AGRICULTURAL ENGINEERING CURRICULUM
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION
A total of 128 credits required for graduation
(2022-2023 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:
	ENGL 309 (FS)	*Proposal and Report Writing*
	ENGL 314 (FSSS)	*Technical Communication*
	SP CM 212 (FSSS)	*Fundamentals of Public Speaking*
	SP CM 312 (FS)	*Business and Professional Speaking*
	AG EDS 311 (FS)	*Presentation and Sales Strategies for Ag Audiences*
	MKT 450 (FS)	*Advanced Professional Selling*
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:
	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
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
1 cr.	E M 327 (FSSS)	Mechanics of Materials Laboratory
3 cr.	I E 305 (FSSS)	Engineering Economic Analysis
3 cr.	M E 231 (FSSS)	Engineering Thermodynamics I

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 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) preferred	*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. 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:
	A B E 431 (F)	*Design and Evaluation of Soil and Water Conservation Systems*
	A B E 340 (F)	*Functional Analysis and Design of Agricultural Field Machinery*
	A B E 480 (F)	*Engineering Analysis of Biological Systems*
3 cr.	AN S/Hort. Elect.	Select one of the courses below:
	AN S 223 (FS)	*Poultry Science*
	AN S 225 (FS)	*Swine Science*
	AN S 226 (FS)	*Beef Cattle Science*
	AN S 229 (FS)	*Sheep Science*
	AN S 235 (F)	*Dairy Cattle Science*
	HORT 221 (FS)	*Principles of Horticulture Science*
4 cr.	APS Engineering Elect.	
	M E 436 (FSSS)	*Heat Transfer*
	C E 360 (FS)	*Geotechnical Engineering (prereq. GEOL 201 (F))*
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:
	AGRON 181 (S)	*Introduction to Crop Science*
	AGRON 182 (S)	*Introduction to Soil Science*
	AN S 319 (FS)	*Animal Nutrition*
	CHEM 178 (FSSS)	*General Chemistry II*
	GEOL 201 (F)	*Geology for Engineers and Environmental Scientists*
	HORT 332 (S)	*Greenhouse and Nursery Operations and Management*
	MATH 207 (FSSS)	*Matrices and Linear Algebra*
	MATH 265 (FSSS)	*Calculus III*
	PHYS 232 (FSSS)	*Introduction to Classical Physics II*
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.