

**AGRICULTURAL ENGINEERING CURRICULUM
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION
(2015-2016 Catalog)**

A total of 128 credits required for graduation

- 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: |
| | <i>Engl 309 (FS)</i> | <i>Report and Proposal Writing</i> |
| | <i>Engl 314 (FSSS)</i> | <i>Technical Communication</i> |
| | <i>Sp Cm 212 (FSSS)</i> | <i>Fundamentals of Public Speaking</i> |
| | <i>Ag Eds 311 (FS)</i> | <i>Presentation and Sales Strategies for Ag Audiences</i> |
| | <i>Mkt 343</i> | <i>Personal Sales</i> |
| 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. Physical Sciences (15 credits)**
- | | | |
|-------|-----------------|---|
| 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 |
| 5 cr. | Phys 222 (FSSS) | Introduction to Classical Physics II |
- IV. Agricultural and Biological Sciences (6 credits)**
- | | | |
|-------|-----------------------|--|
| 3 cr. | An. Sci/Agron. Elect. | Select one of the courses below: |
| | <i>Agron 206 (FS)</i> | <i>Introduction to Meteorology</i> |
| | <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> |
| 3 cr. | Biology | 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> |
- V. 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). | |
- VI. Engineering (6 credits)**
- | | | |
|-------|----------------|---|
| R | Engr 101 (FS) | Engineering Orientation |
| 3 cr. | A B E 160 (FS) | Engineering Problems with Computer Applications Lab |
| 3 cr. | A B E 170 (FS) | Engineering Graphics and Introductory Design |

VII. Agricultural Engineering (28 credits)

1 cr.	A B E 110 (S)	Experiencing Agricultural and Biological Engineering
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 & Design in Ag & Biological Systems Engr
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, and Assemblies Using Pro/ENG</i>
	<i>A B E 273(S)</i>	<i>CAD for Process Facilities and Land Use Planning (Preferred)</i>
3 cr.	A B E 316 (F)	Computer Applications and Systems Modeling
4 cr.	A B E 363 (F)	Agri-Industrial Applications of Electric Power and Electronics
3 cr.	A B E 404 (F)	Instrumentation for Agricultural and Biological Engineering
3 cr.	A B E 469 (S)	Grain Processing and Handling
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>
	<i>A B E 408 (F)</i>	<i>GIS and Natural resource Management</i>
2 cr.	A B E 415 (FS)	Agricultural Engineering Design I
2 cr.	A B E 416 (FS)	Agricultural Engineering Design II

VIII. Mechanical Engineering (7 credits)

3 cr.	M E 231 (FS)	Thermodynamics
4 cr.	M E 436 (FSSS)	Heat Transfer

IX. Engineering Mechanics (10 credits)

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

X. Animal Production Systems Focus (20 credits)

3 cr.	A B E 472	Design of Environmental Systems for Agricultural Structures
	<i>(S-even sem, only)</i>	
3 cr.	A B E 478	Design of Agricultural Structures
	<i>(S-odd sem. only)</i>	
2 cr.	A B E 475 (FS)	APSE Practicum
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.	Technical Elective*	OPEN/FREE

* highly recommend one of: ME 370, ME 410, ME 441, A B E 424 (modules A and B+E) to strengthen non-structural interest or one of: CE 360, CE 436, CE 460 to strengthen structural interest.

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