Crookston Campus

Agricultural Systems Management B.S.

Agriculture and Natural Resources

Academic Affairs

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2021
- Required credits to graduate with this degree: 120
- Required credits within the major: 61 to 63
- This program requires summer terms.
- Degree: Bachelor of Science

This program combines students' interests in machinery, technology, and crop and livestock production with superior people skills, creative thinking, and problem solving to build a career in the agricultural and food production industry.

Agricultural systems management graduates are well versed in agricultural foundations and have working knowledge of economic systems with a well-developed sense of professionalism. Companies are looking for multi-talented people who are confident around computers, machines, and business plans. The agricultural systems management program offers three areas of emphasis to provide a unique portfolio of technical and business skills that gives graduates an edge in the job market.

Program outcomes: graduates will:
be well versed in agricultural foundations,
be technically proficient and knowledgeable in agricultural technologies,
have working knowledge of economic systems and financial management,
possess speaking, listening, and writing communication skills,
and have a well-developed sense of professionalism.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements. For more information, see the graduation requirements.

Program Requirements

Students must complete 40 upper-division credits.

A maximum of two D grades are allowed for core courses required in the program, subplan/emphasis, and technology requirements. This includes grades earned at UMC or transferred in from another institution.

Agricultural Systems Management Core

Take 15 or more course(s) totaling 40 or more credit(s) from the following:

- AGEC 1004 - Introduction to Agribusiness (3.0 cr)

AGEC 2310 - Agribusiness Financial Records (3.0 cr)
AGRO 1183 - Field Crops: Production Principles (3.0 cr)
ANSC 1004 - Introduction to Animal Science (4.0 cr)
ASM 1034 - Facility Maintenance and Safety (4.0 cr)
ASM 2250 - Agricultural Machinery Management (3.0 cr)
ASM 3002 - Agricultural Mobile Power Systems (3.0 cr)
ASM 3005 - Facilities Planning and Selection (3.0 cr)
ASM 3009 - Surveying (4.0 cr)
GNAG 4652 - Senior Seminar (1.0 cr)
SOIL 1293 - Soil Science (3.0 cr)

- Choose one of the following:
  - COMM 3008 - Business Writing (3.0 cr)

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or COMM 3704 - Business and Professional Speaking (3.0 cr)
or MGMT 3210 - Supervision and Leadership (3.0 cr)
or WRIT 3303 - Writing in Your Profession (3.0 cr)

•**Internship**

Pre-Internship Seminar

GNAG 2899 - Pre-Internship Seminar (0.5 cr)
or GNAG 3899 - Pre-Internship Seminar (0.5 cr)

Internship

Take 2 or more credits of GNAG 3900.
GNAG 3900 - Internship (0.5 - 3.0 cr)

Post-Internship Seminar

GNAG 3901 - Post Internship Seminar (0.5 cr)

Liberal Education

This program requires a minimum of 40 credits of liberal education and completion of the ten goal areas of the Minnesota Transfer Curriculum. The following are specific required liberal education courses.

Take 7 - 9 course(s) from the following:

•BIOL 1009 - General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)
•CHEM 1001 - Introductory Chemistry [PHYS SCI] (4.0 cr)
•COMP 1011 - Composition I [COMMUNICAT] (3.0 cr)
•COMP 1013 - Composition II [COMMUNICAT] (3.0 cr)
•MATH 1031 - College Algebra [MATH THINK] (3.0 cr)
•PHYS 1012 - Introductory Physics [PHYS SCI, PEOPLE/ENV] (4.0 cr)

•**Communication Choice**

Choose one of the following:

•COMM 1101 - Public Speaking [COMMUNICAT] (3.0 cr)
COMM 2002 - Interpersonal Communication [COMMUNICAT] (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans.

Farm and Ranch Management

This emphasis focuses on a blend of business and production management. The program's goal is to provide a solid foundation to allow the graduate to be competitive and succeed in the changing world of modern agriculture.

Farm and Ranch Operation Core

Take 4 or more course(s) totaling 12 or more credit(s) from the following:

•AGEC 3540 - Farm Business Management (3.0 cr)
AGEC 3640 - Agricultural Finance and Valuation (3.0 cr)
AGEC 4740 - Grain and Livestock Marketing (3.0 cr)
ASM 2043 - Welding and Manufacturing Processes (3.0 cr)

Take 9 or more credit(s) from the following:

•AGEC 3430 - Food Marketing Systems (3.0 cr)
•AGEC 3440 - Fundamentals of Value Added Agriculture (3.0 cr)
•AGRO 2640 - Applied Agriculture Chemicals (3.0 cr)
•AGRO 3130 - Forages (3.0 cr)
•AGRO 3444 - Crop Production (4.0 cr)
•ANSC 2104 - Feeds and Feeding (4.0 cr)
•ANSC 3004 - Livestock Facilities and Environmental Systems (3.0 cr)
•ANSC 3204 - Dairy Production (4.0 cr)
•ANSC 3303 - Beef Production (4.0 cr)
•SOIL 3414 - Soil Fertility and Plant Nutrition (4.0 cr)

Open Electives

Students must take enough open electives credits to satisfy the 120 credit graduation requirement.

Technology

Take 3 or more credit(s) from the following:

•AGEC 3310 - Advanced Agribusiness Financial Records (3.0 cr)

Precision Agriculture

Work in the field or in an office to help others improve agriculture production practices (chemical application, planting, pest management) by using satellites, geographical information systems (GIS), and precision data analysis. Field data collection, analysis, and application are keys to improving agricultural production management practices and implementing efficiencies.

Precision Agriculture Core

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Take 10 or more course(s) totaling 23 or more credit(s) from the following:
- AGEC 2530 - Professional Agriselling (3.0 cr)
- AGRO 2640 - Applied Agriculture Chemicals (3.0 cr)
- AGRO 3444 - Crop Production (4.0 cr)
- ASM 3360 - Applications in Precision Agriculture (2.0 cr)
- ASM 3365 - Applications in Precision Agriculture Laboratory (1.0 cr)
- ASM 3511 - Yield Monitoring and Data Interpretation (1.0 cr)
- ASM 3512 - Remote Sensing Applications in Precision Agriculture (1.0 cr)
- ASM 3513 - Precision Farming Data (1.0 cr)
- NATR 3635 - Geographic Information Systems Applications (3.0 cr)
- SOIL 3414 - Soil Fertility and Plant Nutrition (4.0 cr)

Technology

Take 3 or more credit(s) from the following:
- NATR 2630 - Introduction to Geographic Information Systems (3.0 cr)

Open Electives

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