

Recommended course plan for BSE students graduating in 2019 and interested in careers in
BIOMEDICAL ENGINEERING
 (133 credits)

Fall 1st Year 16 cr.	Chem 1035 (3) General Chemistry ⁵	Chem 1045 (1) General Chemistry Lab ⁵	MATH 1225 (4) Calculus for Science ⁵	ENGE 1215 (2) Foundations of Engineering	ENGL 1105 (3) First-Year Writing ⁵	CLE (3)	
Spring 1st Year 17 cr.	CHEM 1036 (3) General Chem ⁵ Pre: CHEM 1035 Spring, Summer 1 & 2	ENGL 1106 (3) Freshman English ⁵ Pre: ENGL 1105	PHYS 2305 (4) Found of Physics ⁵ Pre: MATH 1225 Co: MATH 1226	MATH 1226 (4) Calculus for Science ⁵ Pre: MATH 1225	ENGE 1216 (2) Exploration of Engineering Design Pre: ENGE 1215	CLE (1)	
Fall 2nd Year 17 cr.	CHEM 2514 (3) Survey of Organic Chemistry ^{2,4} Pre: CHEM 1036 Fall, Summer 1	MATH 2114 (3) Intro to Linear Algebra	MATH 2204 or 2224 (3) Multivariable Calculus Pre: Math 1225 & 1226 (Old sequence: 1205 & 1206)	ESM 2104 (3) Statics Co: MATH 2114, MATH 2224	BIOL 1105 (3) Principles of Biology ⁵ Fall, Summer 1	BSE 2004 (2) Intro to BSE Pre: ENGE 1215 Fall, Spring	
Spring 2nd Year 18 cr.	MATH 2214 (3) Differential Equations Pre: MATH 2114 & 1226 (Old sequence: 1206)	ESM 2304 (3) Dynamics Pre: ESM 2104, MATH 2224 Co: MATH 2214	BIOL 1106 (3) Principles of Biology ⁵ Spring, Summer 2	BSE 3144 (2) Engineering Analysis for Biological Systems Co: MATH 2214 Spring Only	BMES 2104 (3) Intro to Biomed Eng ³ Pre: PHYS 2305, ENGE 1216 or 1114 Co: MATH 2214 Spring Only	PHYS 2306 (4) Foundations of Physics ⁵ Pre: MATH 1225, PHYS 2305	
Fall 3rd Year 15 cr.	ESM 3024 (3) Intro Fluid Mechanics Pre: ESM 2304, MATH 2224 Fall, Summer 2, Winter	STAT 3704 (2) Statistics for Engineering Applications Pre: MATH 2224/2204	BSE 3134 (1) BSE Seminar Pre: BSE 2004 Fall Only	BSE 3154 (3) Thermodynamics of Biol. Syst Pre: MATH 2204/2224, ESM 2304 Fall Only	BMES/BVMS 4064 (3) Medical Physiology ⁴ Fall Only Pre: Junior standing or professor permission	CLE (3)	
Spring 3rd Year 16 cr.	BIOL 2604 (3) General Microbiology Pre: BIOL 1105, 1106, CHEM 1035, 1036	BSE 3504 (3) Transport Processes in BSE Pre: BSE 3154, ESM 3024 Spring Only	BSE 3524 (3) Unit Operations ¹ Spring Only Co: BSE 3504	BIOL 2614 (1) General Microbiology Lab ⁴ Fall, Spring, Summer 1	BCHM 2024 (3) Concepts of Biochem ^{2,4} Pre: CHEM 2514 or CHEM 2535 Fall, Spring, Summer 1	BSE 3534 (3) Bioprocess Engineering ¹ Co: BSE 3504 & BIOL 2604 Spring Only	
Fall 4th Year 17 cr.	ISE 2014 (2) Engineering Economy Pre: ENGE 1215	BSE 4125 (2) Comprehensive Design Project Pre: BSE 3334 or 3524 Fall Only	BSE 4204 (3) Instrumentation for Biosystems Pre: PHYS 2306, ESM 3024 Fall Only	BSE 4544 (3) Protein Separation Engineering ¹ Pre: BSE 3504 or CHE 3144 Fall Only	BMES 4994 (1) BME Undergrad. Research (required for BME minor)	Technical Elective (3)	CLE (3)
Spring 4th Year 17 cr.	BSE 4126 (3) Comprehensive Design Project Pre: BSE 4125 Spring Only		BSE Elective (3)	Engineering Topics Elective (3)	Technical Elective (2)	CLE (6)	

¹ BSE Elective; ² Chemistry Elective; ³ Engineering Elective; ⁴ Technical Elective; ⁵ CLE