

**AGRICULTURAL ENGINEERING CURRICULUM
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION**

A total of 128 credits required for graduation
(2023-2024 Catalog)

I. Communications (10 credits)

3 cr.	ENGL 150 (FSSS)	Critical Thinking and Communication
3 cr.	ENGL250 (FSSS)	Written, Oral, Visual, and Electronic Composition
3 cr.	Comm. Elect.	Select one of the courses below:
	<i>ENGL 309 (FS)</i>	<i>Proposal and Report Writing</i>
	<i>ENGL 314 (FSSS)</i>	<i>Technical Communication</i>
	<i>SP CM 212 (FSSS)</i>	<i>Fundamentals of Public Speaking</i>
	<i>SP CM 312 (FS)</i>	<i>Business and Professional Speaking</i>
	<i>AG EDS 311 (FS)</i>	<i>Presentation and Sales Strategies for Ag Audiences</i>
	<i>MKT 450 (FS)</i>	<i>Advanced Professional Selling</i>
1 cr.	Lib 160 (FSSS)	Introduction to College Level Research

II. Mathematical Sciences (14 credits)

4 cr.	MATH 165 (FSSS)	Calculus I
4 cr.	MATH 166 (FSSS)	Calculus II
3 cr.	MATH 266 (FSSS)	Elementary Differential Equations
3 cr.	STAT 305 (FSSS)	Engineering Statistics

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

3 cr.	Biology Elect.	Select one of the courses below:
	<i>BIOL 251 (S)</i>	<i>Biological Processes in the Environment</i>
	<i>BIOL 211(FS)</i>	<i>Principles of Biology I</i>
4 cr.	CHEM 167 (FS)	General Chemistry for Engineering Students
1 cr.	CHEM 167L (FS)	Laboratory in General Chemistry for Engineering
4 cr.	PHYS 231 (FSSS)	Introduction to Classical Physics I
1 cr.	PHYS 231L (FS)	Introduction to Classical Physics I Lab

IV. Social Sciences and Humanities (12 credits)

3 cr.	U. S. Diversity 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 101 (FS)	Engineering Orientation
1 cr.	A B E 110 (S)	Experiencing Agricultural and Biosystems Engineering
3 cr.	A B E 160 (FS)	Engineering Problems with Programming
3 cr.	A B E 170 (FS)	Engineering Graphics and Introductory Design
3 cr.	A B E 378 (FS)	Mechanics of Fluids
3 cr.	C E 274 (FSSS)	Statics of Engineering
3 cr.	E M 324 (FSSS)	Mechanics of Materials
3 cr.	I E 305 (FSSS)	Engineering Economic Analysis
1 cr.	Lab Elective	Select one of the courses below:
	<i>ABE 378L (FS)</i>	<i>Mechanics of Fluids Laboratory</i>
	<i>EM 327 (FS)</i> preferred	<i>Mechanics of Materials Laboratory (prereq. for CE 333 & 334)</i>
3 cr.	M E 231 (FSSS)	Engineering Thermodynamics I

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VI. Agricultural Engineering Core (21 credits)

1 cr.	A B E 201 (FS)	Entrepreneurship and Internship Seminar
3 cr.	A B E 216 (F)	Fundamentals of Agricultural and Biological Engineering
2 cr.	A B E 218 (S)	Project Management and Design
1 cr.	Computer Graphics	Select one of the courses below:
	<i>A B E 271 (FS)</i>	<i>Engineering Applications of Parametric Solid Modeling</i>
	<i>A B E 272 (FS)</i>	<i>Parametric Solid Models, Drawings, Assemblies using Pro/ENGINEER</i>
	<i>A B E 273 (FS) preferred</i>	<i>CAD for Process Facilities and Land Use Planning</i>
3 cr.	A B E 316 (FS)	Computer Applications and Systems Modeling
4 cr.	A B E 363 (FS)	Agri-Industrial Applications of Electric Power and Electronics
3 cr.	A B E 404 (F)	Instrumentation for Agricultural and Biological Engineering
2 cr.	A B E 415 (FS)	Agricultural Engineering Design I
2 cr.	A B E 416 (FS)	Agricultural Engineering Design II

VII. Animal Production Systems Engineering Option (35 credits)

3 cr.	A B E 469 (S)	Grain Processing and Handling
3 cr.	A B E 472 (S-even)	Design of Environmental Systems for Agricultural Structures
3 cr.	A B E 478 (S-odd)	Design of Agricultural Structures
3 cr.	A B E Elect	Select one of the courses below:
	<i>A B E 431 (F)</i>	<i>Design and Evaluation of Soil and Water Conservation Systems</i>
	<i>A B E 340 (F)</i>	<i>Functional Analysis and Design of Agricultural Field Machinery</i>
	<i>A B E 480 (F)</i>	<i>Engineering Analysis of Biological Systems</i>
3 cr.	AN S/Hort. Elect.	Select one of the courses below:
	<i>AN S 223 (FS)</i>	<i>Poultry Science</i>
	<i>AN S 225 (FS)</i>	<i>Swine Science</i>
	<i>AN S 226 (FS)</i>	<i>Beef Cattle Science</i>
	<i>AN S 229 (FS)</i>	<i>Sheep Science</i>
	<i>AN S 235 (F)</i>	<i>Dairy Cattle Science</i>
	<i>HORT 221 (FS)</i>	<i>Principles of Horticulture Science</i>
4 cr.	APS Engineering Elect.	
	<i>M E 436 (FSSS)</i>	<i>Heat Transfer</i>
	<i>C E 360 (FS)</i>	<i>Geotechnical Engineering (prereq. GEOL 201 (F))</i>
3 cr.	C E 332 (FS)	Structural Analysis I
3 cr.	C E 333 (FS)	Structural Steel Design I
3 cr.	C E 334 (FSSS)	Reinforced Concrete Design I
3 cr.	Math/Science	Select one of the courses below:
	<i>AGRON 181 (S)</i>	<i>Introduction to Crop Science</i>
	<i>AGRON 182 (S)</i>	<i>Introduction to Soil Science</i>
	<i>AN S 319 (FS)</i>	<i>Animal Nutrition</i>
	<i>CHEM 178 (FSSS)</i>	<i>General Chemistry II</i>
	<i>GEOL 201 (F)</i>	<i>Geology for Engineers and Environmental Scientists</i>
	<i>HORT 332 (S)</i>	<i>Greenhouse and Nursery Operations and Management</i>
	<i>MATH 207 (FSSS)</i>	<i>Matrices and Linear Algebra</i>
	<i>MATH 265 (FSSS)</i>	<i>Calculus III</i>
	<i>PHYS 232 (FSSS)</i>	<i>Introduction to Classical Physics II</i>
3 cr	TSM 327 (F)	Animal Production Systems
1 cr	ABE 327L (F)	Animal Production Systems Design Lab

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