

**HAMILTON HIGH SCHOOL
BUTTE COLLEGE DUAL ENROLLEMENT
Curriculum Guide**

<u>COURSE TITLE:</u>	Plant Science
<u>PREREQUISITE:</u>	Ag Science I or consent from teacher.
<u>GRADE LEVEL:</u>	Sophomore, Junior, or Senior
<u>LENGTH OF COURSE:</u>	One Year
<u>INSTRUCTOR:</u>	Ms. Lohse

BRIEF COURSE DESCRIPTION:

Plant science is designed to give students skills in the areas of nursery management, landscaping, soil science, plant reproduction, plant physiology, and plant identification. Class activities will include greenhouse production in the fall and spring. Leadership development, business management, and employability skills will be included.

GOALS AND OBJECTIVES

1. Students will receive basic knowledge and an appreciation for the plant science industry, as well as advanced scientific principles common to all plants and research in the field of agriculture.
2. Each student will receive the hands on skills and training needed to complete appropriate secondary courses in science at the college preparatory or general education level.
3. Students will learn advanced record keeping skills including further and more detailed laboratory documentation using the scientific method.
4. Each student will further develop leadership skills through involvement in the FFA.

CLASSWORK AND FFA ACTIVITIES

- Every student will have an agriculture notebook. This notebook will hold all notes, handouts, daily starters, homework, projects, and laboratory research.
- Notebooks will need to be in class everyday and will be graded on completeness without prior notice throughout the year. Please keep them up to date and accurate.
- Attendance is important, as the activities involving discussion and classroom participation are valuable and notes cannot substitute what took place in the classroom. It is the responsibility of the students to make up any missed notes or assignments within 2 days of an excused absence. This can best be done in the morning before school, not during class instructional time. ***LATE ASSIGNMENTS WILL NOT BE ACCEPTED!*** More than 5 absences or excessive tardies may result in a loss of credits.
- Every student will be expected to participate in 2 FFA activities per semester. FFA activities will be announced, posted in class, and sent out in the FFA newsletter.
- Every student will keep a web based FFA record book that corresponds to his or her projects and activities.
- Every student will be expected to arrive for class prepared with their notebook, paper, and a pen or pencil by the time the tardy bell rings.
- Participation, cooperation and a positive attitude are encouraged from every student.
- While participating in agriculture classes, school farm activities, and FFA I understand my picture may be taken and used in media promoting FFA and Hamilton High School.

ESLR'S ADDRESSED

1.0 Content/Critical Thinker

Students will:

- 1.1 develop mastery in individual content areas

- 1.2 use available and appropriate resources to gather and apply data and basic academic skills to solve problems
- 1.3 develop and revise plans to solve a variety of complex problems and reflectively evaluate outcomes

2.0 Communicator (Written and Oral)

Students will:

- 2.1 produce relevant and justifiable responses and quality work using words, number, visuals and technology
- 2.2 communicate actively, critically and reflectively

3.0 Citizenship/Collaboration

Students will:

- 3.1 be involved constructively in school and community in preparation for responsible citizenship
- 3.2 assume responsibility for personal wellness
- 3.3 demonstrate effective goal setting strategies to create a positive vision for their future

4.0 Work Ethic

Students will:

- 4.1 Maintain good attendance and be prepared with instructive materials and completed assignments.

OUTLINE TOPICS

1. Greenhouse and Farm Safety
2. Botanical Classification
 - History and Terminology of Taxonomy
 - Characteristics of fruits, flowers, stems, and leaves
 - Identifying Ornamental Plants
3. Plant Cells
 - Structure
 - Functions
4. Physiology and Growth
 - Basic Growth Requirements
 - Monocots and Dicots
 - Climate Factors
 - Seed Germination
5. Plant Reproduction
 - Sexual Reproduction
 - Asexual Reproduction
6. Plant Processes
 - Photosynthesis
 - Respiration
 - Transpiration
7. Plant Pests and Diseases
 - Insects
 - Weed Control
 - Safe and Effective Use of Pesticides and Herbicides
 - Integrated Pest Management
8. Soils
 - Basic Soil Components
 - Seedbed Preparation
 - Soil Amendments
 - Composting
 - Soil Organisms

9. Fertilizers
 - Primary, Secondary, and Micronutrients
 - Sources of N, P, and K
 - Labeling
 - Methods of Application
10. Irrigation Methods
 - Irrigation Systems
 - Drainage
 - Watering Nursery Stock
11. Pruning
 - Purpose of Pruning
 - Timing of Pruning
 - Pruning Equipment
 - Methods of Pruning
12. Landscape Design and Maintenance
 - Plant Selection and Design
 - Turf
 - Irrigation
 - Design Techniques
 - Estimating and Bid Preparation
13. Ornamental Horticulture Industry
 - Career Opportunities and Educational Requirements
 - Horticulture Trade Associations

GRADING

Grades will be determined as follows:

Tests, quizzes, and large projects	20%
Classwork, homework, notebook	20%
Greenhouse and Farm Participation	20%
Participation, cooperation, and attitude	20%
FFA	20%

After total points have been determined, your letter grade will be calculated on the following percentages:

- A= 90-100%
- B= 80-89%
- C= 70-79%
- D= 60-69%
- F= 59% and below

I have read this course outline and agree to follow class procedures. I understand that my grade will be maintained on Aeries/ABI, and that I may check it at any time.

Printed Name:

Student Signature

Date

Parent Signature

Date