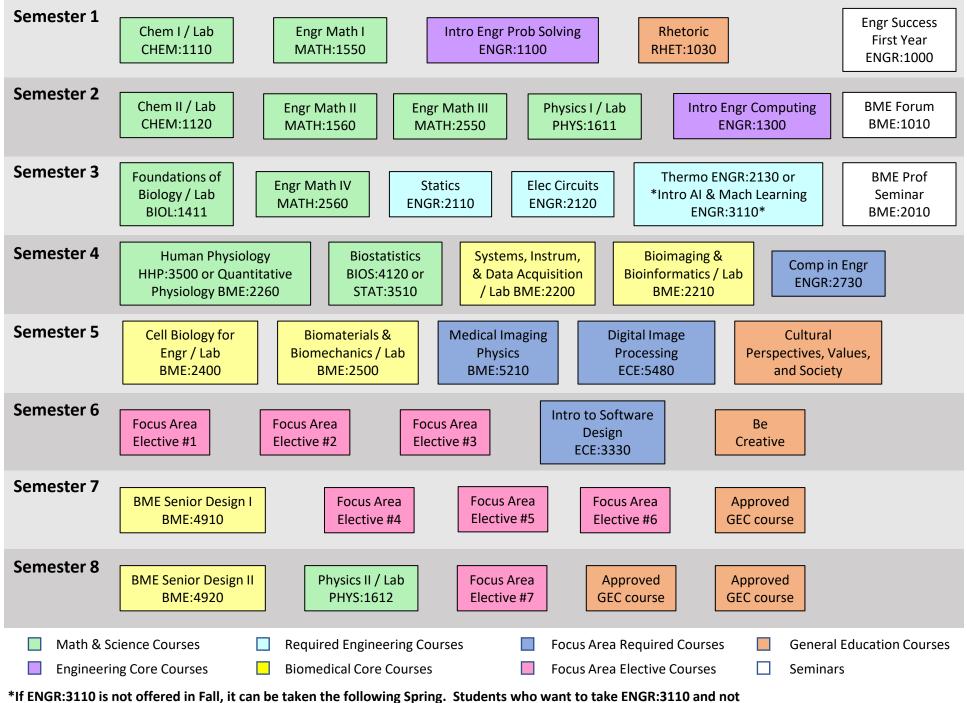
Biomedical Engineering – Program Map: Bioimaging Focus Area



ENGR:2130 can take ENGR:2730 Computers in Engineering in Semester 3 and ENGR:3110 in Semester 4. At least two Focus Area Electives must be from the list of Engineering Topics.

Last updated 10/11/24

Biomedical Engineering – Program Map: Bioimaging Focus Area

Courses		
Medical Imaging Physics	F	P: BME:2200, BME:2210
Computers in Engineering	F/S	P: ENGR:1300
Intro to Software Design	F/S	P: ENGR:2730
Digital Image Processing	F	P: BME:2200 or ECE:2400
(Focus Area, Minor, or Certificate)		
-		
u	S §§	
Deep Learning in Medical Imaging	F	P: ENGR:3110 (formerly ENGR:2995); ECE:5480 recommended
Graph Algorithms & Combinatorial Optimization	S	P: ECE:3330
Machine Learning	F	P: BME:2200 or ECE:2400
Multidimensional Image Analysis Tools &	S §§	P: ECE:5480 and (ECE:3330 or CS:2820)
Techniques		
Advanced Biosystems	F§	P: BME:2200
Numerical & Statistical Methods for Bioengr	F§	P: MATH:2560 and MATH:2550
Discrete Structures	All	
Data Structures	All	P: ENGR:2730 or CS:1210
Digital Signal Processing	F	P: ECE:3400
Human Anatomy	All	
Elementary Numerical Analysis	F/S	P: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:1860)
es		
Diversity of Form & Function	All	P: BIOL:1411 w/min C-
Organic Chemistry I	All	P: CHEM:1120 w/min C-
Organic Chemistry II	All	P: CHEM:2210 w/min C-
Organic Chemistry Lab	All	P: CHEM:1120 w/min C-, CHEM:2210 w/min C-; C: CHEM:2220
Biochemistry	All	See MyUI for requirements
	All	P: BIOL:1411 w/min C-, CHEM:1110; Recommended: CHEM:2210
	Computers in Engineering Intro to Software Design Digital Image Processing (Focus Area, Minor, or Certificate) must choose two) Biomedical Signal Processing Deep Learning in Medical Imaging Graph Algorithms & Combinatorial Optimization Machine Learning Multidimensional Image Analysis Tools & Techniques Advanced Biosystems Numerical & Statistical Methods for Bioengr Discrete Structures Data Structures Digital Signal Processing Human Anatomy Elementary Numerical Analysis es Diversity of Form & Function Organic Chemistry II Organic Chemistry Lab	Computers in EngineeringF/SIntro to Software DesignF/SDigital Image ProcessingFmust choose two)FBiomedical Signal ProcessingS §§Deep Learning in Medical ImagingFGraph Algorithms & CombinatorialSOptimizationFMultidimensional Image Analysis Tools &S §§Discrete StructuresAllDigital Signal ProcessingF §Discrete StructuresAllDigital Signal ProcessingFMumerical & Statistical Methods for BioengrF §Discrete StructuresAllDigital Signal ProcessingFHuman AnatomyAllElementary Numerical AnalysisF/SesEDiversity of Form & FunctionAllOrganic Chemistry IAllOrganic Chemistry ILAllOrganic Chemistry LabAll

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

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

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 **Bioimaging Focus Area web page** for a link to a guide for courses with machine learning content.

Last updated (10/7/24)