



agribusiness and science technology

Associate in Applied Science (AAS)

Program Code: 10-006-2

Total Credits: 60-61

Mid-State's Agribusiness and Science Technology program prepares students to be owners or employees of a farm business in all sectors of the agriculture industry or work in businesses that support the agriculture industry. The program includes dairy and livestock management and traditional crop production. You'll learn to develop a nutrient management plan, calculate cost of production, and develop a long-term facility and equipment plan as well as a farm business plan. Hands-on experiences include taking soil samples; identifying diseases, insects, and weeds that impact profitability; and working with livestock nutrition and management. Graduates obtain a private pesticide applicators certificate.

Estimated tuition and fees: mstc.edu/programcosts

ACADEMIC ADVISOR

To schedule an appointment with an academic advisor, call 715.422.5300. Academic advisors will travel to other campuses as necessary to accommodate student needs. For more information about advising, visit mstc.edu/advising.

CHECKLIST:

This section will be completed when meeting with your academic advisor.

- FAFSA (www.fafsa.gov)
- Financial Aid Form(s)
Form(s): _____
- Follow-Up Appointment:
Where: _____
When: _____
With: _____
- Official Transcripts
Mid-State Technical College
Student Services Assistant
1001 Centerpoint Drive
Stevens Point, WI 54481
- Other: _____

mstc.edu
888.575.6782
TTY: 711



ADAMS CAMPUS
401 North Main
Adams, WI 53910

MARSHFIELD CAMPUS
2600 West 5th Street
Marshfield, WI 54449

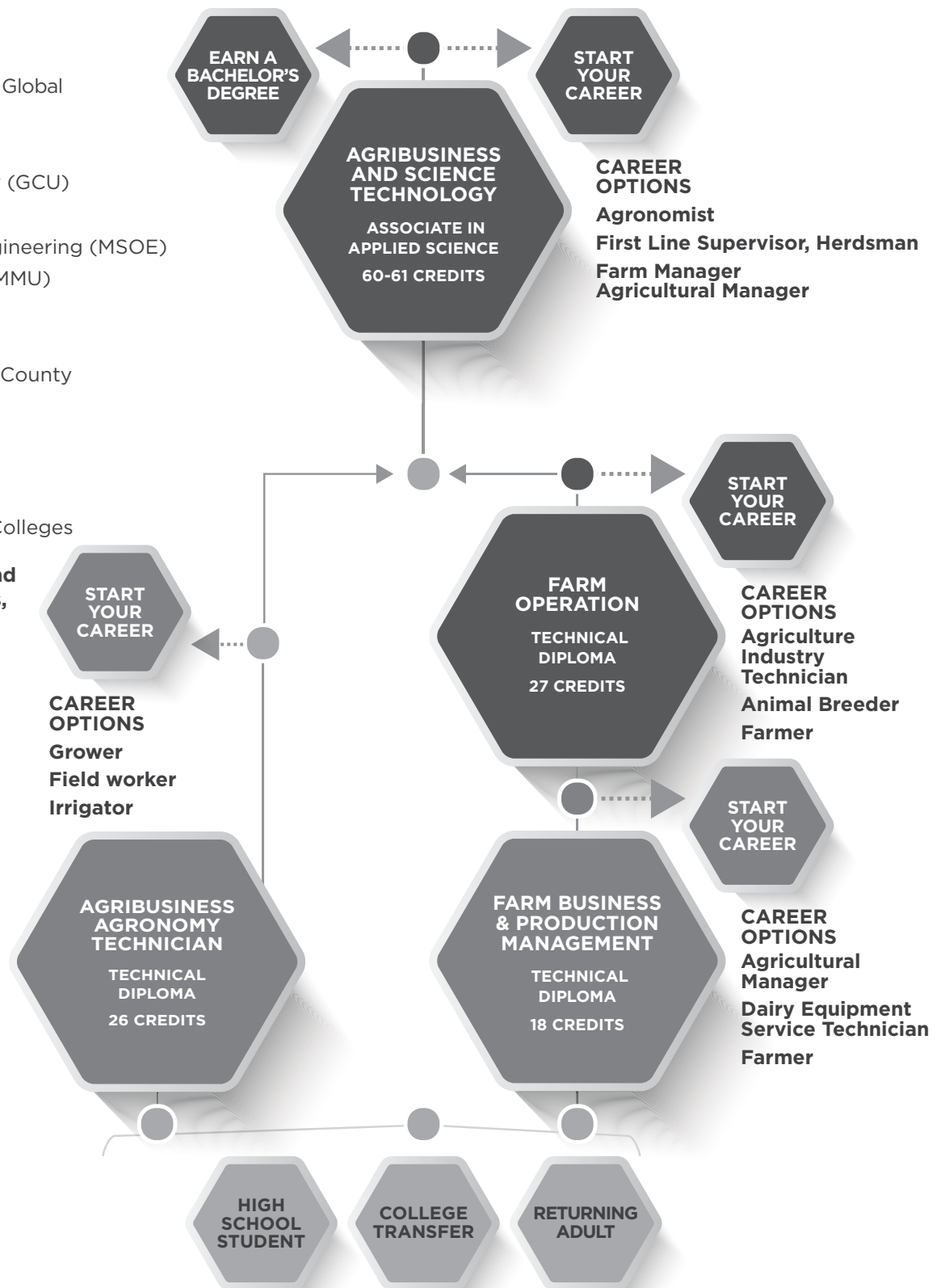
STEVENS POINT CAMPUS
1001 Centerpoint Drive
Stevens Point, WI 54481

WISCONSIN RAPIDS CAMPUS
500 32nd Street North
Wisconsin Rapids, WI 54494

BACHELOR'S DEGREE OPTIONS

Bellevue University
 Colorado State University Global
 Concordia University
 Franklin University
 Grand Canyon University (GCU)
 Lakeland University
 Milwaukee School of Engineering (MSOE)
 Mount Mary University (MMU)
 University of Phoenix
 UW-Green Bay
 UW-Marshfield of Wood County
 UW-River Falls
 UW-Stevens Point
 UW-Stout
 Wisconsin Private,
 Non-profit Universities/Colleges

For more information and additional opportunities, visit mstc.edu/transfer.



OTHER OPTIONS

RELATED PROGRAMS

- Arborist Technician

College Credit • Dual Credit
 Military Experience • Work Experience
 Learn about Credit for Prior Learning at mstc.edu/cpl.

**BEGIN AT ANY POINT
 IN THE PATHWAY**

PROGRAM OUTCOMES

Employers will expect you, as an Agribusiness and Science Technology graduate, to be able to:

- Create a crop management plan.
- Develop an agribusiness management plan.
- Apply economic and marketing strategies to agribusiness industry.
- Apply relevant technologies.
- Create a livestock management plan.
- Investigate opportunities in agribusiness.
- Interact as a professional in agribusiness.

TECHNICAL SKILLS ATTAINMENT

The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure program outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Students are notified of TSA reporting in their final few courses of the program.

NOTES:

STUDENT HANDBOOK

Visit mstc.edu/studenthandbook to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.

GRADUATION REQUIREMENT

The GPS for Student Success course is required for all Mid-State program students and is recommended to be completed before obtaining 12 credits. (Not counted in the total credit value for this program.) Some students are exempt from this requirement. Please see your program advisor for more information.

GPS for Student Success

10890102 1 credit
Integrate necessary skills for student success by developing an academic plan, identifying interpersonal attributes for success, adopting efficient and effective learning strategies, and utilizing Mid-State resources, policies, and processes. This course must be completed prior to obtaining 12 credits and is a graduation requirement.

ADDITIONAL COURSES AS NEEDED

The following courses may be recommended or required if the student does not achieve minimum Accuplacer scores.

Intro to College Reading

108381042 credits
Provides learners with the opportunities to develop and expand reading skills, including comprehension and vocabulary skills. Learners apply reading skills to academic tasks and read to acquire information from a variety of sources.

Intro to College Writing

108311033 credits
Introduces basic principles of composition, including organization, development, unity, and coherence in paragraphs and multi-paragraph documents. The purpose of this course is to prepare students for successful entry into required program courses. This course is tuition bearing and under certain circumstances may qualify for financial aid. This course cannot be used to satisfy program completion requirements at Mid-State.
Prerequisite: Accuplacer Sentence Skills score of 60 or equivalent. Proficiency in word processing skills recommended.

Pre-Algebra

108341093 credits
Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra-related courses.
Prerequisite: Accuplacer Math score of 65, Accuplacer Algebra score of 30, ABE Math Prep V 76854785 and ABE Math Prep VI 76854786 with a grade of "S." (Note: ABE Math Prep V and VI courses cannot be used to satisfy program completion requirements at Mid-State.)

SAMPLE FULL-TIME CURRICULUM OPTION

Term		13-14 credits
10006105	Agribusiness Financial Analysis	2
10080105	Intro to Soil Science	3
10091102	Intro to Animal Science	3
10093101	Integrated Pest Management	2
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
Term		16 credits
10070103	Basic Agriculture Electrical, Mechanical, and Irrigation Systems	3
10093102	Intro to Precision Agriculture	3
10091103	Animal Nutrition	4
10801136	English Composition 1	3
10806184	Plant Biology	3
Term		14 credits
10006104	Intro to Agriculture Engineering Technology	3
10070102	Precision Equipment Systems	2
10090101	Agriculture Business Management	3
10093104	Principles of Crop Management	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3
Term		17 credits
10003101	Agricultural Diesel Engine Systems	3
10006101	Agricultural Computations	3
10006102	Agribusiness Equipment & Facilities	2
10006103	Introduction to Food Science	3
10809166	Intro to Ethics: Theory & Application	3
10809188	Developmental Psychology -or-	
10809198	Intro to Psychology	3
Total credits 60-61		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to mstc.edu/classfinder.

SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10080105	Intro to Soil Science	3
10091102	Intro to Animal Science	3
Term		7 credits
10091103	Animal Nutrition	4
10093102	Intro to Precision Agriculture	3
Term		6 credits
10090101	Agriculture Business Management	3
10093104	Principles of Crop Management	3
Term		8 credits
10006101	Agricultural Computations	3
10006102	Agribusiness Equipment & Facilities	2
10003101	Agricultural Diesel Engine Systems	3
Term		7 credits
10006105	Agribusiness Financial Analysis	2
10093101	Integrated Pest Management	2
10801136	English Composition 1	3
Term		9 credits
10070103	Basic Agriculture Electrical, Mechanical, and Irrigation Systems	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3
10806184	Plant Biology	3
Term		8-9 credits
10006104	Intro to Agriculture Engineering Technology	3
10070102	Precision Equipment Systems	2
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
Term		9 credits
10006103	Introduction to Food Science	3
10809166	Intro to Ethics: Theory & Application	3
10809188	Developmental Psychology -or-	
10809198	Intro to Psychology	3
Total credits 60-61		

Agribusiness Equipment & Facilities

10006102.....2 credits

Examines arrangement and design of efficient farm buildings and equipment as well as construction requirements. Farmstead planning includes mapping of present facilities as well as evaluating usefulness and planning long and short-range goals for farmstead changes to improve economics, safety, efficiency and aesthetics. Environmental factors and animal wellness needs are identified, including space, ventilation, nutrition, and care. Also examines the appropriate use and care of feed, fertilizer, planting and harvesting equipment, and dairy and livestock equipment and facilities. Possible equipment/facility changes are discussed and business expansion is analyzed.

Agribusiness Financial Analysis

10006105.....2 credits

This course provides the student opportunities to develop necessary business skills for operating a successful farm business. These skills involve analyzing, evaluating, creating and decision-making. These skills will be used with balance sheets, Income & Expense projections, cash flow needs, budget creation, benchmarking, cost of production, inventories, credit needs and history along with loan decisions.

Agricultural Computations

10006101.....3 credits

Deals with the application of quantitative tools to support agribusiness management decisions. These management decisions are executed using spreadsheet and data analysis (e.g., Microsoft Excel) while using elementary mathematical tools in an agricultural economics context. This course is designed to prepare students for upper-level agribusiness courses as well as real-world situations in agriculture.

Agricultural Diesel Engine Systems

10003101.....3 credits

Students learn the different uses of diesel engines in an agricultural setting. This course also provides an introduction to fuel systems, exhaust systems, and electrical systems. Use of technical service resources and precision measuring is stressed.

Agriculture Business Management

10090101.....3 credits

Examines the farm business as a complex set of enterprises that all need to be managed effectively to be successful and sustainable. Students learn to develop a business plan, set short- and long-term goals, identify and implement alternatives for reaching goals. Includes strategies and tools to monitor success. Students also learn to organize and maintain farm business records as well as how to interpret and analyze the records to make sound farm management decisions.

Animal Nutrition

10091103..... 4 credits

Students demonstrate how to formulate and balance rations for several species of livestock. Includes knowledge of the nutritional needs of various species and ability to identify different feedstuffs. Students become familiar with the laws and regulations on livestock feeding along with reading, interpreting, and making recommendations from feed test reports/tags. They are also able to successfully understand the digestive systems of mono-gastric and ruminant animals.
Prerequisite: Intro to Animal Science 10091102 or consent of an instructor

Basic Agriculture Electrical, Mechanical, and Irrigation Systems

10070103.....3 credits

Students learn the fundamentals of electrical systems related to agricultural equipment and facilities. This course also builds an understanding of the AC electrical circuits used in today's agricultural businesses. Students use digital multi-meters to diagnose common electrical problems found in agricultural electrical circuits, equipment, and motors. Topics discussed include safety precautions, Ohm's law, generators, batteries, electric motors, water heaters, overcurrent protection, conductor sizing, and national electrical code requirements.

College Mathematics

10804107.....3 credits

Designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

Prerequisite: High School GPA of 3.0 or Accuplacer Arithmetic of 250 and QAS 234 or ACT of 17 or Pre-Algebra 834109 with a grade of "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

course descriptions

Developmental Psychology

10809188.....3 credits

Studies human development throughout the lifespan and explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

English Composition 1

108011363 credits

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical reading skills through analysis of various written documents.

Prerequisite: High School GPA of 3.0 or Accuplacer Writing of 262 or ACT of 20 or Intro to College Writing 10-831-103 with a grade of "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements. Proficiency in word processing skills recommended.

Integrated Pest Management

10093101.....2 credits

An effective and environmentally sensitive approach to pest management. Learners explore various approaches in integrated pest management (IPM) and gather information on the life cycles of pests and their interactions with the environment. This information in combination with available pest control methods are used to identify the most economical pest management options, with the least possible hazard to people, property, and environment.

Intermediate Algebra with Applications

10804118 4 credits

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions; operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

Prerequisite: High School GPA of 3.0 or Accuplacer Arithmetic of 263 and QAS 234 or ACT of 19 or QAS of 245, or Pre-Algebra 10834109 with a grade of "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Intro to Agriculture Engineering Technology

10006104.....3 credits

Studies engineering concepts and principles as they apply to farm power and machinery, electrical energy and processing, structures and environment, irrigation and drainage, and food engineering. Students are exposed to techniques in design, planning, construction, and performance evaluation.

Intro to Animal Science

100911023 credits

Introduces the basics of livestock management. Examines management of dairy, beef, sheep, and other common livestock with concentration on nutrition, feedstuff's classification, reproduction, genetics, animal behavior, animal health, and sustainable agriculture practices. Includes basic husbandry and care procedures for animals. A livestock management plan will be created and analyzed.

Intro to Ethics: Theory & Application

108091663 credits

Provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systemic decision-making process to these situations.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Intro to Precision Agriculture

100931023 credits

Explores agricultural applications of GPS, yield monitoring systems, and mapping. Students learn to interpret maps generated by precision agriculture equipment. Learners experience setup, calibration and operation of equipment/software designed to support the production crop industry.

Intro to Psychology

108091983 credits

This science of psychology course is a survey of multiple aspects of behavior and mental processes. It provides an overview of topics such as research methods, theoretical perspectives, learning, cognition, memory, motivation, emotions, personality, abnormal psychology, physiological factors, social influences, and development.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237 or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Intro to Soil Science

10080105.....3 credits

Designed to provide students with fundamental knowledge of soil and soil composition. Includes study of soil types, formation factors, physical properties, biological properties, and basic soil chemistry. Units covering tillage, conservation, pH, soil management, plant nutrients, and fertilizer sources are also included. Students gain the skills required to interpret soil test reports and soil survey maps and recognize qualities of various soil types. Students perform soil sampling, residue measurements, compaction assessments, and soil loss determinations per crop rotation guidelines. A nutrient management plan is created and analyzed.

Introduction to Food Science

100061033 credits

Offers students unique opportunities to learn where their food supply comes from, how the food is produced, and how consumption is met on a global basis. Applying science principles to food production will enhance the student's ability to understand the phenomena of food production.

Oral/Interpersonal Communication

108011963 credits

Focuses on developing effective listening techniques and verbal and nonverbal communication skills through oral presentation, group activity, and other projects. The study of self, conflict, and cultural contexts will be explored, as well as their impact on communication.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading Skills of 236, Writing of 237, or ACT of 15 Reading/16 Writing. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.

Plant Biology

108061843 credits

This lecture/laboratory course provides students with an in-depth study of the plant kingdom. The content includes, but is not limited to, plant cell anatomy and physiology, plant genetics, plant classification, plant anatomy and physiology, plant responses, plant life cycles, and ecology. A survey of viruses, prokaryotes, protista, and fungi as they pertain to plants is presented.

Precision Equipment Systems

100701022 credits

Provides experience with different precision farming GPS systems used on agriculture equipment. Students learn proper setup, calibration, and installation of the systems. Students also create and interpret maps and learn adjustments and settings as well as GPS display and the different functions related.

Principles of Crop Management

100931043 credits

The basic principles and concepts of sound agronomic practices are discussed for corn, soybeans, small grains, and forage crops grown in Wisconsin. All sound agronomy practices are emphasized for each crop area as it relates to cultural and other specific inputs of crop production, environmental factors, and sustainable systems.

Speech

108011983 credits

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. Bring transcripts for further evaluation if they do not meet these requirements.

Prerequisite: High School GPA of 3.0 or Accuplacer Reading of 253, Writing of 262, or ACT of 21 Reading/19 Writing, or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent. Students are encouraged to bring transcripts for further evaluation if they do not meet these requirements.