

B.S. IN BIOSYSTEMS ENGINEERING

CATALOG YEAR 2015-2016

Below is the *advised sequence* of courses for this degree program and prerequisites as of 4/30/15. The official degree requirements and prerequisites can be found in the University General Catalog and the prerequisites are subject to change.

COURSE NUMBER AND TITLE	UNITS	PREREQUISITES
1ST SEMESTER		
MATH 122A/B OR MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I OR CHEM 105A/106A	4	
ENGL 101 OR 107 OR 109H First-Year Composition	3	
ENGR 102A/B Introduction to Engineering OR ENGR 102	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 OR CHEM 105B/106B	4	CHEM 151 or CHEM 105A/106B
PHYS 141 Introductory Mechanics OR PHYS 161H	4	MATH 122A/B or 125; Concurrent enrollment or completion of MATH 129
ENGL 102 OR ENGL 109H First-Year Composition	3	ENGL 101, ENGL 107
Tier I General Education	3	
3RD SEMESTER		
CE 214 Statics	3	PHYS 141 or 161H, MATH 129 or MATH 250B or Concurrent enrollment or completion of MATH 250B
ABE 284 Biosystems Thermal Engineering	3	MATH 129; PHYS 141
ABE 201 Introduction to Biosystems Engineering	2	MATH 122B or 124
MATH 223 Vector Calculus	4	MATH 129 or 250A with C or better
MCB 181R/L Introductory Biology I OR MCB 184 OR PLS 240 Plant Bio	4	For MCB 181R/L & MCB 184: Appropriate Math Placement
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 OR PHYS 261H	4	PHYS 141 or PHYS 161H; MATH 129
ECOL 182R/L Introductory Biology II OR MIC 205 A General Microbiology OR PSIO 201 Human Anatomy and Physiology	4	
Tier 1 General Education	3	

COURSE NUMBER AND TITLE	UNITS
CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG	
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
SIE 265 Engineering Management I	3
ABE 221 Introduction to Computer Aided Design	3
ABE 447 Sensors and Controls	3
SIE 305 Engineering Probability and Statistics	3
6TH SEMESTER	
ABE 423 Biosystems Analysis and Design	3
ABE Design Elective – See major advisor for course approval	3
ABE Technical Elective – See major advisor for course approval	3
ENGL 308 Technical Writing OR ASM 350 Business Writing & Communication	3
Tier I General Education	3
7TH SEMESTER	
ABE 496A Seminar in Engineering Careers and Professionalism	1
ABE 498A Senior Capstone: Biosystems Engineering Design I	3
ABE Technical Elective – See major advisor for course approval	3
ABE Design Elective – See major advisor for course approval	3
ABE 393 Internship	1
AME 324A Mechanical Behavior of Engineering Materials	3
Tier II General Education	3
8TH SEMESTER	
ABE 498B Senior Capstone: Biosystems Engineering Design II	3
ABE 4xx Elective as approved by ABE advisor OR AME 431 OR AME 432	3
ABE Technical Elective – See major advisor for course approval	3
ABE Design Elective – See major advisor for course approval	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.