AGRICULTURAL ENGINEERING CURRICULUM
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION
A total of 128 credits required for graduation
(2019-2020 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 450 (FS) Advanced Professional Selling
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. ABE 110 (S) Experiencing Agricultural and Biosystems Engineering
3 cr. ABE 160 (FS) Engineering Problems with Computer Applications Laboratory
3 cr. ABE 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 (21 credits)
1 cr. ABE 201 (FS) Entrepreneurship and Internship Seminar
3 cr. ABE 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
2 cr. A B E 475 (FS)  APSE Practicum
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
2 cr. AN S 114  Survey of the Animal Industry
3 cr. AN S/AGRON. Elect.  Select one of the courses below:
   AGRON 206 (FS)  Introduction to Meteorology
   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. 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
   CHEM 178 (FSSS)  General Chemistry II
   MATH 207 (FSSS)  Matrices and Linear Algebra
   MATH 265 (FSSS)  Calculus III
   PHYS 222 (FSSS)  Introduction to Classical Physics II
4 cr. M E 436 (FSSS)  Heat Transfer

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