

B.S. in Biosystems Engineering

Four-Year Plan

Catalog Year 2013-2014

Below is the *advised sequence* of courses for this degree program.
The official degree requirements can be found in the University General Catalog.

Course Number and Title	Units	Prerequisites
1ST SEMESTER		
MATH 122A/B or 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I	4	
ENGL 101 First-Year Composition	3	
ENGR 102 Introduction to Engineering	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
2ND SEMESTER		
MATH 129 Calculus II	3	Math 122A/B or 125 with C or better
CHEM 152 General Chemistry II	4	CHEM 151
PHYS 141 Introductory Mechanics	4	MATH 122A/B or 125; Concurrent enrollment MATH 129
ENGL 102 First-Year Composition	3	ENGL 101
Tier I General Education	3	
3RD SEMESTER		
CE 214 Statics	3	PHYS 141 or 161H ; MATH 129 or MATH 250A
ABE 284 Biosystems Thermal Engineering	4	MATH 129; PHYS 141
ABE 201 Introduction to Biosystems Engineering	2	MATH 122A/B or 124
MATH 223 Vector Calculus	4	MATH 129 or 250A with C or better
MCB 181R Introductory Biology I, MCB 184 or PLS 240 Plant Bio	3 or 4	Appropriate Math Placement
MCB 181L Introductory Biology Laboratory I	1	Concurrent enrollment or completion of MCB 181R
4TH SEMESTER		
ABE 205 Engineering Analytic Computer Skills	3	
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 with C or higher
PHYS 241 Introductory Electricity and Magnetism	4	PHYS 141
ECOL 182R Introductory Biology II or MIC 205 A General Microbiology or PSIO 201 Human Anatomy and Physiology	3 or 4	
ECOL 182L Introductory Biology II Lab or MIC 205L & Biology of Microorganisms Laboratory	1	ECOL 182R OR completed or concurrent registration MIC 205A
Tier 1 General Education	3	

Course Number and Title	Units	Prerequisites
Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)		
5TH SEMESTER		
CE 218 Mechanics of Fluids or AME 331 Introduction to Fluid Mechanics	3	CE 214
ENGR 265/SIE 265 Engineering Management I	3	ENGR 102; MATH 122B or MATH 125
ABE 221 Introduction to Computer Aided Design	3	
ABE 447 Sensors and Controls	3	CHEM 103A and 103B or CHEM 105A and 105B or MSE 110
SIE 305 Engineering Probability and Statistics	3	MATH 129
6TH SEMESTER		
ABE 423 Biosystems Analysis and Design	3	
ABE Design Elective	3	
ABE Technical Elective	3	
ENGL 308 Technical Writing	3	
Tier I General Education	3	
7TH SEMESTER		
ABE 496A Seminar in Engineering Careers and Professionalism	1	Concurrent enrollment ABE 498A
ABE 498A Senior Capstone: Biosystems Engineering Design I	3	ABE 320, 6 units of ABE 400-level courses, Concurrent enrollment ABE 496A
ABE Technical Elective	3	
ABE Design Elective	3	
ABE 393 Internship	1	
AME 324A Mechanical Behavior of Engineering Materials	3	CE 214
Tier II General Education	3	
8TH SEMESTER		
ABE 498B Senior Capstone: Biosystems Engineering Design II	3	Senior status; ABE 498A
ABE 400 Elective	3	
ABE Technical Elective	3	
ABE Design Elective	3	
Tier II General Education	3	

*Tier I and II General Education Courses must meet University general education requirements. One course must be recognized by the university as meeting the Diversity Requirement.