</b> <i>(Focus Area Elective)</i>	
5	Systems, Instrum, & Data Acquisition / Lab <b>BME:2200</b> <i>(Biomedical Core)</i>	Biomaterials & Biomechanics / Lab <b>BME:2500</b> <i>(Biomedical Core)</i>	Organic Chem Lab <b>CHEM:2410</b> <i>(Focus Area Elective)</i>	Mech Def Bodies <b>ENGR:2750</b> <i>(Focus Area Required)</i>	Cultural Perspectives, Values, & Society <i>(Gen Ed)</i>	
6	Thermodynamics <b>ENGR:2130</b> <i>(Required Engineering)</i>	Biochemistry <b>BMB:3110</b> <i>(Focus Area Elective)</i>	Physics II / Lab <b>PHYS:1612</b> <i>(Math &amp; Science)</i>	Cell Material Interactions <b>BME:5421</b> <i>(Focus Area Required)</i>	Any required focus area course from the other BME focus areas	
7	BME Senior Design I <b>BME:4910</b> <i>(BME Core)</i>	Focus Area Elective #5 (Engr Topic)	Focus Area Elective #6 (Engr Topic)	Biotransport <b>BME:5430</b> <i>(Focus Area Required)</i>	Be Creative <i>(Gen Ed)</i>	
8	BME Senior Design II <b>BME:4920</b> <i>(BME Core)</i>	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.