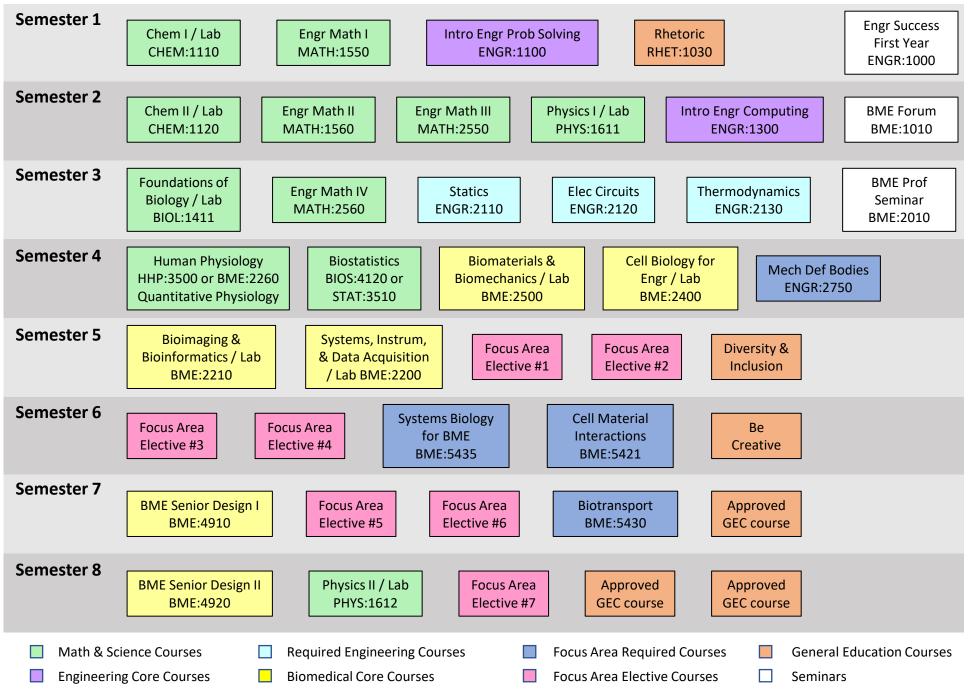
Biomedical Engineering – Program Map: Cellular Engineering Focus Area



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

Last updated 03/20/24

Biomedical Engineering – Program Map: Cellular Engineering Focus Area

Cellular Engineering Required Courses			
ENGR:2750	Mechanics of Deformable Bodies	All	P: ENGR:2110; C: MATH:2560
BME:5421	Cell Material Interactions	F/S	P: BME:2400
BME:5430	Biotransport	F	P: BME:2500
BME:5435	Systems Biology for BME	S	P: BME:2400, BME:2200
Cellular Engineering Electives (Focus Area, Minor, or Certificate)			
Engineering Topics (must choose two)			
	Computational Biochemistry	F	P: MATH:1560 or MATH:1860, CHEM:1120
	Num. & Stat. Methods for Bioengr.	F§	P: MATH:2560 and MATH:2550
	Stem Cells in Regenerative Engr	F§§	P: BME:2400 or BIOL:2723
	Research Methods in Cellular Engr	S	P: BIOL:1411, STAT:3510 or BIOS:4120
ECE:5480	-	F	P: BME:2200
Suggested Electiv	IPS		
BME:5431	Biofabrication for Tissue Engr	S	P: ENGR:2110
BME:5460	Principles of Microfluidics	F	P: BME:2500
BME:5525	•	F	P: BME:2500, ENGR:2510
	Design	•	
ENGR:2510	Fluid Mechanics	F/S	P: MATH:2560, ENGR:2710; C: ENGR:2130
ENGR:2710	Dynamics	All	P: MATH:1550, ENGR:2110
ENGR:2720	Materials Science	All	P: CHEM:1110; C: MATH:1550
ENGR:2730	Computers in Engineering	F/S	P: ENGR:1300
ME:5179	Continuum Mechanics	See MyUI	P: ENGR:2750 or ENGR:2510
BIOL:1412	Diversity of Form & Function	All	P: BIOL:1411 w/min C-
BIOL:2512	Fundamental Genetics	All	P: BIOL:1411 w/min C-, BIOL:1412 or PSY:2701 w/min C-,
			CHEM:1110; Recommended: CHEM:2210
BMB:3120	Biochemistry & Molecular Biology I	F/S	See MyUI for recommendations
BMB:3130	Biochemistry & Molecular Biology II	F/S	P: BMB:3120
MATH:4750	Intro to Mathematical Biology	S	P: MATH:3600 or MATH:2560
Pre-Medicine			
**BIOL:1412	Diversity of Form & Function	All	P: BIOL:1411 w/min C-
CHEM:2210	Organic Chemistry I	All	P: CHEM:1120 w/min C-
CHEM:2220	Organic Chemistry II	All	P: CHEM:2210 w/min C-
CHEM:2410	Organic Chemistry Lab	All	P: CHEM:1120 w/min C-, CHEM:2210 w/min C-; C: CHEM:2220
BMB:3110	Biochemistry	All	See MyUI for requirements
BIOL:2512	Fundamental Genetics	All	P: BIOL:1411 w/min C-, BIOL:1412 or PSY:2701 w/min C-,

** Pre-medicine students should check with their Pre-medicine advisor regarding the need for this course.

§ Offered in academic years with odd fall and even spring semesters

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Note: At least two electives must be from the list of Engineering Topics. Electives not listed above may be approved via the Plan of Study form.

CHEM:1110; Recommended: CHEM:2210

Please check MyUI for the current course offerings and pre/corequisites. Last updated (3/23/24)