Las Positas College
3000 Campus Hill Drive
Livermore, CA 94551-7650
(925) 424-1000
(925) 443-0742 (Fax)

Course Outline for HORT 50

INTRODUCTION TO HORTICULTURE

Effective: Fall 2004

I. CATALOG DESCRIPTION:
HORT 50 — INTRODUCTION TO HORTICULTURE — 3.00 units

Introduction to general horticulture, ornamental horticulture and landscape gardening. Includes vocational and hobby values of horticulture, history of horticulture, plant structure, function, growth, reproduction, and development. Plant classification, identification, propagation, and nutrition. Soils, water management, climate adaptation, ecology, pest and disease control, propagation, planting, and maintenance.

2.50 Units Lecture 0.50 Units Lab

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	45.00
Lab Hours:	27.00
Total Hours:	72.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

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

A. recognize the importance of plant science and its relationship to healthy plant growth and development;
B. apply the basic principles of horticulture practices to plants grown in the landscape;
C. utilize technical and practical reference materials and publications to further research and knowledge within the horticulture and landscape industry;
D. utilize course information to help prepare for employment exams;
E. communicate effectively with others within horticulture and closely related fields;
F. recall and identify external and internal plant parts and function;
G. identify and utilize basic horticulture tools;
H. apply basic plant propagation techniques;
I. practice common methods to grow indoor and outdoor plants;
J. recall soil types and apply principles to improve garden and landscape soils;
K. utilize proper irrigation and fertilization practices;
L. recognize common plant growth and healthy problems;
M. practice proper plant care methods;
N. assess methods for plant propagation, development, growth and health.

V. CONTENT:
A. Horticulture science as a vocation or hobby
    1. Career opportunities and expected salaries
    2. Current local job opportunities
    3. Various disciplines related to horticulture
    4. Value of horticulture as a hobby
B. History of horticulture
    1. Old and New World horticulture history
    2. History of plant life and its development
C. Structure of higher plants
    1. Plant cell, related structures, and function
    2. Plant tissues
    3. Plant body - roots, stems, nodes, buds, leaves, flowers, related structures and functions
D. Vegetative and reproductive growth and development
    1. Vegetative development and phase change
    2. Pollination, fertilization, and reproduction
E. Environmental factors influencing plant growth
    1. Light, temperatures, moisture, gases, and gravity
    2. Climatic adaptation

3. The greenhouse effect
4. USDA and Sunset's climatic zones

F. Naming and classifying plants
1. Botanical classification of plants
2. Outline of the plant kingdom
3. Plant nomenclature
4. Derivation of botanical names

G. Plant identification
1. Methods of plant identification
2. Characteristics used to identify plants

H. Plant propagation, planting, and maintenance
1. Seed and vegetative propagation techniques
2. Budding and grafting
3. Plant growth regulators and hormones
4. Propagating equipment, tools, and materials

I. Soils and planting media
1. Soil development, composition and classification
2. Texture, structure, and soil profile
3. Soil pH, cation exchange, and salinity
4. Improving soils and drainage to improve plant growth and development
5. Soil amendments and application
6. Potting/plant container media

J. Plant maintenance and care
1. Planting trees and shrubs
2. Landscape irrigation, plant-water-soil relations
3. Water conservation methods
4. Pruning and training plants
5. Pest control – basic concepts

K. Plant nutrients and Fertilization
1. The 16 essential plant nutrients
2. Utilization of plant nutrients
3. Plant nutrient requirements
4. Fertilizer materials and application

VI. METHODS OF INSTRUCTION:
A. **Lecture** -
B. **Discussion** -
C. **Demonstration** -
D. Media presentations
E. **Field Trips** -
F. Professional speakers
G. **Lab** - exercises

VII. TYPICAL ASSIGNMENTS:
A. Weekly reading assignments in text related to lecture topics B. Field trips to specific locations C. Laboratory exercises – soil testing, plant identification, and pruning D. Propagation by seed, cuttings, grafting and budding

VIII. EVALUATION:
A. **Methods**

1. Other:
a. Methods and Frequency
1. Three written exams
2. Assigned projects
3. Laboratory assignments

b. Typical exam questions
1. Draw a cross section of a mature dicot stem and label all parts.
2. Draw a typical soil profile and label all important layers.
3. List the 16 essential plant nutrients and place them in their proper categories/classification.
4. Indoor plant or herbaceous plant cutting a can be best propagated
a. in spring
b. summer
c. winter
d. anytime of the year with protection
5. There are two parts of the annual growth rings in dicot plants, which produce a dark and light color ring each year.
a. True
b. False

B. **Frequency**

-

IX. TYPICAL TEXTS:
1. - *Western Garden Book*., Sunset Publishing Corp., 2000.
2. E. Reiley *Introductory Horticulture.* 6th ed., Delmar, Thompson Learning, 0.

X. OTHER MATERIALS REQUIRED OF STUDENTS: