



Bridges Career Academy

Agriculture Science

Upsala High School

Introduction to agricultural careers. Explore the workings of a greenhouse and a dairy farm. Learn about agricultural products, and how agricultural manufacturing careers fit into the world of agriculture. Conduct marketing research. Operate a business by teaming with other students and learning to record business and agricultural records.

Academic Courses

- Agriculture Food Science
- Plant Science
- Aquaponics OR Hydroponics
- Veterinary Technology I OR Natural Resources/Wildlife Management I

Career Experiences

- Listen to industry speakers
- Attend the Bridges Career Exploration Day or other regional career fairs
- Experience in a greenhouse

Completion Standards

COMPLETE

- Ag Food Science**
- + 3 other**

GRADES **B** ↑

Earn a **certificate** and **green cord** at graduation



Explore types of careers
www.careerwise.minnstate.edu/careers

Review the local job outlook
www.careerwise.minnstate.edu/jobs

Find postsecondary programs
www.careerwise.minnstate.edu/education

Job Skills

In addition to having technical skills, employers expect workers in this industry to have these skills:

- Active listening and speaking skill
- Ability to work with other professionals
- Judgment and decision-making skills
- Time management
- Understand equipment and tools
- Presentation skills



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The Agriculture Academy provides students an introduction to the agricultural careers in the diverse agricultural careers of today. Students will have the opportunity to explore the workings of a greenhouse, a dairy, learn about agricultural products, and how agricultural manufacturing careers fit into the world of agriculture. The opportunity to conduct marketing research, operate a business by teaming with other students and learning to record business and agricultural records are an essential element of this academy. Hands-on projects and real-world experiences are an integral part of this Academy. For those interested in working in the natural world, this Academy is for them.

ACADEMY COURSES

Agriculture Food Science — .5 High School and/or 3 College Credits

Love food, but curious about how the ingredients in food make things happen? This course discusses where our food comes from, from the farm to the table and steps in between. Emphasis is on the chemistry and biology of food, and on experimentation with ingredients and cooking methods. Students will have the opportunity to make and eat foods and food products that they develop through trial and experimentation. Food safety and handling is emphasized. Careers in the food industry will be highlighted.

Plant Science — .5 High School and/or 3 College Credits

The course studies the growth, physiology and production of plants. Scientific management of the greenhouse such as temperature and humidity as well as pest management will be discussed. Students will conduct plant experiments, compile data and report their findings. Emphasis will be on agricultural and horticultural crops.

Aquaponics — .5 High School and/or 3 College Credits

In this course students will grow plants and fish in the same systems without the use of soils. Basics of plant science will be reviewed and the biology of fish will be explored. Anatomy, physiology, morphology and growth concerns of fish will be analyzed. Students will design aquaponic systems in the greenhouse.

Hydroponics — .5 High School and/or 3 College Credits

Students will learn the basics of plant science to research design and develop their own hydroponic systems in the greenhouse. This course explores the notion of growing without soil. Scientific concepts such as plant identification, genetics, disease, pests and management practices with are discussed.

Veterinary Technology I — .5 High School Credits

Students will explore the fundamentals of animal science, medical terminology and the biology of body systems. Laboratory experiences related to medical knowledge will be explored. The anatomy and physiology of the skeletal, muscular, circulatory, respiratory, and urinary and nervous systems will be explored.

Natural Resources/Wildlife Management I — .5 High School and/or 3 College Credits

Students will examine areas of forestry, including tree identification, timber cruising and forestry management. Students will also gain a foundation in the management of large and small wildlife in the forests of Minnesota.

COMPLETION STANDARD

Students wishing to receive a certification for this academy must earn a “B” or better in each course.

Students must take Agriculture Food Science and can choose three courses from the following:

Plant Science, Aquaponics or Hydroponics, Veterinary Technology I or

Wildlife Management/Natural Resources to complete this academy.

-OVER-



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CAREER EXPERIENCES

Students will attend the Bridges Career Exploration Day, listen to professional speakers, tour local businesses. Spending time in the greenhouse, building hydroponic and aquaponic systems highlight this Academy.

JOB SKILLS

In addition to having technical skills, employers expect their workers to have other skills such as:

- Active listening and speaking skills
- Ability to work with other professionals
- Judgment and decision-making skills
- Time management
- Understand equipment and tools
- Presentation skills

CAREER OPTIONS: www.careerwise.minnstate.edu/careers

JOB OUTLOOK: www.careerwise.minnstate.edu/jobs

POSTSECONDARY PROGRAMS: www.careerwise.minnstate.edu/education

