

Biological Systems Engineering (BSE) – Students Graduating in 2020

128 credits required

Fall 1st Year 16 credits	Chem 1035 (3) General Chemistry	Chem 1045 (1) General Chemistry Lab	MATH 1225 (4) Calculus for Science	ENGE 1215 (2) Foundations of Engineering	ENGL 1105 (3) First-Year Writing	CLE (Area 2,3 or 7) (3)	
Spring 1st Year 16 credits	CHEM 1036 (3) General Chemistry Pre: CHEM 1035	PHYS 2305 (4) Foundations of Physics Pre: MATH 1225 Co: MATH 1226	MATH 1226 (4) Calculus for Science Pre: MATH 1225	ENGL 1106 (3) First-Year Writing Pre: ENGL 1105	ENGE 1216 (2) Exploration of Engineering Design Pre: ENGE 1215		
Fall 2nd Year 17 credits	MATH 2114 (3) Intro to Linear Algebra Pre: Math 1225 (min. grade B) or MATH 1226 (min. grade P)	MATH 2204 (3) Multivariable Calculus Pre: Math 1226	ESM 2104 (3) Statics Co: MATH 2204	BIOL 1105 (3) Principles of Biology Fall, Summer 1	CLE (Area 2,3 or 7) (3)	BSE 2004 (2) Intro to BSE Pre: ENGE 1215 Fall, Spring	
Spring 2nd Year 15 credits	MATH 2214 (3) Differential Equations Pre: MATH 2114 & 1226	ESM 2304 (3) Dynamics Pre: ESM 2104, MATH 2204 Co: MATH 2214	BIOL 1106 (3) Principles of Biology Spring, Summer 2	BSE 3144 (2) Engineering Analysis for Biological Systems Co: MATH 2214 Spring Only		PHYS 2306 (4) Foundations of Physics Pre: MATH 1226, PHYS 2305	
Fall 3rd Year 15 credits	ESM 3024 (3) Intro Fluid Mechanics Pre: ESM 2304, MATH 2204 Fall, Summer 2, Winter	STAT 3704 (2) Statistics for Engineering Applications Pre: MATH 2204	BSE 3134 (1) BSE Seminar Pre: BSE 2004 Fall Only	BSE 3154 (3) Thermodynamics of Biol Systems Pre: MATH 2204, ESM 2304 Co: ESM 3024 Fall Only		Technical Elective (3)	CHEM elective (3)
Spring 3rd Year 15 credits	BIOL 2604 (3) General Microbiology Pre: BIOL 1105, 1106, CHEM 1035, 1036 Fall, Spring, Summer 1	BSE 3504 (3) Transport Processes in BSE Pre: BSE 3154, ESM 3024 Spring Only	BSE Elective (3) BSE 3334: NPS Assessment <u>OR</u> BSE 3524: Unit Operations		BSE Elective(3)	CLE (Area 2,3 or 7) (3)	
Fall 4th Year 16 credits	ISE 2014 (2) Engineering Economy Pre: ENGE 1215	BSE 4125 (2) Comprehensive Design Project Pre: BSE 3334 or 3524 Fall Only	Engineering Topics Elective (3)		BSE Elective (3)	CLE (Area 2,3 or 7) (3)	Engineering Topics Elective (3)
Spring 4th Year 18 credits	BSE 4126 (3) Comprehensive Design Project Pre: BSE 4125 Spring Only	BSE Elective (3)	Technical Electives (5)		Engineering Topics Elective (3)	CLE (Area 2,3 or 7) (3) CLE (Area 6) (1)	