

BUTTE COLLEGE

COURSE OUTLINE

I. CATALOG DESCRIPTION

EH 38 - Greenhouse Production

3 Unit(s)

Prerequisite(s): NONE

Recommended Prep: Reading Level IV; English Level III; Math Level III

Transfer Status: CSU

34 hours Lecture

51 hours Lab

This course is a survey of the greenhouse industry. Emphasis will be placed on analysis, description, and operation of greenhouses and other forcing structures. The relationship of light, temperature, moisture, aeration, and humidity to plant growth will be described. Emphasis will be placed on potted plants grown for foliage or flowers, cut flowers and bedding plant production.

II. OBJECTIVES

Upon successful completion of this course, the student will be able to:

- A. Identify the key types and components of a greenhouse.
- B. Recognize and describe the environmental conditions effecting greenhouse crops.
- C. Demonstrate practical, hands-on greenhouse production skills.
- D. Compute agrichemical volumes, rates, and other application inputs.
- E. Identify common horticulture crops, weeds, insects, and other pests and beneficial organisms.
- F. Develop a bill of materials for a horticulture crop production schedule.
- G. Identify greenhouse production supplies, materials, equipment and their suppliers.

III. COURSE CONTENT

A. Unit Titles/Suggested Time Schedule

Lecture

<u>Topics</u>	<u>Hours</u>
1. Survey of Floriculture Industry	2.00
2. Greenhouse Design	3.00
3. Greenhouse Heating and Cooling	4.00
4. Cut Flowers	2.00
5. Tropical Plants	2.00
6. Flowering Plants	2.00
7. Bedding Plants	2.00
8. Root Media, Soils and the Greenhouse Environment	8.00
9. Fertilization	4.00
10. Insect and Disease Management	3.00
11. Marketing and Business Management	2.00
Total Hours	34.00

Lab

<u>Topics</u>	<u>Hours</u>
1. Introduction to Greenhouse Structures and Equipment	1.50
2. Survey of Floriculture Industry	3.00

3. Greenhouse Design	4.50
4. Greenhouse Heating and Cooling	3.00
5. Tropical Plants	6.00
6. Flowering Plants	9.00
7. Bedding Plants	9.00
8. Root Media, Soils and the Greenhouse Environment	3.00
9. Fertilization	3.00
10. Insect and Disease Management	3.00
11. Marketing and Business Management	6.00
Total Hours	51.00

IV. METHODS OF INSTRUCTION

- A. Lecture
- B. Group Discussions
- C. Class Activities
- D. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
- E. Laboratory Exercises

V. METHODS OF EVALUATION

- A. Exams/Tests
- B. Quizzes
- C. Homework
- D. Written Assignments
- E. Class Discussion
- F. Laboratory Participation

VI. EXAMPLES OF ASSIGNMENTS

- A. Reading Assignments
 - 1. Read the textbook chapter on photoperiod and supplemental crop lighting. Explain how the lighting for a chrysanthemum crop grown for Mother's Day needs to be manipulated to flower for that date.
 - 2. Read the textbook chapter on pH and EC in media testing. Prepare a list of the major methods of soilless media testing and contrast these methods.
- B. Writing Assignments
 - 1. List the steps that are required to properly sow seeds for a flowering plug tray, and explain in detail in 3-5 pages the purpose of each step and why it is necessary.
 - 2. Write out, in detail (3-5 pages), what is meant by mode of action in pesticides, using insecticides as an example. Develop a mode of action rotation schedule using a minimum of four insecticides for the crops specified by your instructor.
- C. Out-of-Class Assignments
 - 1. Complete the fertilizer calculations homework problems. Solutions will be discussed in small groups in class.
 - 2. Develop a poinsettia crop schedule with spreadsheet software. Include all production dates from cuttings receipt to final sales date.

VII. RECOMMENDED MATERIALS OF INSTRUCTION

Textbooks:

- A. Nelson. Greenhouse Operation and Management. 7th Edition. Pearson Higher Ed Publishing,

2011.

Materials Other Than Textbooks:

- A. Handouts
- B. Physical and plant materials
- C. Tools, equipment and structures utilized in floral production

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