AGRICULTURAL ENGINEERING CURRICULUM
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION
(2014-2015 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:
       Engl 309 (FS) Report and Proposal Writing
       Engl 314 (FSSS) Technical Communication
       Sp Cm 212 (FSSS) Fundamentals of Public Speaking
       Ag Edu 311 (FS) Presentation and Sales Strategies for Ag Audiences
       Mkt 343 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. 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. Agron 206 (FS) Introduction to Meteorology
   3 cr. Animal Sci. 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
   3 cr. Biol 211 (FSSS) Principles of Biology 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:
   - A B E 271 (FS) Engineering Applications of Parametric Solid Modeling
   - A B E 272 (FS) Parametric Solid Models, Drawings, and Assemblies Using Pro/ENG
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:
   - 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
   - BSE 480 (F) Engineering Analysis of Biological Systems
   - A B E 408 (F) GIS and Natural resource Management
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 (S-even sem, only) Design of Environmental Systems for Agricultural Structures
3 cr. A B E 478 (S-odd sem. only) Design of Agricultural Structures
3 cr. A B E 424 (S) Air Pollution (modules A and B+E)
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
2 cr. Technical Elective* OPEN/FREE

* highly recommend one of: ME 370, ME 410, ME 441 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*