

Biomedical Engineering Course Plan (16-17)

	✓	Freshman Year		✓	Sophomore Year
Fall		ENGI 1100 – Intro to Engineering	Fall		CHEM 3331 & 3221 – Organic Chemistry I & Lab
		BIOL 1361 & 1161 – Biological Science 1 & Lab			BIOE 2100 – Intro to Biomedical Engr
		CHEM 1331 & 1111 – Chemistry I & Lab			ENGL 1304/1310 – Freshman Comp II
		ENGL 1303/1309 – Freshman Comp I			MATH 2433 – Calculus III
		MATH 1431 – Calculus I			PHYS 1322 – University Physics II
Spring		ENGI 1331 – Computers & Problem-Solving	Spring		BIOE 2331 – Biomedical Processes
		BIOL 1362 & 1162 – Biological Science 2 & Lab			ECE 2201 – Circuit Analysis I
		CHEM 1332 & 1112 – Chemistry 2 & Lab			BCHS 3304 – Biochemistry I
		MATH 1432 – Calculus II			MATH 3321 – Engineering Math
		PHYS 1321 – University Physics I			Core Course/Social & Behavioral Sciences
				Core Course/Creative Arts	
		Junior Year			Senior Year
Fall		MECE 3400 – Intro to Mechanics	Fall		BIOE 4315 & 4115 – Intro to Bioinstrumentation & Lab
		ENGI 2304 – Technical Communication			BIOE 4335 – Capstone Design I
		INDE 2333 – Engineering Statistics			BIOE Track Course*
		Core Course/HIST 1377 – US History to 1877			BIOE Track Course*
		Core Course/HIST 1378 – US History Since 1877			Core Course/POLS 1337 – US Government
		Core Course/POLS 1336 – US & TX Constitutions			
Spring		BIOE 3340 & 3140 – Quantitative Physiology & Lab	Spring		BIOE 4336 – Capstone Design II
		BIOE 3341 - Biothermodynamics			BIOE Track Course*
		BIOE Track Course*			BIOE Track Course*
		BIOE Track Course*			BIOE Track Course*
				Core Course/Language, Philosophy, & Culture	

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*Choose One Track:

<u>Bionanoscience Track</u>	<u>Neural, Cognitive, & Rehabilitation Engineering Track</u>	<u>Biomedical Imaging Track</u>
2 Required Courses:	4 Required Courses:	5 Required Courses:
BIOE 4350 & 4150: Genomic & Proteomic Engineering	BIOE 4350 & 4150: Genomic & Proteomic Engineering	BIOE 4350 & 4150: Genomic & Proteomic Engineering
BIOE 4302: Numerical Analysis	BIOE 4302: Numerical Analysis	BIOE 4302: Numerical Analysis
+Choose 3 from the following list:	+Choose 3 from the following list:	BIOE 5320: Introduction to Electrical Imaging
BIOE 5341: Advanced Biofluid Dynamics	BIOE 4342: Biomedical Signal Processing	BIOE 5317: Intro to Imaging
BIOE 4349: Biomedical Microdevices	ECE 3337: Signals & Systems	BIOE 4397: Introduction to Optical Imaging
BIOE 5316: Transport Phenomena in Biosystems	Intro to Neuro-Computing	+Choose 2 BIOE Technical Electives
BIOE 5323: Regenerative Medicine & Stem Cell Engineering	Brain-Machine Interface	
Advances in Vision Research	Neural Interfaces	
Mass Transport for Biosystems	+Choose 2 BIOE Technical Electives	
Drug Design and Delivery		
Biomaterials		
Cellular & Molecular Bioengineering		
+Choose 2 BIOE Technical Electives		

Technical electives can be any course listed above (on chosen track or alternative track) or one of the following courses:

BIOE 3351: Introduction to Diseases

BIOE 5319: Global Healthcare

BIOE 3355/3155: Electronics

ECE 3456: Analog Electronics