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

Course Outline for VWT 10

INTRODUCTION TO VITICULTURE

Effective: Fall 2013

I. CATALOG DESCRIPTION:
VWT 10 — INTRODUCTION TO VITICULTURE — 3.00 units

An introduction to viticulture; growing grapes, including historical aspects of grape cultivation for wine grape species and varieties; botany, anatomy, propagation, climate, cultivation, vineyard management, plant-soil-water relations, irrigation, fertilization, pruning, weed, insect pest and disease control; establishment, training and pruning grape vines, harvest and post harvest operations. Brief overview of wine making. 3 hours lecture.

3.00 Units Lecture

Grading Methods:
Letter Grade

Discipline:

	MIN
Lecture Hours:	54.00
Total Hours:	54.00

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:

1. Identify and name all structures of the vine at different levels of vine development, including above and below the ground.
2. Describe the importance of grapes in world history
3. Describe the evolution of grape production in California and on a world wide basis
4. Describe the use and application of specific grape species and varieties
5. Outline the basic aspects of grape vine biology and physiology
6. Describe grape plant structures and thier functions
7. Explain aspects of grapevine growth and development
8. Describe the cultural practices involed with vineyard management.
9. Describe the importance of the relationship of soil and climate relative to grape production
10. Outline the basics of wine making

V. CONTENT:

A. Topics of Lecture and Discussion
1. Structure of the grapevine
2. History of grape cultivation and world distribution
3. Important species and cultivars used throughout the world and United States grape growing regions.
4. Evolution and taxonomy of exploited species and important cultivars, varieties and rootstocks.
5. Grape production in California: history, geography, raisin, table and wine grape regions and cultivators.
6. Morphology and anatomy: important cell and tissue types; structure and function.
7. Grape physiology: photosynthesis, transpiration, environmental control of growth and development.
8. Growth and development: dormancy and budbreak, phonology, vegetative and reproductive growth, berry growth and composition.
9. Grape vine propagation methods, techniques and applications.
10. Vineyard soils, cultivation and management
11. Vineyard water – plant – soil relations
12. Grape vine water and nutrient requirements, soil fertility, irrigation and fertilization management.
13. Essential plant nutrients, application methods; water and nutrient deficiency symptoms.
14. Vineyard establishment and management;: site selection, orientation, soil preparation, planting, training, trellis design, trellis systems, and canopy management.
15. Seasonal vegetative training, management and dormant pruning.
16. Pruning systems and techniques
17. Pest control: weed pests, insect pests, diseases of grapes, their control and management.
18. Harvest and postharvest operations: maturity factors, raisin types and processing, table and wine grape harvesting processing and storage.
19. Wine making; a brief overview.

B. Hands-on learning activities:
1. Budding and grafting

2. Pre-pruning and Pruning
3. Soil and plant moisture analysis
4. Vineyard management techniques
5. Wine making basics

VI. METHODS OF INSTRUCTION:

A. **Lecture** -
B. **Discussion** -
C. **Observation and Demonstration** - hands-on learning activities relative to viticultural practices
D. **Field Trips** -
E. **Audio-visual Activity** -

VII. TYPICAL ASSIGNMENTS:

A. Weekly reading assignments in text related to lecture topics

For Example: Read the article titled "Irrigation practices in high clay soils" and respond in writing to questions such as:

What is the recommended water amount (per plant) per week during the hottest days of the ripening period?

How would overwatering post-veraison effect fruit quality?

B. Particpation in field trip activities at specified locations

C. Written assignments on vineyard cultural practices

For example: Label the vine diagram with the following parts: graft callous, trunk, head, arm, spur, bud, internode, shoot, cane

VIII. EVALUATION:

A. **Methods**

1. Exams/Tests
2. Quizzes
3. Field Trips
4. Class Participation
5. Home Work
6. Class Performance
7. Final Performance
8. Other:
    a. Methods: typical examples of evaluation
        1. Written examinations
        2. Reading and homework assignments
        3. Lecture and participation in hands-on viticultural practices
        4. Field Trip participation
        5. Student participation in classroom and field work

B. **Frequency**

1. Frequency
    a. At least one mid-term exam
    b. One final exam
    c. One graded field study report

IX. TYPICAL TEXTS:

1. Skelton, S (2011). *Viticulture; An Introduction to Commercial Grape growing for Wine Production* (1st ed.). : Perfect Paperback.
2. Robinson, J. (2012). *Wine Grapes; A complete guide to 1,368 Vine Varieties Including their Origins and Flavors* (1st ed.). : Ecco.
3. Neel, D. Pub "Wines and Vines." 2013.
4. Wine Communications Group Inc. Pub "Wine Business Monthly." 2013.
5. Neel, D. Pub "Practical Winery and Vineyard Journal." 2013.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

A. Students are required to wear appropriate clothing and footwear in the vineyard
B. Professional grade vineyard pruning shears