

Biosystems Engineering — Ecological Engineering Option (ECEN)

Freshman

Fall	Hours	Spring	Hours
CHEM 1030 Fundamentals Chemistry I		3 ENGL 1120 English Composition II	3
CHEM 1031 Fundamental Chemistry I Laboratory		1 PHYS 1600 Engineering Physics I	4
HIST 1210 Technology and Civilization I or 1010 World History I ¹		3 ENGR 1110 Introduction to Engineering	2
ENGR 1100 Engineering Orientation		0 MATH 1620 Calculus II	4
COMP 1220 Introduction to Computing with Python or 1230 Introduction to Computing with MATLAB		2 HIST 1220 Technology And Civilization II or 1020 World History II ¹	3
ENGL 1100 English Composition I		3	
MATH 1610 Calculus I		4	
		16	16

Sophomore

Fall	Hours	Spring	Hours
BIOL 1020 Principles of Biology		3 Fine Arts Core	3
BIOL 1021 Principles of Biology Laboratory		1 BIOL 1030 Organismal Biology	3
ENGR 2010 Thermodynamics		3 BIOL 1031 Organismal Biology Laboratory	1
ENGR 2050 Statics		3 ENGR 2070 Mechanics of Materials	3
MATH 2630 Calculus III		4 MATH 2650 Linear Differential Equations	3
BSEN 2210 Engineering Methods for Biological Systems		2 BSEN 2240 Biological and Bioenvironmental Heat and Mass Transfer	3
		16	16

Junior

Fall	Hours	Spring	Hours
CSES 2040 Basic Soil Science		4 Social Science Core ²	3
BSEN 3310 Hydraulic Transport in Biological Systems		4 CIVL 3230 Environmental Engineering	4
BIOL 3200 General Microbiology		3 STAT 3010 Statistics for Engineers and Scientists or 2510 Statistics for Biological and Health Sciences	3
BIOL 3201 General Microbiology Laboratory		1 BSEN 3230 Natural Resource Conservation Engineering	3
CHEM 1040 Fundamental Chemistry II		3 BSEN 3610 Instrumentation and Controls for Biological Systems	3
		15	16

Senior

Fall	Hours	Spring	Hours
BSEN 4300 Professional Practice in Biosystems Engineering		2 Literature Core ¹	3
BSEN 5220 Geospatial Technologies in Biosystems		3 PHIL 1020 Introduction to Ethics or 1040 Business Ethics	3

BSEN 5510 Ecological Engineering	3 BSEN 4310 Engineering Design for Biosystems	3
BSEN 5560 Site Design for Biosystems	3 BSEN 5230 Waste Management and Utilization for Biosystems	3
Ecological Engineering Elective	3 BSEN 5520 Watershed Modeling	3
Ecology Elective	3 UNIV 4AA0 Achieve the Creed	0
	17	15

Total Hours: 127

- ¹ The AU Bulletin lists the University Core Curriculum requirements for students in the College of Engineering. Students must complete a sequence in either Literature or History. Biosystems Engineering should complete the World History or Technology and Civilization course sequence to ensure that all SLOs are met by students by the time of graduation.
- ² ECON 2020 preferred.
 Biosystems Electives: See adviser for approved course listing.