

Course Name: Horticulture

Teacher: Mr. J. Curran

Credit: 1 Credit (For completion of full year)

Clock Hours: 182

Grade Level: 11 and 12

Prerequisites: None

Teaching Resources: Textbook-Delmar-Introductory Horticulture, 5th Edition; H. Edward Reiley and Carroll L. Shry, Jr.; Copyright--1997. Extension publications from Kansas State Research and Cooperative Extension Service are also used as needed.

Course Description: This class is an introduction to the field of Horticulture. The class will consist of classroom instruction and laboratory experience. In the classroom the following topics will be discussed: FFA activities and events relating to horticulture, SAE projects relating to horticulture, record keeping in the production and sales of horticultural products, careers in horticulture, plant classification, plant growth and development, greenhouses and their operation, vegetable and fruit production, plant propagation, and pesticides and the control of plant pests and diseases. Laboratory experience will include: greenhouse operations, plant propagation methods, planting and transplanting of flowers and vegetable crops, and the marketing of these plants produced.

Horticulture Curriculum Outline

Areas of Instruction/Topic Headings	Week
I. FFA/SAE	2 - 1st Quarter
A. Explanation of Horticulture CDE	
B. Announcement of upcoming FFA Events	
C. Review of SAE programs in Horticulture	
D. Student Activity: Student will participate in upcoming activities	
II. Career Opportunities	2 - 1st Quarter
A. Scope, size and economic importance in the U. S.	
B. Selection of a career	
C. Educational requirements	
D. Student Activity: Interview the owner of a local Horticulture facility and report to class on education requirements, salary, working conditions, job duties and opportunities for advancement.	
III. Plant Classification	1 - 1st Quarter
A. Using scientific names for identification	
B. Knowing the genus, species, variety	
C. Student Activity: Identify commonly grown plants in the local area by genus, species and variety	
IV. Plant Parts and Functions	3.5 -1stQuarter
A. Internal and External Leaf Structure	
B. Leaves	
C. Roots	
D. Internal and External Stem Structure	
E. Flowers Fruits and Seeds	
F. Student Activity: 1) Draw and label a cross section of the four main plant parts. 2) Practice safety when dissecting a flower	
V. Soil and Plant Media	2.5-2nd Quarter
A. Nature and properties of soils	
B. Organic Matter	
C. Soil Media Mixes (potting soils) advantages for the greenhouse	
D. Contents of mixes	
E. Student Activity: Student's will identify the components of the soil media used in the greenhouse and explain why each one is important	
VI. Plant Propagation	1 - 2nd Quarter
A. Seeds (sexual)	

- B. Plant parts (asexual)
- C. Student Activity: Start plants from seed and start plants from plant parts
- VII. Seeding 1 - 2nd Quarter
 - A. Mixing of soil
 - B. Putting soil in plug trays
 - C. Various ways of putting seeds in trays
 - D. Covering of seeds
 - E. Watering of trays
 - F. Student activity: Plant a tray of preselected seed (vegetable or flower)
- VIII Transplanting 1 - 2nd Quarter
 - A. Preparing packs
 - B. Handling seedlings
 - C. Care of plants after transplanting
 - D. Student activity: Transplant seedlings into packs
- IX. Fertilizers 2 - 2nd Quarter
 - A. Organic
 - B. Inorganic
 - C. Soil Sampling
 - D. Methods of fertilizer application
 - E. Student activity: Take soil sample in home garden and interpret results of soil test run by KSU Soils Lab
- X. Purchasing Seeds and Plants 1 - 3rd Quarter
 - A. Popular varieties
 - B. Quantity and Quality
 - C. Student activity: Selection of seeds and plants will be economically looked at in numerous catalogs before purchasing
- XI. Growth Stimulants, Retardants, and Hormones 1 - 3rd Quarter
 - A. Stimulant-gibberellic acid
 - B. Plant growth regulators
 - C. Rooting hormones
 - D. Student activity: Use of rooting hormones in propagation of geranium cuttings

- XII. Integrated Pest Management** **2 - 4th Quarter**
A. Chemical free control
B. Natural pesticides
C. Crop rotation
D. Student activity: Draw up a rotation plan for the home garden or the SAE program
- XIII. Pesticides** **2 - 4th Quarter**
A. Types
B. Selection
C. Toxicity
D. Safety precautions
E. Student activity: Collect several pesticide labels and make up a chart as to toxicity level, crop usage, pest controlled
- XIV. Plants in the Landscape** **2.5 - 4th Quarter**
A. Annual bedding plants
B. Perennials and ornamental grasses
C. Lawn and turf grasses
D. Student activity: Give an oral report on the types of plants to use in designing their own landscape plan.
- XV. The Vegetable Garden** **2.5 - 4th Quarter**
A. Site selection
B. Soil preparation
C. Plant selection
D. Student activity: Draw up a plan for the home garden or SAE project
- XVI. Student Lab Work** **9 - All year**
A. Planting and transplanting of bedding plants
B. Propagation of plants by cuttings
C. Student activity: All costs will be figured to determine selling prices of various plants

Girard High School

Horticulture

Name _____ SSN ____-____-_____

Instructor _____

RATING SCALE: 3: Skilled, works independently
2: Competent, may need assistance
1: Received instruction, skill undeveloped
0: No exposure, instruction or training

INTEGRATION: (M) Math (S) Science
(E) Language Arts (C) Career Development Skill
(L) Lab Activity

Enrollment Date	Completion Date	Hours completed
____/____/____	____/____/____	_____

I certify that the student received the training in the area indicated.

Student Signature _____ Date _____

Instructor Signature _____ Date _____

Administrator Signature _____ Date _____

I. FFA/SAE

- 3 2 1 0 1. Relates FFA CDE to classroom instruction.
- 3 2 1 0 2. Develops goals and future SAE plans
- 3 2 1 0 3. Completes records for budgeting of resources
- 3 2 1 0 4. Compiles inventory of business and personal assets/liabilities
- 3 2 1 0 5. Prepare a written report on SAE opportunities in horticulture (E)
- 3 2 1 0 6. Develops a sales plan for plant sales
- 3 2 1 0 7. Labels plants for selling (L)
- 3 2 1 0 8. Describes plants to potential customers (L)
- 3 2 1 0 9. Displays plants for customer selection
- 3 2 1 0 10. Selects plants to put in school planters
- 3 2 1 0 11. Prepare an application for proficiency or State FFA Degree (E)

II. Career Opportunities

- 3 2 1 0 1. Identifies various horticultural careers (C)
- 3 2 1 0 2. Summarizes different educational requirements (C)
- 3 2 1 0 3. Locates different job opportunities in local area and gives oral report (C)

III. Plant Classification

- 3 2 1 0 1. Use scientific plant names correctly (S)
- 3 2 1 0 2. Describe plants using taxonomic terms (S)

- 3 2 1 0 3. Identify 10 plants commonly found in a landscape or garden (10 each of the following: bedding plants, flowers)

IV. Plant Parts and Functions

- 3 2 1 0 1. Identify parts of a plant (S)
- 3 2 1 0 2. Write the formula and explain (S, E) photosynthesis
- 3 2 1 0 3. Describe the parts of a seed (S)

V. Soil and Plant Media

- 3 2 1 0 1. Explain the process of soil formation
- 3 2 1 0 2. Determine Soil Texture (L)
- 3 2 1 0 3. Explain soil structure (S)
- 3 2 1 0 4. Define pore space (S)
- 3 2 1 0 5. Describe soil water holding capacity (S)
- 3 2 1 0 6. Define and explain permeability (S)
- 3 2 1 0 7. Select potting soils to use in the greenhouse
- 3 2 1 0 8. Prepares potting soil from raw materials (L)

VI. Plant Propagation

- 3 2 1 0 1. Differentiates between sexual and asexual propagation (E)
- 3 2 1 0 2. Breaks down the composition of a seed (S)(L)
- 3 2 1 0 3. Selects seeds that can be grown locally
- 3 2 1 0 4. Identifies plants that can be asexually propagated

- 3 2 1 0 5. Analyzes the differences between direct and indirect seeding (E)

VII. Seeding

- 3 2 1 0 1. Prepares soil for seeding (L)
- 3 2 1 0 2. Uses proper container for seeding
- 3 2 1 0 3. Compares different ways of putting seeds in trays
- 3 2 1 0 4. Demonstrates correct covering of seeds (L)
- 3 2 1 0 5. Utilizes correct watering procedures (L)

VIII. Transplanting

- 3 2 1 0 1. Selects correct size of plant for transplanting
- 3 2 1 0 2. Demonstrates how to correctly handle seedlings (L)
- 3 2 1 0 3. Adheres to correct treatment procedures after transplanting

IX. Fertilizers

- 3 2 1 0 1. Describe the methods of building soil fertility
- 3 2 1 0 2. List the macro and micro nutrients for crop production
- 3 2 1 0 3. Demonstrate soil sampling procedures (L)
- 3 2 1 0 4. Interpret soil test results
- 3 2 1 0 5. Identify nutrient deficiencies by visual symptoms (S)

X. Purchasing Seeds and Plants

- 3 2 1 0 1. Selects popular varieties for the local area
- 3 2 1 0 2. Compares prices of seed between companies (L)

XI. Growth Stimulants, Retardants, and Rooting Hormones

- 3 2 1 0 1. Explains the use of stimulants
- 3 2 1 0 2. Selects the use of growth regulators
- 3 2 1 0 3. Demonstrates the use of rooting hormones (L)

XII. Integrated Pest Management

- 3 2 1 0 1. Identify insect problems
- 3 2 1 0 2. Select natural pest control methods (S)
- 3 2 1 0 3. Prepares a written crop rotation plan (E)

XIII. Pesticides

- 3 2 1 0 1. Compares types of pesticides
- 3 2 1 0 2. Read and analyze chemical labels (E)
- 3 2 1 0 3. Matches pesticide selection with pest
- 3 2 1 0 4. Identifies toxicity level of different pesticides
- 3 2 1 0 5. Demonstrates safety when using pesticides (L)

XIV. Plants in the Landscape

- 3 2 1 0 1. Selects annual bedding plants to be used
- 3 2 1 0 2. Contrasts lawn grass and ornamental grasses (E)
- 3 2 1 0 3. Compares lawn and turf grasses
- 3 2 1 0 4. Calculates the cost of landscaping an area (M) (C)

XV. The Vegetable Garden

- 3 2 1 0 1. Prepare a written procedure for selecting a garden site (E)
- 3 2 1 0 2. Demonstrates soil preparation (L)
- 3 2 1 0 3. Appraises plant selection for the garden
- 3 2 1 0 4. Calculates the cost of planting a garden (M) (C)

XVI. Student Lab Work

- 3 2 1 0 1. Performs the necessary tasks of planting and transplanting (L)
- 3 2 1 0 2. Selects healthy plants for propagation
- 3 2 1 0 3. Calculates all costs involved in production of various plants (M) (C)
- 3 2 1 0 4. Prepares sale sheet of products (E)

XVII. Career Development Skills

- 3 2 1 0 1. Listens for words that identify a procedure
- 3 2 1 0 2. Prepares and delivers a presentation appropriate to subject matter, purpose and audience
- 3 2 1 0 3. Estimates, applies and solves problems involving fractions, decimals, percentages and real numbers
- 3 2 1 0 4. Compiles and maintains records, logs, lab notebooks, and other documents
- 3 2 1 0 5. Accesses, navigates and uses on-line services
- 3 2 1 0 6. Demonstrates characteristic of a positive self concept
- 3 2 1 0 7. Applies the steps in the decision making process
- 3 2 1 0 8. Completes team task on time
- 3 2 1 0 9. Identifies and explains the use of common supplies for a given occupational area
- 3 2 1 0 10. Identifies and eliminates “time traps”
- 3 2 1 0 11. Applies employee rules pertaining to punctuality and dependability
- 3 2 1 0 12. Accesses and uses information to develop educational and career options

XVIII. Life Knowledge Skills

- 3 2 1 0 1. Demonstrates decision making in groups HS 81
- 3 2 1 0 2. Identifies and utilizes resources available HS 97
- 3 2 1 0 3. Demonstrates communicating with customers HS 50
- 3 2 1 0 4. Develops a resume HS 37