

AGRICULTURAL ENGINEERING CURRICULUM
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION

A total of 128 credits required for graduation
(2024-2025 Catalog)

I. Communications (10 credits)

3 cr.	ENGL 1500 (FSSS)	Critical Thinking and Communication
3 cr.	ENGL 2500 (FSSS)	Written, Oral, Visual, and Electronic Composition
3 cr.	Comm. Elect.	Select one of the courses below:
	<i>ENGL 3090 (FS)</i>	<i>Proposal and Report Writing</i>
	<i>ENGL 3140 (FSSS)</i>	<i>Technical Communication</i>
	<i>SP CM 2120 (FSSS)</i>	<i>Fundamentals of Public Speaking</i>
	<i>SP CM 3120 (FS)</i>	<i>Business and Professional Speaking</i>
	<i>AG EDS 3110 (FS)</i>	<i>Presentation and Sales Strategies for Ag Audiences</i>
	<i>MKT 4500 (FS)</i>	<i>Advanced Professional Selling</i>
1 cr.	Lib 1600 (FSSS)	Introduction to College Level Research

II. Mathematical Sciences (14 credits)

4 cr.	MATH 1650 (FSSS)	Calculus I
4 cr.	MATH 1660 (FSSS)	Calculus II
3 cr.	MATH 2660 (FSSS)	Elementary Differential Equations
3 cr.	STAT 3050 (FSSS)	Engineering Statistics

III. Biological, Chemical, Physical Sciences (13 credits)

3 cr.	Biology Elect.	Select one of the courses below:
	<i>BIOL 2510 (S)</i>	<i>Biological Processes in the Environment</i>
	<i>BIOL 2110 (FS)</i>	<i>Principles of Biology I</i>
4 cr.	CHEM 1670 (FS)	General Chemistry for Engineering Students
1 cr.	CHEM 1670L (FS)	Laboratory in General Chemistry for Engineering
4 cr.	PHYS 2310 (FSSS)	Introduction to Classical Physics I
1 cr.	PHYS 2310L (FS)	Introduction to Classical Physics I Lab

IV. Social Sciences and Humanities (12 credits)

3 cr.	U. S. Cultures & Communities Course (Select from University-approved list).
3 cr.	International Perspectives Course (Select from University-approved list).
6 cr.	Social Science and Humanities Electives (Select from CALS-approved list).

V. Engineering Core (23 credits)

R cr.	ENGR 1010 (FS)	Engineering Orientation
1 cr.	A B E 1100 (S)	Experiencing Agricultural and Biosystems Engineering
3 cr.	A B E 1600 (FS)	Engineering Problems with Programming
3 cr.	A B E 1700 (FS)	Engineering Graphics and Introductory Design
3 cr.	A B E 3780 (FS)	Mechanics of Fluids
3 cr.	C E 2740 (FSSS)	Statics of Engineering
3 cr.	E M 3240 (FSSS)	Mechanics of Materials
1 cr.	Lab Elective	
	<i>E M 3270 (FSSS)</i>	Mechanics of Materials Laboratory (preferred)
	<i>A B E 3780L (FS)</i>	Mechanics of Fluids Laboratory
3 cr.	I E 3050 (FSSS)	Engineering Economic Analysis
3 cr.	M E 2310 (FSSS)	Engineering Thermodynamics I

VI. Agricultural Engineering Core (21 credits)

1 cr.	A B E 2010 (FS)	Entrepreneurship and Internship Seminar
3 cr.	A B E 2160 (F)	Fundamentals of Agricultural and Biological Engineering
2 cr.	A B E 2180 (S)	Project Management and Design
1 cr.	Computer Graphics	Select one of the courses below:
	<i>A B E 2710 (FS)</i>	<i>Engineering Applications of Parametric Solid Modeling</i>
	<i>A B E 2720 (FS)</i>	<i>Parametric Solid Models, Drawings, Assemblies using Pro/ENGINEER</i>
	<i>A B E 2730 (FS)</i> <i>preferred</i>	<i>CAD for Process Facilities and Land Use Planning</i>
3 cr.	A B E 3160 (FS)	Computer Applications and Systems Modeling
4 cr.	A B E 3630 (FS)	Agri-Industrial Applications of Electric Power and Electronics
3 cr.	A B E 4040 (F)	Instrumentation for Agricultural and Biological Engineering
2 cr.	A B E 4150 (FS)	Agricultural Engineering Design I
2 cr.	A B E 4160 (FS)	Agricultural Engineering Design II

VII. Animal Production Systems Engineering Option (35 credits)

3 cr.	A B E 4690 (S)	Grain Processing and Handling
3 cr.	A B E 4720 (S-even)	Design of Environmental Systems for Agricultural Structures
3 cr.	A B E 4780 (S-odd)	Design of Agricultural Structures
3 cr.	A B E Elect	Select one of the courses below:
	<i>A B E 4310 (F)</i>	<i>Design and Evaluation of Soil and Water Conservation Systems</i>
	<i>A B E 3400 (F)</i>	<i>Functional Analysis and Design of Agricultural Field Machinery</i>
	<i>A B E 4800 (F)</i>	<i>Engineering Analysis of Biological Systems</i>
3 cr.	AN S/Hort. Elect.	Select one of the courses below:
	<i>AN S 2230 (FS)</i>	<i>Poultry Science</i>
	<i>AN S 2250 (FS)</i>	<i>Swine Science</i>
	<i>AN S 2260 (FS)</i>	<i>Beef Cattle Science</i>
	<i>AN S 2290 (FS)</i>	<i>Sheep Science</i>
	<i>AN S 2350 (F)</i>	<i>Dairy Cattle Science</i>
	<i>HORT 2210 (FS)</i>	<i>Principles of Horticulture Science</i>
4 cr.	APS Engineering Elect.	
	<i>M E 4360 (FSSS)</i>	<i>Heat Transfer</i>
	<i>C E 3600 (FS)</i>	<i>Geotechnical Engineering (prereq. GEOL 201 (F))</i>
3 cr.	C E 3320 (FS)	Structural Analysis I
3 cr.	C E 3330 (FS)	Structural Steel Design I
3 cr.	C E 3340 (FSSS)	Reinforced Concrete Design I
3 cr.	Math/Science	Select one of the courses below:
	<i>AGRON 1810 (S)</i>	<i>Introduction to Crop Science</i>
	<i>AGRON 1820 (S)</i>	<i>Introduction to Soil Science</i>
	<i>AN S 3190 (FS)</i>	<i>Animal Nutrition</i>
	<i>CHEM 1780 (FSSS)</i>	<i>General Chemistry II</i>
	<i>GEOL 2010 (F)</i>	<i>Geology for Engineers and Environmental Scientists</i>
	<i>HORT 3320 (S)</i>	<i>Greenhouse and Nursery Operations and Management</i>
	<i>MATH 2070 (FSSS)</i>	<i>Matrices and Linear Algebra</i>
	<i>MATH 2650 (FSSS)</i>	<i>Calculus III</i>
	<i>PHYS 2320 (FSSS)</i>	<i>Introduction to Classical Physics II</i>
3 cr	TSM 3270 (F)	Animal Production Systems
1 cr	ABE 3270L (F)	Animal Production Systems Design Lab

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