

Agricultural and Biosystems Engineering

Department Information

- **Department Location:**
Agricultural and Biosystems Engineering
- **Department Phone:**
701-231-7261
- **Department Email:**
ndsu.asm@ndsu.edu
- **Department Web Site:**
www.ndsu.edu/aben/ (<http://www.ndsu.edu/aben/>)
- **Credential Offered:**
B.S.A.B.En.
- **Plan Of Study Sample:**
bulletin.ndsu.edu/programs-study/undergraduate/agricultural-biosystems-engineering/ (<http://bulletin.ndsu.edu/programs-study/undergraduate/agricultural-biosystems-engineering/>)

Program Electives for the Agricultural and Biosystems Engineering - Agricultural Option

Code	Title	Credits
Computer Electives: Select one course from the following:		3
CE 212	Civil Engineering Graphic Communications	
CSCI 122	Visual BASIC	
CSCI 160	Computer Science I	
ECE 173	Introduction to Computing	
GEOG 105	Fundamentals of Geographic Information Systems	
GEOG 455	Introduction to Geographic Information Systems	
IME 380	CAD/CAM for Manufacturing	
ME 213	Modeling of Engineering Systems	

Code	Title	Credits
Business or Communication Electives: Choose one of the following courses or a course from the following prefix options:		3
BUSN, COMM, ACCT, AGECE, ECON, MGT, MIS, MRKT (The course used for this elective cannot double-count as General Education)		
ACCT 102	Fundamentals of Accounting	
ACCT 200	Elements of Accounting I	
AGEC 242	Introduction to Agricultural Management	
AGEC 244	Agricultural Marketing	
AGEC 246	Introduction to Agricultural Finance	
COMM 212	Interpersonal Communication	
COMM 216	Intercultural Communication	
COMM 260	Introduction to Web Design	
ECON 201	Principles of Microeconomics	
ECON 202	Principles of Macroeconomics	

Code	Title	Credits
Chemistry/Biological/Environmental Science Electives: Select 9 credits from the following:		9
ASM 264	Natural Resource Management Systems	
ANSC 220	Livestock Production	
BIOL 100L	Non-Majors Biology Lab	
BIOL 111	Concepts of Biology	
BIOL 124	Environmental Science	
BIOL 150	General Biology I	
BIOL 150L	General Biology I Laboratory	
BIOL 151	General Biology II	

BIOL 151L	General Biology II Laboratory
CFS 210	Introduction to Food Science and Technology
CFS 370	Food Processing I
CFS 450	Cereal Technology
CHEM 121L	General Chemistry I Laboratory
CHEM 122L	General Chemistry II Laboratory
CHEM 240	Survey of Organic Chemistry
ENT 210	Insects, Humans and the Environment
MICR 202	Introductory Microbiology
MICR 202L	Introductory Microbiology Lab
MICR 350	General Microbiology
MICR 350L	General Microbiology Lab
NRM 322	Environmental Law and Policy
PLSC 110	World Food Crops
PLSC 215	Weed Identification
PLSC 225	Principles of Crop Production
PLSC 315	Genetics
PLSC 320	Principles of Forage Production
PLSC 323	Principles of Weed Science
PLSC 335	Seed Technology & Production
RNG 225	Natural Resource & Agro-Ecosystems
SOIL 210	Introduction to Soil Science
SOIL 217	Introduction to Meteorology & Climatology
SOIL 410	Soils and Land Use

Code	Title	Credits
Technical Electives: May choose from the ABEN section, Chemistry/Biological Science electives, Computer electives, or the Engineering electives listed below:		8

ABEN 496 - Ag Tech Expo (1 add'l cr.) may be used as a Technical Elective. ABEN 496 - Field Exp./Internship, 1 cr., may be used as an ABEN Elective or as a Technical Elective. A maximum of two credits of ABEN 496 FE/Internship may be counted towards degree requirements.

ASM 323	Post-Harvest Technology
ASM 373	Tractors & Power Units
ASM 374	Power Units Laboratory
ASM 378	Machinery Principles and Management
ASM 429	Hydraulic Power Principles and Applications
ASM 454	Principles and Application of Precision Agriculture
CE 204	Surveying
CE 310	Fluid Mechanics Laboratory
CE 343	Structural Engineering and Analysis
CE 370	Introduction to Environmental Engineering
CE 371	Environmental Engineering Laboratory
CE 404	Reinforced Concrete
CE 408	Water Resources and Supply
CE 410	Water and Wastewater Engineering
CE 421	Open Channel Flow
CE 473	Air Pollution
CE 477	Applied Hydrology
CE 478	Water Quality Management
CE 479	Advanced Water and Wastewater Treatment
CE 483	Contracts and Specifications
ECE 275	Digital Design
ECE 303	Electrical Engineering II
ECE 376	Embedded Systems

GEOG 455	Introduction to Geographic Information Systems
GEOG 456	Advanced Geographic Information Systems
IME 330	Manufacturing Processes
IME 335	Welding Technology
IME 380	CAD/CAM for Manufacturing
IME 430	Process Engineering
IME 431	Production Engineering
IME 450	Systems Engineering and Management
IME 456	Program and Project Management
IME 461	Quality Assurance and Control
ME 331	Materials Science and Engineering
ME 353	Thermodynamics II
ME 421	Theory of Vibrations
ME 442	Machine Design I
ME 454	Heat and Mass Transfer
ME 471	Experimental Stress Analysis
ME 473	Engineering with Polymeric Materials
ME 474	Mechanics of Composite Materials
ME 475	Automatic Controls
ME 487	Internal Combustion Engines
STAT 461	Applied Regression Models
STAT 462	Introduction to Experimental Design

Total Credits**8**