

**VIT 53 Course Outline as of Spring 2009****CATALOG INFORMATION**

Dept and Nbr: VIT 53 Title: ADV VINEYARD PRODUCTION

Full Title: Advanced Vineyard Practices for Quality Production

Last Reviewed: 9/13/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: AG 57E

**Catalog Description:**

Course presents principles and cultural practices utilized in the vineyard to produce high quality North Coast wines. A thorough look at the practices of fertilization, irrigation, trellis design, and canopy management as they relate to wine quality factors. Includes lectures, guest speakers, and field trips to local vineyards and wineries.

**Prerequisites/Corequisites:****Recommended Preparation:**

Completion of VIT 52, and Eligibility for ENGL 100 or ESL 100.

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Principles and cultural practices utilized in the vineyard to produce high quality North Coast wines. Practices of fertilization, irrigation, trellis design & canopy management as related to wine quality factors. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Completion of VIT 52, and Eligibility for ENGL 100 or ESL 100.

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective: Fall 1987	Inactive:
<b>UC Transfer:</b>		Effective:	Inactive:

### **CID:**

#### **Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Outcomes and Objectives:**

Upon completion of course, students will be able to:

1. Identify factors affecting vineyard yield and wine quality.
2. Summarize principles for the production of wine grape quality.
3. Evaluate the effects of trellis design and canopy management on wine quality.
4. Identify and describe the most important canopy management systems in use around the world.
5. Calculate and apply formulas for pruning and balancing the vine.
6. Classify basic wine markers in grape varieties.
7. Summarize the principles of fertilization and irrigation management for premium wine production.
8. Show the relationship between grapevine physiology and grape quality.
9. Adopt quality assurance procedures to improve wine quality.

### **Topics and Scope:**

#### I. Introduction

- A. Quality winemaking starts in the vineyard
- B. Factors affecting vineyard yield and wine quality
- C. Principles for the production of wine grape quality
- D. Managing for quality

#### II. Trellis Design and Wine Quality

#### III. Canopy Management and Wine Quality

- A. Physiological basis for canopy management
- B. Effect of sunlight
  1. Vine photosynthesis
  2. Fruit ripening
  3. Bud initiation

4. Other yield concerns
- C. Optimal utilization of available sunlight
- D. Deleterious effects of canopy shade on wine grape composition
- E. Canopy microclimate effects on important diseases
  1. Botrytis bunch rot
  2. Powdery mildew
- F. Choice and management of wine grape training systems
  1. Most important canopy management systems in use around the world today
    - a. VSP (vertical shoot position) systems
    - b. Vertically split systems
    - c. Horizontally split systems
  2. Designs to improve yield and quality
  3. Designs to reduce shoot vigor
  4. Designs to facilitate mechanization
  5. Guidelines for selecting a training system
- IV. Advanced Pruning Techniques
  - A. Cordon pruning
    1. Balancing crop load
    2. Fine tuning the vine
      - a. traditional formulas
      - b. contemporary formulas
      - c. trunk diameter formula for training and pruning young vines
  - B. Cane pruning
    1. Balancing crop load
    2. Fine tuning the vine
      - a. traditional formulas
      - b. contemporary formulas
      - c. trunk diameter formula for training and pruning young vines
- V. Fertilization (Nutrition Management) for the Production of Premium Wines
- VI. Irrigation Management for the Production of Premium Wines
- VII. Grapevine Physiology and Wine Quality
  - A. Grapevine physiology
    1. Relevance to grapevine performance and grape quality
    2. Growth cycle stages
  - B. Berry physiology
- VIII. Grape Varieties and Wine Markers
- IX. Vineyard Quality Assurance
  - A. Record keeping requirements of modern viticulture
  - B. Quality assurance procedures to improve quality
- X. Future Industry Trends
- XI. Special Topics
  - A. Using climatic data for determining grape varieties to plant
  - B. Soils for premium grape quality
  - C. Mildew control programs and winery concerns
  - D. Other

**Assignment:**

Representative assignments:

1. Four written reports (2-3 pages each) on premium wine grape production

and cultural practices.

2. Research report (2-3 pages) on future trends in viticulture.
3. Homework problems: pruning formulas.
4. Oral presentation of research report findings.
5. Complete lecture summary forms (or compile lecture notes) for each guest speaker.
6. Approximately 15-20 pages per week of reading.
7. Midterm and final exam.
8. Written report on the practices that are implemented on the site visits (field trips)

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Research and other reports; lecture notes.

Writing  
20 - 50%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Pruning formulas.

Problem solving  
10 - 20%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Oral presentation.

Skill Demonstrations  
10 - 20%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion, Short answer.

Exams  
30 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Participation.

Other Category  
0 - 10%

### Representative Textbooks and Materials:

Sunlight to Wine. Smart, Richard. Smart, et al, 2001.

Growing Quality Grapes to Winery Specifications. Krstic, Mark. Winetitles, 2003.

The Code of Sustainable Winegrowing Workbook. Dlott, Jeff et. al., editors. Wine Institute and California Institute of Winegrowers, 2002.

Wine Grape Varieties in California. University of California Agriculture & Natural Resources Publication 3419. Regents of the University of California, 2003.

Climate. Monographs in Cool Climate Viticulture - 2. Jackson, Davis.  
Daphne Brasell Associates, Ltd., 2001.

Pruning and Training. Monographs in Cool Climate Viticulture - 1. Jackson,  
Davis. Daphne Brasell Associates, Ltd., 2001.

General Viticulture. Winkler, Albert Julius. University of California  
Press, 1975.