

Agricultural Systems Management

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 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. Students focus on the application of engineering designs, the study of technology used in agriculture, and the integration of business management concepts in the agricultural, food, and closely related industries. Students complete courses in machinery principles, off-road power systems, precision agriculture, commodity handling and processing, natural resources management, electrical and electronic systems, and information and decision support technology.

Taking courses in accounting, economics, marketing, management, business law, sales, and finance develops a strong business background. Personal career objectives may be pursued through specialization in areas such as agribusiness and production agriculture. Students are encouraged to minor in agribusiness, business administration, communication, or another agricultural discipline.

Agricultural Systems Management graduates are often self-employed as owners/operators of commercial farms, ranches, and businesses. Others are employed in positions that provide the link between the consumer and people in fields such as research design, engineering, or manufacturing. They are often also employed as crop consultants or production specialists. Employers include:

1. companies and agencies that provide inputs, products, and services for agricultural production;
2. companies or agencies in the business of handling, storing, processing, and distributing agricultural products/commodities and processed food or non-food products; and
3. companies and agencies that supply physical and business services to rural and urban communities.

This degree is ideal for those interested in careers in technical sales or management of an agriculture-related business involved in production, processing, or manufacturing. The flexibility of the program allows students the opportunity to tailor the curriculum to complement their career goals.

Students interested in the design, testing, manufacturing, and development aspects of products, processes, or systems for agricultural production, food, and value-added processing of commodities, or sustainable management of environmental resources should consider the Agricultural and Biosystems Engineering (<http://bulletin.ndsu.edu/past-bulletin-archive/2014-15/undergraduate/colleges/engineering/agricultural-biosystems-engineering>) curriculum in the College of Engineering (<http://bulletin.ndsu.edu/past-bulletin-archive/2014-15/undergraduate/colleges/engineering>).

Curriculum Options

- **Production Agriculture:** Students select courses in agricultural sciences and supporting areas to achieve career goals in the

technical and management aspects of production agriculture systems.

- **Applied Business:** Students select courses in agribusiness, business, and related areas to achieve career goals in agricultural and related areas to achieve career goals in agricultural and related business areas.
- **Dealership Management:** This 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 business administration or agribusiness, two paid internships with equipment dealerships, and an additional communication course.

Agricultural Systems Management Minor

A minor in Agricultural Systems Management is available to students from other majors by working with department faculty to select 16-21 credits in Agricultural Systems Management. A minimum of eight credits must be completed at NDSU.

Major Requirements

Major: Agricultural Systems Management

Degree Type: B.S.

Required Degree Credits to Graduate: 128

General Education Requirements

First Year Experience (F):

AGRI 189	Skills for Academic Success (Students transferring in 24 or more credits do not need to take ABEN 189.)	1
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Communication (C):

ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
One Course in Upper Level Writing. Select one of the following:		3
ENGL 320	Business and Professional Writing	
ENGL 321	Writing in the Technical Professions	
ENGL 322	Creative Writing I	
ENGL 324	Writing in the Sciences	
ENGL 459	Researching and Writing Grants and Proposal	
COMM 110	Fundamentals of Public Speaking	3

Quantitative Reasoning (R):

STAT 330	Introductory Statistics	3
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Science & Technology (S):

CHEM 121	General Chemistry I	3
CHEM 122	General Chemistry II	3
PHYS 211 & 211L	College Physics I and College Physics I Laboratory	4

Humanities & Fine Arts (A): Select from current general education list 6

Social & Behavioral Sciences (B):

ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3

Wellness (W): Select from current general education list 2

Cultural Diversity (D): Select from current general education list

Global Perspective (G):

ECON 201	Principles of Microeconomics	3
Total Credits		40

Major Requirements

Students must maintain a 2.25 GPA in ASM prefix courses.

General Education Requirements 40

Agricultural Systems Management Core Requirements

ASM 115	Fundamentals of Agricultural Systems Management	3
ASM 125	Fabrication & Construction Technology	3
ASM 225	Computer Applications 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	Tractors & Power Units	3
ASM 374	Power Units Laboratory	1
ASM 378	Machinery Principles and Management	3
ASM 429	Hydraulic Power Principles and Applications	3
ASM 454	Principles and Application of Precision Agriculture	3
ASM 475	Management of Agricultural Systems (Capstone Course)	2
ASM 491	Seminar	1
ASM 496	Field Experience (Expo)	1

Supporting Courses

Select one of the following:		3-6
ACCT 102	Fundamentals of Accounting	
ACCT 200 & ACCT 201	Elements of Accounting I and Elements of Accounting II	
AGRI 150	Agriculture Orientation (Students transferring in 24 or more credits do not need to take AGRI 150.)	1
CSCI 114 or CSCI 116	Microcomputer Packages Business Use of Computers	3-4
MATH 103	College Algebra (or higher - May not be required based on math placement.)	3
MATH 105	Trigonometry (or higher)	3
PSYC 111	Introduction to Psychology	3

Specialized Options - Select from one of the specialized options listed below. A minor program of study may be completed in place of an option.

Degree Electives: Potential of 9 credits to reach 128 9

Total Credits 128-138

specialized options

Applied Business Option: Minimum 28 Credits

This is the standard option for this major; students can declare another option or the minor option with the Office of Registration and Records.

Complete any course from the College of Ag and or biological science course with the following prefix: BIOL, BOT, MICR, ZOO.

Select courses in agriculture science or supporting areas to enhance careers in Agribusiness. Select courses in consultation with an advisor. Courses not on the list will require a substitution form to be submitted to the Office of Registration and Records.

Production Agriculture Option: Minimum of 28 Credits

Complete any course from the College of Ag or any biological science course with the following prefix: BIOL, BOT, MICR, ZOO.

Select courses in consultation with an advisor. Courses not on the list will require substitution form to be submitted to the Office of Registration and Records.

Dealership Management Option: Minimum 28-35

Minor in either Business Administration (24 credits) or Agribusiness (17 or 21 credits) required.

ACCT 200 & ACCT 201	Elements of Accounting I and Elements of Accounting II	6
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ASM 496	Field Experience	2
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Select one of the following: 3

COMM 214	Persuasive Speaking	
COMM 271	Listening and Nonverbal Communication	
COMM 308	Business and Professional Speaking	
COMM 315	Small Group Communication	

Degree Requirements and Notes:

- Students must register for an ASM internship in the semester it is completed. This includes internships arranged with the NDSU Career Center.
- Transfer grades must be 'C' or higher to count towards major requirements.
- The completion of a minor program of study is suggested but not required. Option suggestions are: Accounting, Agribusiness, Animal Sciences, Business Administration, Construction Management, Crop & Weed Sciences, Industrial Engineering & Management, Public Relations & Advertising, or Range Science.

Minor Requirements

Agricultural Systems Management

Minor Requirements

Required Credits: 16

Required Courses

ASM 264	Natural Resource Management Systems	3
ASM 354	Electricity and Electronic Applications	3
ASM 373 or ASM 378	Tractors & Power Units Machinery Principles and Management	3

Remaining Credits: Select 7 credits from the following: 7

ASM 225	Computer Applications in Agricultural Systems Management	
ASM 323	Post-Harvest Technology	
ASM 374	Power Units Laboratory	
ASM 429	Hydraulic Power Principles and Applications	
ASM 454	Principles and Application of Precision Agriculture	
ASM 475	Management of Agricultural Systems (Capstone)	
ASM 491	Seminar	

ASM 496	Field Experience (Expo)	
ASM 496	Field Experience	
Total Credits		16

Minor Requirements and Notes:

- A minimum of 8 credits must be taken at NDSU.
- Students must earn a minimum 2.00 GPA for the minor requirements.