

B.S. IN BIOSYSTEMS ENGINEERING

CATALOG YEAR 2019-2020

Below is the *advised sequence* of courses for this degree program and prerequisites as of 12/18/18.

The official degree requirements and prerequisites 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 161/163	4	Appropriate Math Placement
ENGL 101 or 107 or 109H First-Year Composition	3	
ENGR 102A/B Introduction to Engineering or ENGR 102	3	ENGR102A: MATH 113 or 120R & CHEM 151; Concurrent enrollment or completion of MATH 122B or 125
Tier I General Education	3	
2ND SEMESTER		
MATH 129 Calculus II	3	MATH 122A/B or 125 C or better
CHEM 152 General Chemistry II or CHEM 162/164	4	CHEM 151 or 161/163
PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122A/B or 125 or appropriate Math Placement
ENGL 102 or ENGL 108 First-Year Composition	3	ENGL 101 or ENGL 107
Tier I General Education	3	
3RD SEMESTER		
CE 214 Statics	3	PHYS 141 or 161H; MATH 129
BE 284 Biosystems Thermal Engineering (Fall only)	3	MATH 129; PHYS 141
BE 201 Introduction to Biosystems Engineering	2	MATH 122B or 125
MATH 223 Vector Calculus	4	MATH 129 with C or better
MCB 181R/L Introductory Biology I OR PLS 240 Plant Bio	4	Appropriate Math Placement
4TH SEMESTER		
BE 205 Engineering Analytic Computer Skills (Spring only)	3	
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
PHYS 241 Introductory Electricity and Magnetism or PHYS 261H	4	For PHYS 241 or 261H: PHYS 141 or 161H; MATH 129 or appropriate Math Placement Level
ECOL 182R/L Introductory Biology II or MIC 205 A/L General Microbiology or PSIO 201 Human Anatomy and Physiology	4	ECOL182R/L & MIC 205: Appropriate Math Placement
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
BE 221 Introduction to Computer Aided Design or BE 220 Engineering Graphics and Design with Auto Cad	3
BE 447 Sensors and Controls	3
SIE 305 Engineering Probability and Statistics or AREC 239 Introduction to Statistics and Data Analysis	3
6TH SEMESTER	
BE 423 Biosystems Analysis and Design	3
BE Design Elective – See major advisor for course approval	3
BE Technical Elective – See major advisor for course approval	3
ALC 422 or ENGL 308 or ENV5 408 Technical Writing	3
Tier I General Education	3
7TH SEMESTER	
BE 496A Seminar in Engineering Careers and Professionalism	1
BE 498A Senior Design: Biosystems Engineering Design I or ENGR 498A Cross-disciplinary Design (Fall Only) – Senior Status	3
Technical Elective – See major advisor for course approval	3
BE Design Elective – See major advisor for course approval	3
BE 493 Internship	1
AME 324A Mechanical Behavior of Engineering Materials	3
Tier II General Education	3
8TH SEMESTER	
BE 498B Senior Design: Biosystems Engineering Design I or ENGR 498B Cross-disciplinary Design (Spring Only) – Senior Status	3
Technical Elective – See major advisor for course approval	3
Technical Elective – See major advisor for course approval	3
BE 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.