

BIOSYSTEMSENGINEERING

Bioprocess Engineering Emphasis
 Courses highlighted below are available at Charleston Southern

Curriculum Example*

FRESHMAN YEAR

_____ 4 CH 1010 General Chemistry
 _____ 3 ENGL 1030 Accelerated Composition
 _____ 2 ENGR 1020 Engineering Discipline and Skills¹
 _____ 4 MATH 1060 Calculus of One Variable I
 _____ 3 Gen Ed⁴
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_____ 4 CH 1020 General Chemistry
 _____ 3 ENGR 1410 Programming and Problem Solving¹
 _____ 2 ENGR 2100 Computer-Aided Design and Engineering Applications
 _____ 4 MATH 1080 Calculus of One Variable II
 _____ 3 PHYS 1220 Physics with Calculus I
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SOPHOMORE YEAR

_____ 2 BE 2120 Fundamentals of Biosystems Engr.
 _____ 3 CE 2010 Statics²
 _____ 4 MATH 2060 Calculus of Several Variables
 _____ 3 PHYS 2210 Physics with Calculus II
 _____ 4 Biology Requirement³
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_____ 2 BE 2100 Intro. to Biosystems Engineering
 _____ 2 CE 2080 Dynamics²
 _____ 4 MATH 2080 Int. to Ordinary Differential Eqtns
 _____ 3 ME 3100 Thermodynamics and Heat Transfer
 _____ 4 MICR 3050 General Microbiology
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JUNIOR YEAR

_____ 3 BE 3200 Principles and Practices of Geomatics
 _____ 3 BE 4100 Biol. Kinetics and Reactor Modeling
 _____ 3 BIOL 4410 Ecology
 _____ 4 CE 3410 Introduction to Fluid Mechanics
 _____ 2 ECE 2070 Basic Electrical Engineering
 _____ 1 ECE 2080 Basic Electrical Engineering Lab.
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_____ 3 BE 3220 Small Watershed Hydrology & Sedimentology
 _____ 3 BE 4120 Heat & Mass Transport in Biosystems Engr.
 _____ 3 BE 4150 Instrumentation and Process Control for Biosystems Engineering
 _____ 3 BE 4380 Bioprocess Engineering Design
 _____ 3 CH 2230 Organic Chemistry
 _____ 1 CH 2270 Organic Chemistry Laboratory
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SENIOR YEAR

_____ 3 BCHM 3050 Biochemistry
 _____ 3 BE 4280 Biochemical Engineering
 _____ 2 BE 4740 Biosystems Engr. Design/Project Mgt.
 _____ 2 BE 4750 Biosystems Engr. Capstone Design
 _____ 2 BIOL 4340 Biol. Chemical Lab. Techniques
 _____ 4 CE 2060 Structural Mechanics
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_____ 9 Gen Ed⁴

 _____ 3 Engineering Requirement⁵
 _____ 3 Global Sustainability Requirement⁶
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126 Total Semester Hours

Footnotes:

- All Clemson engineering students begin in our General Engineering program and move into their specified major once the departmental standards are completed. Clemson courses ENGL 1030, MATH 1060 and 1080, PHYS 1220, CH 1010, ENGR 1020 and ENGR 1410/or CHE 1300 must all be completed with a "C" or higher before declaring and starting courses in your engineering major.**
- ¹ ENGR 1070, ENGR 1080 and ENGR 1090 may be substituted for ENGR 1410; ENGR 1050 and ENGR 1060 may be substituted for ENGR 1020
² ME 2010 may be substituted for CE 2010 and CE 2080
³ BIOL 1030/BIOL 1050 or BIOL 1100
⁴ Students should choose courses to fulfill General Education requirements including Humanities, Social Science, Cross-Cultural Awareness and Science and Technology in society components. See Undergraduate Announcements and academic advisor for details.
⁵ Select from BE 3140, BE 4080, BE 4140, BE 4170, BE 4220, BE 4400, BE 4640, BE 4730, BE 4840, CE 3210, CE 3520, CE 4020, CE 4060, CE 4820, EES 4010, EES 4020, EES 4100, EES 4300, EES 4800, EES 4840, EES 4850, EES 4860, GEOL 4210, IE 3840, or any 3000- or 4000-level ENGR course.
⁶ Select CU 2010 or any course from the Sustainability Minor course list.

*See catalog for current curriculum at catalog.clemson.edu

General Education Requirements						
LIT	Non-Lit	SS1	SS2		CCA	STS

Comments: