

**AGRICULTURAL ENGINEERING CURRICULUM
POWER AND MACHINERY ENGINEERING OPTION**

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

I. Communications (10 credits)

3 cr.	ENGL1500 (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>ENGL3090 (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 (S)	Engineering Problems with Computer 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.	E M 3270 (FSSS)	Mechanics of Materials Laboratory
3 cr.	I E 3050 (FSSS)	Engineering Economic Analysis
3 cr.	M E 2310 (FS)	Engineering Thermodynamics I

VI. Agricultural Engineering Core (22 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
2 cr.	Computer Graphics	Select two 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>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. Power and Machinery Engineering Option (34 credits)

3 cr.	A B E 3400 (F)	Functional Analysis and Design of Agricultural Field Machinery
3 cr.	A B E 3420 (S)	Agricultural Tractor Power
3 cr.	A B E 4100 (S)	Elect. System Integration for Ag. Machinery & Production Systems
3 cr.	A B E 4130 (F)	Fluid Power Engineering
3 cr.	ABE Breadth Elective	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 4690 (S)</i>	<i>Grain Processing and Handling</i>
	<i>A B E 4720 (S-even)</i>	<i>Design of Environmental Modification Systems for Bio Products</i>
	<i>A B E 4780 (S-odd)</i>	<i>Design of Agricultural Structures</i>
	<i>A B E 4800 (F)</i>	<i>Engineering Analysis of Biological Systems</i>
3 cr.	AGRON 1820 (FS)	Introduction to Soil Science
3 cr.	MAT E 2730 (FSSS)	Principles of Materials Science and Engineering
3 cr.	Math/Science Elect.	Select one of the courses below:
	<i>AGRON 1810 (FS)</i>	<i>Introduction to Crop Science</i>
	<i>CHEM 1780 (FSSS)</i>	<i>General Chemistry II</i>
	<i>MATH 2070 (FSSS)</i>	<i>Matrices and Linear Algebra</i>
	<i>MATH 2650 (FSSS)</i>	<i>Calculus III</i>
	<i>PHYS 2220 (FSSS)</i>	<i>Introduction to Classical Physics II</i>
3 cr.	M E 3240 (FSSS)	Manufacturing Engineering
1 cr.	M E 3240L (FSSS)	Manufacturing Engineering Lab
3 cr.	M E 3250 (FSSS)	Machine Design
3 cr.	M E 3450 (FSSS)	Dynamics

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