BIOSYSTEMS ENGINEERING

Courses highlighted below are available at Elon University

Curriculum Example*

FRESHMAN YEAR	
4 CH 1010 General Chemistry	4 CH 1020 General Chemistry
3 ENGL 1030 Accelerated Composition	3 ENGR 1410 Programming and Problem Solving[1]
2 ENGR 1020 Engineering Discipline and Skills[1]	2 ENGR 2100 Computer-Aided Design and Engineering Applications
4 MATH 1060 Calculus of One Variable I	4 MATH 1080 Calculus of One Variable II
3 Gen Ed[4]	3 PHYS 1220 Physics with Calculus I
16	16

SOPHOMORE YEAR	
2 BE 2120 Fundamentals of Biosystems Engr.	2 BE 2100 Intro. to Biosystems Engineering
3 CE 2010 Statics[2]	2 CE 2080 Dynamics[2]
4 MATH 2060 Calculus of Several Variables	4 MATH 2080 Int. to Ordinary Differential Eqtns
3 PHYS 2210 Physics with Calculus II	3 ME 3100 Thermodynamics and Heat Transfer
4 Biology Requirement[3]	4 MICR 3050 General Microbiology
16	15

JUNIOR YEAR	
3 BE 3200 Principles and Practices of Geomatics	3 BE 3220 Small Watershed Hydrology & Sedimentology
3 BE 4100 Biol. Kinetics and Reactor Modeling	3 BE 4120 Heat & Mass Transport in Biosystems Engr.
3 BIOL 4410 Ecology	3 BE 4150 Instrumentation and Process Control for Biosystems Engineering
4 CE 3410 Introduction to Fluid Mechanics	3 BE 4380 Bioprocess Engineering Design
2 ECE 2070 Basic Electrical Engineering	3 CH 2230 Organic Chemistry
1 ECE 2080 Basic Electrical Engineering Lab.	1 CH 2270 Organic Chemistry Laboratory
16	16

SENIOR YEAR	
3 BCHM 3050 Biochemistry	9 Gen Ed[4]
3 BE 4280 Biochemical Engineering	
2 BE 4740 Biosystems Engr. Design/Project Mgt.	
2 BE 4750 Biosystems Engr. Capstone Design	3 Engineering Requirement[5]
2 BIOL 4340 Biol. Chemical Lab. Techniques	3 Global Sustainability Requirement[6]
4 CE 2060 Structural Mechanics	15
16	

126 Total Semester Hours

All Clemson engineering students begin in our General Engir eering 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.

Footnotes:

[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.

General Education Requirements					
LIT	Non-Lit	SS1	SS2	CCA	STS

Other						
LIFE	Palmetto Fellows	Honors	Athlete	RiSE	ROTC	Med School

Comments: