

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 Bachelor of Science 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, 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. A degree is awarded after completion of a minimum of 120 credits.

The ASM curriculum has the flexibility to permit individuals 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, e.g., international studies, communication, natural resources management, business administration, accounting, or industrial management.

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:
 - CEO, Cass County Electric
 - 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 \$4,000. Students also may be eligible for scholarships from the College of Agriculture, Food Systems, and Natural Resources.

Extra-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.

Curriculum Options

Applied Business Option (Standard Option) 30 credits - Students select courses to enhance curriculum diversity in their areas of interest, such as communication, international studies, industrial management, construction management or food processing.

Production Agriculture 30 credits - Students select courses in agricultural sciences and supporting areas to enhance individual career goals in the technical and management aspects of production agriculture.

Dealership Management Option 32-38 credits - Students select courses in economics, business and related areas to enhance career goals in agribusiness and applied economics, business administration, or related industries. Two paid internships with equipment dealerships are required. Several industry scholarships are available to students in this specialization.

Agricultural Systems Management Plan of Study

Please note this is a sample plan of study and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Students are encouraged to work with their academic advisor on a regular basis to review degree progress and customize an individual plan of study.

Freshman			
Fall	Credits	Spring	Credits
ASM 115 Fundamentals of Agricultural Systems Management	3	ASM 496 (Field Exp./Ag Tech Expo)	1
ASM 125 Fabrication & Construction Technology	3	COMM 110 Fundamentals of Public Speaking	3
ENGL 110 College Composition I	4	CSCI 114 Microcomputer Packages	3
PAG 115 Introduction to Precision Agriculture	2	or MIS 116 Business Use of Computers	
Elective (Option)	3	ENGL 120 College Composition II	3
		MATH 105 Trigonometry	3
		Gen Ed Humanities & Fine Arts/Gen Ed Cultural Diversity	3
	15		16
Sophomore			
Fall	Credits	Spring	Credits
ASM 225 Computer Applications in Agricultural Systems Management	3	ASM 264 Natural Resource Management Systems	3
ACCT 102 Fundamentals of Accounting	3	ASM 264L Natural Resource Management Systems Laboratory	1
ECON 201 Principles of Microeconomics	3	ECON 202 Principles of Macroeconomics	3
PHYS 211 College Physics I	3	Elective (Option)	6
PHYS 211L College Physics I Laboratory	1	Elective (Free)	4
	13		17
Junior			
Fall	Credits	Spring	Credits
ASM 323 Post-Harvest Technology	3	ASM 373 Tractors & Power Units	3
CHEM 121 General Chemistry I	3	ASM 374 Power Units Laboratory	1
STAT 330 Introductory Statistics	3	CHEM 122 General Chemistry II	3
Gen Ed Wellness	2	ENGL 320 Business and Professional Writing	3
Elective (Option)	4	or 321 Writing in the Technical Professions or 324 Writing in the Sciences or 459 Researching and Writing Grants and Proposal	
		Elective (Option)	3
		Elective (Free)	3
	14		16
Senior			
Fall	Credits	Spring	Credits
ASM 354 Electricity and Electronic Applications	3	ASM 429 Hydraulic Power Principles and Applications	3
ASM 378 Machinery Principles and Management	3	ASM 475 Management of Agricultural Systems	2
Gen Ed Humanities & Fine Arts	3	Elective (Option)	9
Elective (Option)	6		
	15		14
Total Credits: 120			

View NDSU equivalencies of transfer courses at: www.ndsu.edu/transfer/equivalencies

For Further Information

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