AGRICULTURAL ENGINEERING CURRICULUM
POWER AND MACHINERY ENGINEERING OPTION
A total of 128 credits required for graduation
(2021-2022 Catalog)

I. Communications (10 credits)
3 cr. ENGL150 (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:
   ENGL309 (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 (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 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 (22 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
2 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) 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. Power and Machinery Engineering Option (34 credits)
3 cr. A B E 340 (F) Functional Analysis and Design of Agricultural Field Machinery
3 cr. A B E 342 (S) Agricultural Tractor Power
3 cr. A B E 410 (S) Elect. System Integration for Ag. Machinery & Production Systems
3 cr. A B E 413 (F) Fluid Power Engineering
3 cr. ABE Elective Select one of the courses below:
   A B E 431 (F) Design and Evaluation of Soil and Water Conservation Systems
   A B E 469 (S) Grain Processing and Handling
   A B E 472 (S-even) Design of Environmental Modification Systems for Bio Products
   A B E 478 (S-odd) Design of Agricultural Structures
   A B E 480 (F) Engineering Analysis of Biological Systems
3 cr. AGRON 182 (FS) Introduction to Soil Science
3 cr. MAT E 273 (FSSS) Principles of Materials Science and Engineering
3 cr. Math/Science Elect. Select one of the courses below:
   AGRON 181 (S) Introduction to Crop 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
3 cr. M E 324 (FSSS) Manufacturing Engineering
1 cr. M E 324L (FSSS) Manufacturing Engineering Lab
3 cr. M E 325 (FS) Machine Design
3 cr. M E 345 (FSSS) Dynamics

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