



**CAREER & TECHNICAL EDUCATION
CURRICULUM ADOPTION PROPOSAL (CAP) REPORT
AGRICULTURE EDUCATION
APRIL 2016**

BHM Agriculture Education Goal

The goal of the BHM Agriculture Education department is to:

- *Develop an awareness and understanding of the agriculture industry.*
- *Prepare students for the agriculture field by incorporating 21st century skills and new scientific methods that are currently being used in industry.*
- *Develop a Garden to School program so agriculture students produce fresh, wholesome vegetables at Buffalo High School and serve it to the high school cafeteria.*
- *Continue to develop CIS offerings for our department that encourage students to challenge themselves.*
- *Develop an exploratory agriculture offering to BHM middle school students.*

Background of Agriculture Education at BHM Schools

At Buffalo High School our Agriculture Education classes are elective based. All of our Agriculture education classes are single term offerings except for CIS Animal Science which is a two term class. This type of course offerings allows our students the opportunity to enroll in an agriculture education class during their high school career. Our most popular courses are Companion Animals and Animal Science at Buffalo High School. Our agriculture department offers a vast selection of animal classes.

In the last year however, the department has seen a lot of interest in the Garden to School movement where students produce fresh produce in a school setting. This interest has been incorporated into our landscape class where school gardens have been designed and built on school grounds. To meet the demands of student interests, we are developing a CIS class for our landscaping class with Hennepin Technical College. The Buffalo Agriculture Department recently received a \$6,000 grant to build a high-tunnel greenhouse to extend the growing season of vegetables that will be produced for the high school cafeteria.

Standards:

The National AFNR (Agriculture, Food, and Natural Resource) Career Cluster Content

Standards are broken down into eight pathways which include the following:

1. Agribusiness Systems (ABS)—the study of business principles, including management, marketing and finance, and their application to enterprises engaged in Agriculture, Food and Natural Resources.
2. Animal Systems (AS)—the study of animal systems, including life processes, health, nutrition, genetics, management and processing, through the study of small animals, aquaculture, livestock, dairy, horses and/or poultry.
3. Biotechnology Systems (BS)—the study of data and techniques of applied science for the solution of problems concerning living organisms.
4. Environmental Service Systems (ESS)—the study of systems, instruments and technology used in waste management and their influence on the environment.
5. Food Products and Processing Systems (FPP)—the study of product development, quality assurance, food safety, production, sales and service, regulation and compliance, and food service within the food science industry.
6. Natural Resource Systems (NRS)—the study of the management of soil, water, wildlife, forests and air as natural resources.
7. Plant Systems (PS)—the study of plant life cycles, classifications, functions, structures, reproduction, media and nutrients, as well as growth and cultural practices, through the study of crops, turf grass, trees and shrubs and/or ornamental plants.
8. Power, Structural and Technical Systems (PST)—the study of agricultural equipment, power systems, alternative fuel sources and precision technology, as well as woodworking, metalworking, welding and project planning for agricultural structures.

The standards for agriculture education can be found at this link: [National Agriculture, Food, and Natural Resources \(AFNR\) Career Cluster Content Standards](#)

Summary of Process for Review of Instructional Resources

Improvement process goal:

The Agriculture Education Department continues to meet MN Agriculture Education standards which continues to provide high quality instruction to meet with industry standards. In order for our department to meet 21st century standards we need to incorporate more laptops into our curriculum that use modern software to develop professional landscape designs. Our department can also use these laptops in our animal science curriculum which need to be updated to the latest edition. In addition to these laptops, a mobile storage laptop cart is needed to store and charge these units.

Our agriculture department will continue to expand our plant science curriculum as the demand continues to grow for the production of safe, quality food items.

Recommendations

At this time, the agriculture department has received a Minnesota Agricultural Education Leadership Council (MAELC) grant of \$6,000 for a high tunnel greenhouse to start up our Garden to School program that will provide our high school cafeteria with fresh produce grown on our crop plot at the high school. Since the Farm to School movement is popular right now, there are many grants available to our department to enhance the plant science field at BHS.

Our department recommends adding laptop computers that can be available 24/7 to enrich our growing agriculture education student population. These laptops would also enhance our student need for technology as they prepare for state and national Future Farmers of America (FFA) presentations with current and updated information. These computers could also operate future landscape design software that is required to align our curriculum with our CIS Landscaping class. Fifteen laptop computers would be an adequate number that would allow our students enough access to technology to work in a group setting. Cooperative learning is very popular in the agriculture industry. In addition to laptops, we are requesting a mobile laptop storage cart to house and charge our computers.

In the future, BCMS needs to offer an exploratory agriculture class to expose more of our students to many opportunities that the agriculture industry has to offer. Thousands of high quality jobs go unfilled every year in the agriculture area because of the lack of qualified people.

Financial Implications

Since the demand for agriculture students is soaring, there are a lot of grants available for our department to grow and expand. These grants usually don't cover items such as computers. The BHM Agriculture Department is requesting the district to purchase 15 laptops that can be used to run our landscape software and use for research in our department. Cost of fifteen laptops will cost around \$10,500 and \$600 for a mobile lab cart.

Evaluation

Curriculum evaluation will be monitored by using the following techniques:

- Student and parent surveys will be distributed and collected to be evaluated by the department.

- Increased participation in CIS classes in the agriculture department.
- Increased agriculture courses offered at BHS and BCMS.
- Increased student enrollment.
- Input from our Agriculture Alumni/Advisory group.