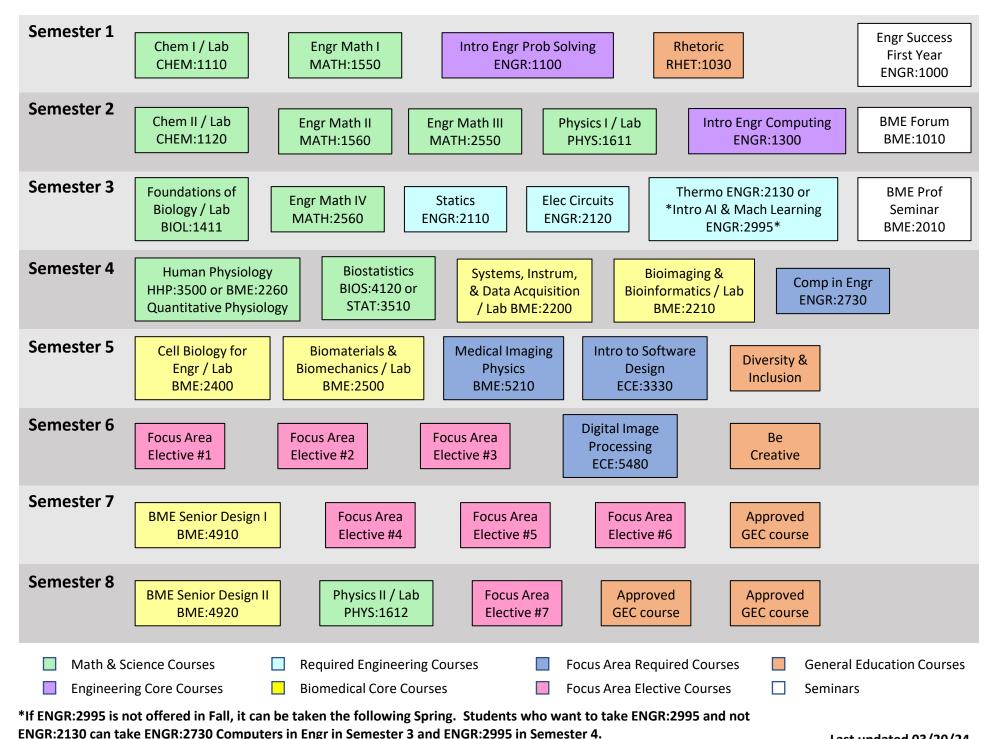
Biomedical Engineering – Program Map: Bioimaging Focus Area



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

Last updated 03/20/24

Biomedical Engineering – Program Map: Bioimaging Focus Area

Bioimaging Require	d Courses		
BME:5210	Medical Imaging Physics	F	P: BME:2200, BME:2210
ENGR:2730	Computers in Engineering	F/S	P: ENGR:1300
ECE:3330	Intro to Software Design	F/S	P: ENGR:2730
ECE:5480	Digital Image Processing	F	P: BME:2200 or ECE:2400
	s (Focus Area, Minor, or Certificate)		
Engineering Topics			
BME:5200	Biomedical Signal Processing	S §§	
BME:5240	Deep Learning in Medical Imaging	F	P: ENGR:2995; ECE:5480 recommended
ECE:5330	Graph Algorithms & Combinatorial Optimization	S	P: ECE:3330
ECE:5450	Machine Learning	F	P: BME:2200 or ECE:2400
ECE:5490	Multidimensional Image Analysis Tools &	S §§	P: ECE:5480 and (ECE:3330 or CS:2820)
	Techniques		
Suggested Electives			
BME:5251	Advanced Biosystems	F§	P: BME:2200
BME:5441	Numerical & Statistical Methods for Bioengr	F§	P: MATH:2560 and MATH:2550
CS:2210	Discrete Structures	All	
CS:2230	Data Structures	All	P: ENGR:2730 or CS:1210
ECE:5460	Digital Signal Processing	F	P: ECE:3400
HHP:1100	Human Anatomy	All	
MATH:3800	Elementary Numerical Analysis	F/S	P: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:1860)
Pre-Medicine Electi	ves		
**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-,
			CHEM:1110; Recommended: CHEM:2210

** 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. Please check MyUI for the current course offerings and pre/corequisites.

See the BME <u>Bioimaging Focus Area web page</u> for a link to a guide for courses with machine learning content. Last updated (03/23/24)