AGRICULTURAL ENGINEERING CURRICULUM
AGRICULTURAL POWER AND MACHINERY ENGINEERING OPTION
A total of 128 credits required for graduation
(2017-2018 Catalog)

I. Communications (10 credits)

3 cr.	Engl 150 (FSSS)	Critical Thinking and Communication
3 cr.	Engl 250 (FSSS)	Written, Oral, Visual, and Electronic Composition
3 cr.	Comm. Elect.	Select one of the courses below:
	Engl 309 (FS)	*Report and Proposal Writing*
	Engl 314 (FSSS)	*Technical Communication*
	Sp Cm 212 (FSSS)	*Fundamentals of Public Speaking*
	Ag Eds 311 (FS)	*Presentation and Sales Strategies for Ag Audiences*
	Mkt 343 (FS)	*Personal Sales*
1 cr.	Lib 160 (FSSS)	Library Instruction

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:
	BIOL 251 (S)	*Biological Processes in the Environment*
	BIOL 211(FS)	*Principles of Biology I*
4 cr.	CHEM 167 (FS)	General Chemistry for Engineering Students
1 cr.	CHEM 167L (FS)	Laboratory in General Chemistry for Engineering
5 cr.	PHYS 221 (FSSS)	Introduction to Classical Physics I

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 Computer Applications Laboratory
3 cr.	A B E 170 (FS)	Engineering Graphics and Introductory Design
3 cr.	E M 274 (FSSS)	Statics of Engineering
3 cr.	E M 324 (FSSS)	Mechanics of Materials
1 cr.	E M 327 (FSSS)	Mechanics of Materials Laboratory
3 cr.	E M 378 (FSSS)	Mechanics of Fluids
3 cr.	I E 305 (FSSS)	Engineering Economic Analysis
3 cr.	M E 231 (FS)	Thermodynamics

VI. Agricultural Engineering Core (22 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
2 cr.	Computer Graphics	Select two of the courses below:
	A B E 271 (FS)	*Engineering Applications of Parametric Solid Modeling*
	A B E 272 (FS)	*Parametric Solid Models, Drawings, Assemblies using Pro/ENGINEER*
	A B E 273 (FS)	*CAD for Process Facilities and Land Use Planning*
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. Power and Machinery Engineering Option (34 credits)

3 cr.	A B E 340 (F)	Functional Analysis and Design of Agricultural Field Machinery
3 cr.	A B E 342 (S)	Agricultural Tractor Power
3 cr.	A B E 413 (F)	Fluid Power Engineering
3 cr.	ABE Elective	Select one of the courses below:
	A B E 431 (F)	*Design and Evaluation of Soil and Water Conservation Systems*
	A B E 469 (S)	*Grain Processing and Handling*
	A B E 472 (S-even)	*Design of Environmental Modification Systems for Bio Products*
	A B E 478 (S-odd)	*Design of Agricultural Structures*
	A B E 480 (F)	*Engineering Analysis of Biological Systems*
3 cr.	AGRON 182 (FS)	Introduction to Soil Science
3 cr.	E M 345 (FSSS)	Dynamics
3 cr.	MAT E 273 (FSSS)	Principles of Materials Science and Engineering
3 cr.	Math/Science Elect.	Select one of the courses below:
	AGRON 181 (S)	*Introduction to Crop Science*
	CHEM 178 (FSSS)	*General Chemistry II*
	MATH 207 (FSSS)	*Matrices and Linear Algebra*
	MATH 265 (FSSS)	*Calculus III*
3 cr.	M E 324 (FSSS)	Manufacturing Engineering
1 cr.	M E 324L (FSSS)	Manufacturing Engineering Lab
3 cr.	M E 325 (FS)	Machine Design
3 cr.	Technical Elect.	Select three credits below:
	A B E 5XX	*Any non-seminar/internship/travel/not required from PM option*
	ENGR 3XX/4XX	*Any non-seminar/internship/travel/not required from PM option*
	ECON 3XX/4XX	*Any non-seminar/internship/travel/not required from PM option*
	MGMT 3XX/4XX	*Any non-seminar/internship/travel/not required from PM option*
	MKT 3XX/4XX	*Any non-seminar/internship/travel/not required from PM option*
	TSM 5XX	*Any non-seminar/internship/travel/not required from PM option*
	A B E 418	*Fundamentals of Engineering Review*
	AGRON 354 (FS)	*Soils and Plant Growth*
	AGRON 354L (FS)	*Soils and Plant Growth Laboratory*
	AGRON 356 (F)	*Site-Specific Crop and Soil Management*
	AGRON 405/505 (S-odd)	*Environmental Biophysics*
	AGRON 477/577 (S)	*Soil Physics*
	TSM 310 (S)	*Total Quality Improvement*
	TSM 340 (F/S)	*Advanced Automated Manufacturing Processes*
	TSM 370 (S)	*Occupational Safety*
	TSM 433 (F)	*Precision Farming Systems*
	TSM 440 (F)	*Cellular Lean Manufacturing Systems*
	TSM 465 (S)	*Automation Systems*

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