

**Undergraduate Curriculum in Biological Systems Engineering
Ecological Engineering Option**

2023-2024 Catalog

Total Credits 127

First Year (32 cr.)

Semester 1 (16 cr.)		Semester 2 (16 cr.)	
R Engr 101	Orientation (FS)	1 A B E 110	Experiencing BSE (S)
3 A B E 170	Graphics and Design (FS)	3 A B E 160	Engineering Problems (S)
4 Chem 167	General Chemistry (FS)	4 Math 166	Calculus II (FSSS)
1 Chem 167L	General Chemistry Lab (FS)	4 Phys 231	Classical Physics I (FSSS)
4 Math 165	Calculus I (FSSS)	1 Phys 231L	Classical Physics I Lab (FS)
3 Engl 150	Crit. Think. and Comm. (FSSS)	3 Engl 250	Writ/Oral/Vis/Elec Composition (FSSS)
1 Lib 160	Information Literacy (FSSS)		

Second Year (31 cr.)

Semester 3 (16 cr.)		Semester 4 (15 cr.)	
3 A B E 216	Fund. Ag. and Biol. Engineering (F)	2 A B E 218	Project Mgmt/Design Ag & Bio Engr (S)
3 C E 274	Statics of Engineering (FSSS)	1 A B E 201	Preparing for the Workplace (FS)
3 Biol 212	Principles of Biology II (FSSS)	1 A B E 273	2D Auto CAD (FS)
2 Chem 211	Quant. & Environ. Analysis (FS)	3 M E 231	Thermodynamics (FSSS)
2 Chem 211L	Quant. & Environ. Analysis Lab (FS)	4 Math 267	Differential Equations (FSSS)
3 →	US Diversity Elective	3 Chem 231	Elementary Organic Chemistry (FSSS)
		1 Chem 231L	Elementary Organic Chemistry Lab (FSSS)

Third Year (32 cr.)

Semester 5 (17 cr.)		Semester 6 (16 cr.)	
3 A B E 316	Applications and Systems Modeling (FS)	4 A B E 363	Electric Power and Electronics (FS)
3 A B E 378	Mechanics of Fluids (FS)	3 A B E 380	Principles of BSE (S)
3 Micro 302	Biology of Microorganisms (FSSS)	3 C E 372	Engineering Hydrology and Hydraulics (FS)
1 Micro 302L	Microbiology lab (FSSS)	3 E M 324	Mechanics of Materials (FSSS)
3 STAT 305	Engineering Statistics (FSSS)	3 I E 305	Engineering Economic Analysis (FSSS)
3 →	Communication Elective.		
1 →	Lab Elective (<i>ABE 378L preferred</i>)		

Fourth Year (32 cr.)

Semester 7 (17 cr.)		Semester 8 (14cr.)	
2 A B E 415	Ag & Biosystems Engr. Design I (FS)	2 A B E 416	Ag & Biosystems Engr. Design II (FS)
3 A B E 404	Instrumentation for Ag and Bio Engr (F)	3 A B E 434	Ecosystem Restoration Engineering (S)
3 A B E 431	Des. & Eval. of Soil & Water Cons. (F)	3 →	Ecological Elective I
3 A B E 480	Engineering Analysis of Bio Systems (F)	3 →	Ecological Elective II
3 →	International Perspectives Elective	3 →	SS/H Elective
3 →	SS/H Elective		

**Please check the current catalog and Schedule of Classes for most recent offerings*