

AGRICULTURAL SYSTEMS MANAGEMENT

The agricultural systems management (ASM) program combines an understanding of the agricultural, biological and physical sciences with economics, managerial and technical skills. This understanding of science, systems management and applications of engineering can be applied to a career in the production and processing of food, feed, fiber and fuel, and the marketing, sales and distribution of agricultural products and services.

The Program

The ASM major in the College of Agriculture, Food Systems, and Natural Resources is administered by the Department of Agricultural and Biosystems Engineering. The ASM program leads to a B.S. degree and includes core requirements in mathematics, communications, sciences, humanities and social sciences. In the major, students complete technical systems courses in machine principles, power systems, computer applications, materials handling, food and materials processing, site specific agriculture, environmental resources management, electrical systems and electronics and information/decision support technology. The curriculum balances hands-on knowledge of technology with instruction in agricultural sciences and agribusiness principles. The B.S. degree is awarded after completion of a minimum of 128 credits.

The ASM curriculum has the flexibility to permit men and women from both rural and urban backgrounds to develop a program to meet personal career objectives. Minors may be developed in related fields of production agriculture, agribusiness or in fields that add curriculum diversity, i.e., international studies, communication, natural resources management, business administration, accounting, industrial management, etc.

ASM students are encouraged to consider practical work experience during their college program. Cooperative Education provides opportunities for students to gain valuable career related experience.

Career Opportunities

The opportunities for ASM graduates are many and diverse. Graduates may, for example:

1. Be employed by companies and agencies providing inputs and technical services for agricultural production:
 - Business Manager, Titan Machinery
 - Loan Officer, National Bank of Harvey
 - Territory After-market Manager, Deere and Company
 - Irrigation Sales and Service, Reinke Manufacturing Co.
 - Parts Manager, RDO Equipment
 - Precision Ag Specialist, Precision Partners
 - District Sales Manager, Interstate Seed Co.
2. Work with agribusiness companies and agencies that handle, store, process and distribute agricultural products and foods:
 - Station Manager, Pioneer Hi-Bred International
 - Petroleum Sales Specialist, Cenex/Land O'Lakes
 - Elevator Manager, ADM
 - Production Management, Black Gold Farms
 - Crop Consultant, Triangle Agronomy

3. Work with companies and agencies providing inputs and technical services to rural and urban communities and the general society:
 - Ag Science Teacher, North Central Schools
 - Soil Conservationist, USDA or
Natural Resources Conservation Service
 - Farm Appraiser, Farm Credit Services
 - Energy Use Advisor, Verendrye Electric Cooperative
 - Water Quality Specialist, USDA or Extension Service
4. Be self-employed, performing services as consultants, or as owners or operators of businesses:
 - Owner, Credit Management Consulting
 - Owner, Lynnes Bison Farms
 - Owner, Hoffman Irrigation
 - Owner, Rust Sales

Scholarships

Several scholarships are available through the department. These scholarships range from \$300 to \$1,500. Students also are eligible for scholarships from the College of Agriculture, Food Systems, and Natural Resources.

Co-Curricular Opportunities

The ASM Club offers students opportunities to participate in professional and social activities with other students at the local, regional and national levels. ASM Club members take an active part in the annual Agricultural Technology Expo, go on field trips and are involved in public service activities. Being an active participant in student organizations helps students develop leadership, teamwork, organization and communication skills. These skills are highly sought by those industries that hire ASM graduates.

A Well-Equipped Teaching Facility

The ASM degree program is housed in the Agricultural and Biosystems Engineering building which includes offices, classrooms and laboratories. Laboratories are furnished with equipment typical of that used in industry and research, such as personal computers that are networked to the University's computer facilities, tractors, engines, surveying equipment etc. Department faculty have received recognition for outstanding teaching and research on the state and national levels. Faculty expertise varies across a wide and diverse range of specialties related to agricultural and biological systems.

Sample Curriculum

General Education Requirements Credits

First Year Experience	
ABEN 189 - Skills for Academic Success.....	1
Communication	
Comm. 110 - Fund of Public Speaking.....	3
Engl. 110, 120 - College Composition I, II.....	3, 3
English Upper Level Writing Course	3
Quantitative Reasoning	
Stat. 330 - Introduction to Statistics.....	3
Science & Technology	
Chem. 121 - General Chemistry I.....	3
Chem. 122 - General Chemistry II.....	3
Phys. 211, 211L - College Physics I and Lab	3, 1
Humanities & Fine Arts.....	6
Social & Behavioral Sciences	
Econ. 201 - Principles of Microeconomics	3
Econ. 202 - Principles of Macroeconomics	3
Wellness	2
Cultural Diversity.....	-
Global Perspective	
Econ. 201 - Principles of Microeconomics	-
Total.....	40

Major Requirements Credits

ASM 115 - Fundamentals of Agricultural Systems Management	3
ASM 125 - Fabrication and Construction Technology.....	3
ASM 225 - Computer Application in Agricultural Systems Management	3
ASM 264 - Natural Resource Management Systems	3
ASM 323 - Post Harvest Technology	3
ASM 354 - Electricity and Electronic Applications	3
ASM 373, 374 - Tractors and Power Units and Lab.....	3, 1
ASM 378 - Machinery Principles and Management.....	3
ASM 429 - Hydraulic Power Principles and Applications	3
ASM 454 - Principles of Site Specific Agriculture	3
ASM 475 - Management of Agricultural Systems	2
ASM 491 - Seminar.....	1
ASM 496 - Field Experience	1
Totals	35

Related Requirements Credits

Acct. 102 - Fundamentals of Accounting	3
Agri. 150 - Agriculture Orientation	1
CSci. 114 - Microcomputer Packages <i>or</i>	
CSci. 116 - Business Use of Computers	3 or 4
Math. 103 - College Algebra	3
Math. 105 - Trigonometry	3
Psyc. 111 - Introduction to Psychology.....	3
Agriculture or Biological Science Electives.....	12
Specialization or Minor Electives	16
Electives	8-9
Totals	53

CURRICULUM TOTAL.....128

Specialization or Minor (Choose one)

A dealer management specialization within the business option is designed for students who want careers as equipment dealership managers or with equipment manufacturers. Technology, agribusiness and communication are emphasized. Requirements include a minor in

Agribusiness or Business Administration.....16

Students select courses in economics, business and related areas to enhance career goals in agribusiness and related industries. agribusiness and applied economics or business administration and two paid internships with equipment dealerships. Several industry scholarships are available to students enrolled in this specialization.

Production Agriculture.....16

Students select courses in agricultural sciences and supporting areas to enhance individual career goals in the technical and management aspects of production agriculture.

Applied Technology.....16

Students select courses to enhance curriculum diversity in their areas of interest, such as communication, international studies, industrial management, construction management or food processing.

Agricultural/Industrial Equipment Option

The agricultural/industrial equipment option is a collaborative program offered by North Dakota State College of Science (NDSU) and NDSU. Students in this option will normally complete their first year at NDSU, where they will take courses involving engine, power train, electrical systems and hydraulic systems technology. While at NDSU, students also take additional courses for transfer to the ASM major at NDSU. The portion of the program taken at NDSU complements the ASM program components at NDSU (last three years) in physical science, technology, machinery systems, computer applications and communication skills. Students in this option also pursue (at NDSU) a business specialization or minor emphasizing courses in management, marketing and finance. Associated with their classroom study is the requirement for the completion of one or more Cooperative Education or internship placements in the agricultural or industrial equipment industry. Contact the Department of Agricultural and Biosystems Engineering at NDSU for the list of courses that may be taken at NDSU and for additional information about this option.

For Further Information

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This sample curriculum is not intended to serve as a curriculum guide for current students, but rather an example of course offerings for prospective students. For the curriculum requirements in effect at the time of entrance into a program, consult with an academic adviser or with the Office of Registration and Records.