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Course Outline for VWT 10
INTRODUCTION TO VITICULTURE
Effective: Fall 2004

I. CATALOG DESCRIPTION:

VWT 10 — INTRODUCTION TO VITICULTURE — 3.00 units

An introduction to viticulture; growing grapes, including historical aspects of grape cultivation for raisins, wine and table grapes, 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. Students who have completed or are enrolled in Horticulture 70 may not receive credit. 3 hours.

3.00 Units Lecture

Grading Methods:

Letter or P/NP

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. demonstrate knowledge of the importance of grapes in world history
2. demonstrate knowledge of grape production in California and on a world wide basis
3. describe the use and application of specific grape species and varieties
4. outline the basic aspects of grape vine biology and physiology
5. describe basic grape plant structures and functions
6. explain aspects of grapevine growth and development
7. demonstrate knowledge of vineyard management and cultural practices
8. describe the importance of the relationship of soil and climate relative to grape production
9. demonstrate knowledge of the basics of wine making

V. CONTENT:

A. Topics of Lecture and Discussion

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

B. Laboratory and field Study

1. Grapevine propagation and production
2. Budding and grafting

3. Pruning
4. Soil analysis
5. Vineyard management
6. Wine making

VI. METHODS OF INSTRUCTION:

- A. **Audio-visual Activity** -
- B. **Field Trips** -
- C. **Lab** - Laboratory demonstrations and discussion
- D. **Lecture** -
- E. **Discussion** -
- F. **Lab** - Student hands-on laboratory activities and field practice

VII. TYPICAL ASSIGNMENTS:

- A. Weekly reading assignments in text related to lecture topics
- B. Field trips at specified locations
- C. Vineyard cultural practices, e.g. Training and pruning

VIII. EVALUATION:

A. **Methods**

1. Exams/Tests
2. Field Trips
3. Class Participation
4. Home Work
5. Lab Activities
6. Other:
 - a. Methods: typical examples of evaluation
 1. Written examinations
 2. Reading and homework assignments
 3. Lecture and laboratory attendance
 4. Field Trip attendance
 5. Student participation in classroom and field work
 - b. Sample Text questions:
 1. Thompson Seedless grape vines should be pruned during the _____ time of year?
 - a. Summer
 - b. Just before harvest
 - c. Early Spring
 - d. Fall/Winter
 2. Preferred soils for most wine grapes is
 - a. Clay
 - b. Loam
 - c. Sand
 - d. Silt
 3. All table grapes in California are harvested at the same time and date.?

B. **Frequency**

1. Frequency
 - a. Three or more mid-term exams
 - b. One final exam
 - c. Two or more graded field study reports

IX. TYPICAL TEXTS:

1. A.J Winkler, James A. Cook, and Lloyd Lider *General Viticulture*. 2nd ed., University California Press, 1974.
2. Michael G. Mullins, Alain Bouquet (Contributor), Larry E. Williams (Contributor) *Biology of the Grapevine*., Cambridge University, 0.

X. OTHER MATERIALS REQUIRED OF STUDENTS: