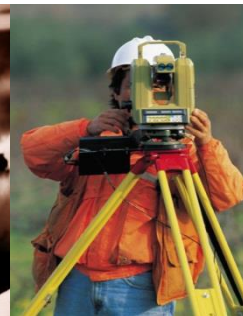


# AGRICULTURE, FOOD, AND NATURAL RESOURCE SYSTEMS CAREER LEARNING AREA

## Overview

The mission of the Hermiston HS Agriculture Department is to challenge students to explore and prepare for the diversity of the agriculture industry and the careers it provides. Students receive relevant instruction, hands-on applications, and opportunities for extended learning and skill development through the agriculture program of study.



## Careers in the Ag Program

Teacher, Veterinarian, Landscaper, Journalist, Farmer/Rancher, Botanist, Welder, Food Safety Inspector, Geologist, Fish and Wildlife, Plant Researcher, Soil Scientist, Mechanic, Salesman, Banker, etc.

## College Connections

Blue Mountain Community College

## Industry Partners

- Oxarc
- Eastern Oregon Mobile Slaughter
- DUPONT Pioneer Seed
- Barton Laser Leveling
- RDO Equipment
- S&S Equipment: New Holland
- KRISanthemums/Bennett Gardens
- Cottage Flowers

## CLUSTER Skill Sets

### Agriculture

#### Leah Smith

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(541) 667-6100, Ext. 20504

#### Alyssa Davies

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### Mechanics & Welding

#### Kelly Robison

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## Required Courses

	Credit
Physical Science Apps. in Ag	0.5
Agriculture Biology	1.0
Ag Business Management*	0.5
OR	
Landscape Design*	0.5
	Credit
Intro to Welding*	0.5
Welding 1	1.0
Welding 2	1.0
Ag Business Management*	0.5

\*Denotes course is offered for college credit.



## **AGRICULTURE, FOOD, AND NATURAL RESOURCE SYSTEMS** **CLA Course Descriptions**

### **Program Description**

The Career and Technical Education (CTE) cluster skill sets available in Agriculture and Mechanics & Welding are designed to showcase and honor those students who make the most of their opportunities in these programs. They are intended to prepare students for a seamless transition into higher education, and successful careers in the chosen field of study.

★ Dual Credit is also available for many of these classes. Check the class listing.

### **Courses**

#### **4010HS Agriculture Biology**

*Grades 9, 10*

*Credit: 1.0*

*Prerequisites: None*

Agriculture Biology is an in-depth study of organisms as they relate to agriculture. The course explores ecology, the cell, genetics, and evolutionary processes. Basic biochemistry skills and scientific inquiry will be practiced throughout the course. This hands-on course is the first step in understanding the inner-workings of plants and animals.

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#### **4150HS Physical Science Applications in Agriculture**

*Grades 9, 10*

*Credit: 1.0*

*Prerequisites: None*

Physical Science in Agriculture is designed to increase student knowledge and understanding of common physical occurrences and how they relate to agriculture. The student will investigate atomic theory, interactions of matter and energy, forces, motion, and earth space systems. This hands-on class gives the student real-life applications of the science of agriculture.

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#### **5525HS AFNR - Introduction to Agriculture, Food, and Natural Resources**

*Grades 9, 10*

*Credit: 0.5*

*Prerequisites: None*

Students participating in the AFNR course will experience exciting “hands-on” activities, projects, and problems. Student experiences will involve the study of communication, the science of agriculture, plants, animals, natural resources, and agricultural mechanics. While surveying the opportunities available in agriculture and natural resources, students will learn to solve problems, conduct research, analyze data, work in teams, and take responsibility for their work, actions, and learning. For example, students will work in groups to determine the efficiency and environmental impacts of fuel sources in a practical learning exercise. The course is structured to enable all students to have a variety of experiences that will provide an overview of the fields of agricultural science and natural resources so that students may continue through a sequence of courses throughout high school. In addition, students will understand specific connections between their lessons and Supervised Agricultural Experience and FFA components that are important for the development of an informed agricultural education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community.

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## **5530HS Horticulture ★**

*Elective Grades 9, 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity when combined with Plant Propagation*

*Prerequisites: None (Not repeatable course)*

Students will experience principles of Plant Science. Students will also study principles of greenhouse management. There will also be some introductory landscape design and maintenance. Dual Credit is available for students who successfully (A or B grade) complete: Horticulture and Plant Propagation. This class is one component of earning BMCC dual credit. See instructor for information.

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## **5535HS Plant Propagation ★**

*Elective Grades 9, 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity when combined with Horticulture*

*Prerequisites: Horticulture (Repeatable if a C- or higher is earned the first time)*

This course is a continuation of the Horticulture class. This course will introduce students to the principles of the greenhouse crop production. Through practical experience, class discussion and assigned reading, students will receive an introduction to greenhouse design and management, and the scheduling and production of select crops. Dual Credit is available for students who successfully complete with an (A or B) grade, and complete: Ag Biology, Horticulture, and Plant Propagation. This class is one component of earning BMCC dual credit. See instructor for information.

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## **5540HS Landscape Design ★**

*Elective Grades 10, 11, 12*

*Credit: 0.5 Honors Credit and Dual Credit opportunity*

*Prerequisites: Plant Propagation or Horticulture with an 80% or higher.*

This course is designed to teach students the elements of landscape design, sustainable practices in landscaping and the landscaping industry. As a part of the agriculture program of study it will build on student's prior knowledge of plant propagation and horticulture. Students will learn what plants, trees, shrubs and grasses are best suited to certain climates and soils. In addition, students will be designing and physically implementing all of the landscaping on an actual house in Hermiston as a part of the Columbia Basin Student Home Building Program. Some classes will be in the classroom learning about the foundational elements of landscape design while others will be held on site at the land lab installing the landscaping materials.

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## **5550HS Equine (Horse) Science ★ Offered on rotation - Even Year 2017-18**

*Elective Grades 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity*

*Prerequisites: None*

This is an exciting course that shows the relationship between man and horses. In this course students will observe the horse anatomy, physiology, health, nutrition, reproduction, and identify the breeds. Students will also learn about the various types of judging and shows involved. Students in the Horse Science course will also have the opportunity to be involved in the Oregon State Horse Judging contest held at Oregon State University.

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## **5560HS Veterinary Practices ★**

*Elective Grades 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity*

*Prerequisites: Biology*

The veterinary practices course will go deeper into animal science to include studies on animal health, nutrition, reproduction, animal surgery, genetics, and basic biotechnology. This course will demonstrate how to determine illnesses in animals, proper feeding regimes and current breeding techniques. With the use of genetics and biotechnology students will be able to do basic fingerprinting and operation of biotech pipettes. This will be hands on course working with animals and their anatomy and physiology.

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## **5580HS Large Meat Animal Evaluation ★**

*Elective Grades 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity*

*Prerequisites: None*

This course will provide hands-on learning of evaluating livestock. Students will be trained in genetics, anatomy, physiology, nutrition, decision making, livestock management, wholesale/retail cuts, yield/quality grading, meat formulation, oral reasons, and livestock selection.

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## **5545HS Floriculture ★**

*Elective Grades: 11, 12*

*Credit: 0.5*

*Prerequisites: Horticulture and Plant Propagation (C- or higher)*

This will be a competency based course that will provide students with training for entry-level employment in floral design. Instruction will cover the understanding of design principles and elements, flower/plant identification, the construction of floral arrangements with fresh and dried materials and basic corsage construction. Students will develop a portfolio of their work, which will assist them in future job searches. Principles of art will be taught through the construction of floral products. Production, processing and care of floral and plant products, business techniques and sales will also be covered.

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## **5542HS Animal Science ★**

*Elective Grades: 10, 11, 12*

*Credit: 1.0*

*Prerequisites: None*

*Honors Credit, Early College Credit opportunity*

This course is a yearlong program that provides students with an overview of the field of animal science. Students participate in a large variety of activities and laboratory work including real and simulated animal science experiments and projects. Areas that the students study may be applied to small and large animals. Topics to be addressed include: anatomy and physiology, genetics, reproduction and biotechnology, nutrition, aquaculture, careers in animal science, animal health, and meeting environmental requirements of animals, and management practices for the care and maintenance of animals.

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## **0250HS Food Science ★**

*Elective Grades: 10, 11, 12*

*Credit: 0.5*

*Prerequisites: Ag Biology or AFNR*

A laboratory based course to introduce students to agricultural and food products processing operations and management. Designed to include instruction in the characteristics and properties of agricultural products and processing and storage techniques. The course will cover processing and evaluation of milk and dairy products, as well as how vegetables, fruits and nuts go from the field to the grocery store shelf. Students will learn about food safety, packaging, and even create their own food label and learn to market their designed products.

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## **5520HS Agriculture Business Management ★**

*Elective Grades 11, 12*

*Credit: 0.5*

*Prerequisites: None*

This course explores the business principles that drive the vast agriculture industry as it relates to local production and global trade. Students will develop skills in critical thinking, writing, reading, presentations, and use of business computer software. Students will be challenged to defend their beliefs about agriculture and the world around them, as

well as find solutions to challenges that plague the industry. This course is designed to be a capstone of the Agriculture Science and Welding Programs of Study.

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### **5511HS Intro to Welding ★**

*Elective Grades 9, 10, 11, 12*

*Credit: 0.5 (Honors Credit, Dual Credit opportunity)*

*Prerequisites: None*

This course is designed to provide students with a broad background in the use of hand and power tools, principles of metals and general principals of welding. Students will complete projects for grades that will consist of forging, drilling, riveting, threading and the use in both gas welding and shielded metal arc welding. Emphasis is placed on beginning skills, safety, work ethic, and career opportunities.

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### **5511HS Welding 1 ★**

*Elective Grades 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity*

*Prerequisites: Ag Metals and Intro to Welding*

This course emphasizes electric welding, oxygen-acetylene welding, manual and automatic oxygen-acetylene cutting and gas metal arc welding. This is a hands-on course where students will be allowed to develop advanced skills in the field of welding. Students will also be allowed work on school or personal projects that they design. This course may be repeated with instructor approval.

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### **5521HS Welding 2 ★**

*Elective Grades 10, 11, 12*

*Credit: 0.5 Honors Credit, Dual Credit opportunity*

*Prerequisites: Ag Metals and Intro to Welding*

This course will emphasize advanced skills leading to certification. This is a hands-on course where students will be expected to produce individual projects for school, community or personal use. Certification testing may be during out-of-school time. This course may be repeated.

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## Application Instructions

1. Pick up application packet from agriculture instructors.
2. Complete program of study checklist.
3. Complete exit interview and review checklist with agriculture instructors.

## Requirements to receive a Completion Certificate, Graduation Stole:

- ✓ Earning an 80% B- or higher in all required agriculture courses within program.
- ✓ Passing score on the Agriculture NOCTI test or a department facilitated Technical Skills Assessment.
- ✓ Maintain Supervised Agriculture Experience (SAE) with record books- (print record book).
- ✓ Submit a **one-page reflection essay, 12 pt. font, single-spaced,** on the agriculture program and your future plans.
- ✓ Official transcript must be submitted with the application and essay.
- ✓ Complete application and turn in prior to deadline. **Deadline for 2017 seniors is *March 23, 2017.***

***Agriculture, Food, and Natural Resource Systems***

Applicant \_\_\_\_\_ Graduation Year \_\_\_\_\_

**Application Deadline: March 23, 2017**

**Cluster Skill Set Name Applying for:** *(check all that apply)*

Agriculture

Welding

\_\_\_\_ **Official transcript** required *(attach in a sealed envelope)*.

\_\_\_\_ Passing score on Agriculture NOCTI assessment or Technical Skills Assessment

Your Score: \_\_\_\_\_

\_\_\_\_ Maintained Supervised Agriculture Experience

\_\_\_\_ Reflection Essay

<b>Agriculture</b>			
<i>All Required courses, and at least 2 optional courses must be completed with a grade of 80% B- or higher</i>			
<b>Course Name</b>	<i>Course Credit:</i>	<b>Required or Optional For CTE</b>	<b>List semester and year completed below.</b>
Physical Science Applications in Agriculture	0.5	Required	
Agriculture Biology	1.0	Required	
Agriculture Business Management	0.5	Required	
Horticulture	0.5	Optional	
Plant Propagation	0.5	Optional	
Equine Science	0.5	Optional	
Veterinary Practices	0.5	Optional	
Large Animal Meat Evaluation	0.5	Optional	
Landscape Design	0.5	Optional	
Agriculture, Food & Natural Resources	0.5	Optional	
Animal Science	1.0	Optional	
Floriculture	0.5	Optional	
Food Science	0.5	Optional	
<b>Mechanics &amp; Welding</b>			
<i>All courses below must be completed with a grade of 80% B- or higher</i>			
<b>Course Name</b>	<i>Course Credit:</i>	<b>Required or Optional For CTE</b>	<b>List semester and year completed below.</b>
Intro to Welding	0.5	Required	
Welding 1	1.0	Required	
Welding 2	1.0	Required	
Ag Business Management	0.5	Required	

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Date