AGRICULTURAL ENGINEERING CURRICULUM  
ANIMAL PRODUCTION SYSTEMS ENGINEERING OPTION  
A total of 128 credits required for graduation  
(2021-2022 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) Report and Proposal 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) 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  
4 cr. PHYS 231 (FSSS) Introduction to Classical Physics I  
1 cr. PHYS 231L (FSSS) 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 Computer Applications Laboratory  
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 (FS) Thermodynamics
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  *Principles of Horticulture Science*
4 cr. APS Engineering Elect.  
   - M E 436 (FSSS)  *Heat Transfer*
   - C E 360 (FS)  *Geotechnical Engineering*
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.*