The University of Arizona, Biosystems Engineering (BE) Department
B.S. in Biosystems Engineering
General four-year plan

Below is the advised sequence of courses for this degree program and prerequisites as of AY 2018-2019

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	**18/16**	
MATH 122A Functions for Calculus & MATH 122B 1st Sem. Calculus II or MATH 125 Calculus I	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I	4	
ENGL 101 First-Year Composition	3	
ENGR 102 Introduction to Engineering or ENGR102A & ENGR102B Introduction to Engineering	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
2ND SEMESTER	**17**	
MATH 129 Calculus II	3	MATH 122A/MATH 122B or MATH 124 or MATH 125
CHEM 152 General Chemistry II	4	CHEM 151
PHYS 141 or PHYS 161H Introductory Mechanics	4	MATH 122A/MATH 122B or MATH 124 or MATH 125; Concurrent enrollment in MATH 129
ENGL 102 First-Year Composition	3	ENGL 101
Tier I General Education	3	
3RD SEMESTER	**16**	
CE 214 Statics	3	PHYS 141 or PHYS 161H ; MATH 129 or MATH 250A
BE 284 Biosystems Thermal Engineering	3	MATH 129; PHYS 141
BE 201 Introduction to Biosystems Engineering	2	MATH 122A/MATH 122B or MATH 124 or MATH 125
MATH 223 Vector Calculus	4	MATH 129 or MATH 250A
MCB 181 R & L Introductory Biology I or PLS 240 Plant Biology	4	Appropriate Math Placement
4TH SEMESTER	**17**	
BE 205 Engineering Analytic Computer Skills	3	MATH 122A/MATH 122B or MATH 124 or MATH 125
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129
PHYS 241 or PHYS 261H Introductory Electricity and Magnetism	4	PHYS 141
ECOL 182 R & L Introductory Biology II or MIC 205 A & L General Microbiology or PSIO 201 Human Anatomy and Physiology	4	
Tier 1 General Education	3	

Advanced Standing is required for 300 and 400 level courses (See advisor for requirements)

Course Number and Title	Units	Prerequisites
5TH SEMESTER	**15**	
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	3	
6TH SEMESTER	**15**	
BE 423 Biosystems Analysis and Design	3	
(BE) Design Elective	3	
Technical Elective	3	
ALC 422 or ENGL 308 or ENVS 408 Technical Writing	3	
Tier I General Education	3	
7TH SEMESTER	**17**	
BE 496A Seminar in Engineering Careers and Professionalism	1	
BE 498A or ENGR 498A Engineering Design Capstone	3	
Technical Elective	3	
(BE) Design Elective	3	
BE 493 Internship	1	
AME 324A Mechanical Behavior of Engineering Materials	3	
Tier II General Education	3	
8TH SEMESTER	**15**	
BE 498B or ENGR 498B Engineering Design Capstone	3	
Technical Elective	3	
Technical Elective	3	
(BE) Design Elective	3	
Tier II General Education	3	

Total Units needed for Graduation 128: (Total Units with Total Units with Math 122A/B option = 128 or Math 125 option = 130)

- Students should review their Student Academic Advisement Report (SAAR), with the Dept. Professional Advisor at least once a semester.

Elective courses: Students are required to receive approval, from the Dept. Professional Advisor or their assigned Faculty Mentor, prior to enrolling in the Design/Technical elective courses. (See UA SAAR for list of acceptable courses)

- Engineering Design Electives: Students need to complete 9 units of upper division units. Design electives are BE courses that contain Engineering Design requirements.
- Technical Electives: Students need to complete 12 units of upper division courses.

ENGR 102: Students who do not take ENGR 102, are required to take an Engineering course replacement, approved by the Professional Advisor.