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:
	ENGL3090 (FS)	*Proposal and Report Writing*
	ENGL 3140 (FSSS)	*Technical Communication*
	SP CM 2120 (FSSS)	*Fundamentals of Public Speaking*
	SP CM 3120 (FS)	*Business and Professional Speaking*
	AG EDS 3110 (FS)	*Presentation and Sales Strategies for Ag Audiences*
	MKT 4500 (FS)	*Advanced Professional Selling*
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:
	BIOL 2510 (S)	*Biological Processes in the Environment*
	BIOL 2110 (FS)	*Principles of Biology 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.	Lab Elective	
	A B E 3780L (FS)	Mechanics of Fluids Laboratory
	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:
	A B E 2710 (FS)	*Engineering Applications of Parametric Solid Modeling*
	A B E 2720 (FS)	*Parametric Solid Models, Drawings, Assemblies using Pro/ENGINEER*
	A B E 2730 (FS)	*CAD for Process Facilities and Land Use Planning*
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:
	A B E 4310 (F)	*Design and Evaluation of Soil and Water Conservation Systems*
	A B E 4690 (S)	*Grain Processing and Handling*
	A B E 4720 (S-even)	*Design of Environmental Modification Systems for Bio Products*
	A B E 4780 (S-odd)	*Design of Agricultural Structures*
	A B E 4800 (F)	*Engineering Analysis of Biological Systems*
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:
	AGRON 1810 (FS)	*Introduction to Crop Science*
	CHEM 1780 (FSSS)	*General Chemistry II*
	MATH 2070 (FSSS)	*Matrices and Linear Algebra*
	MATH 2650 (FSSS)	*Calculus III*
	PHYS 2220 (FSSS)	*Introduction to Classical Physics II*
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.