

CATALOG INFORMATION

Dept and Nbr: VIT 52

Title: VITICULTURE: SPRING PRAC

Full Title: Viticulture: Spring Practices

Last Reviewed: 9/13/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

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

Also Listed As:

Formerly: AG 57B

**Catalog Description:**  
Viticulture practices for spring including vineyard establishment, training, pest control, soils, frost protection, irrigation practices, quality control measures and vineyard equipment use.

**Prerequisites/Corequisites:**

**Recommended Preparation:**  
Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:**

**Schedule of Classes Information:**  
Description: Spring vineyard practices for wine grape production. Pruning, pest control, irrigation, vine training and establishment practices. (Grade Only)  
Prerequisites/Corequisites:  
Recommended: 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 1981	Inactive:
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<b>UC Transfer:</b>		Effective:		Inactive:
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Outcomes and Objectives:**

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

1. Identify internal and external grapevine structures and their functions.
2. Determine the appropriate method of pruning for a given grape variety.
3. Evaluate various methods of pruning as they relate to quality grape production.
4. Select and properly handle vine products for vineyard planting.
5. Evaluate approaches to weed control and pest and recommend appropriate methods.
6. Identify disease symptoms common in the spring vineyard.
7. Identify vineyard pests and recommend appropriate control methods.
8. Compare and contrast the different methods of frost control.
9. Outline steps for laying out and planting a vineyard
10. Compare and contrast various planting techniques.
11. Develop an effective fertilization plan for the spring vineyard.
12. Determine appropriate irrigation methods for and water needs of grapevines.
13. Manage a grapevine canopy for maximum fruit production and flavor.
14. Identify and describe uses for various pieces of vineyard equipment.
15. Schedule appropriate vineyard farming and management practices throughout the vineyard growth cycle.

### **Topics and Scope:**

- I. Grapevine Anatomy and Physiology
  - A. Internal and external structures
  - B. Photosynthesis and its relationship to cultural techniques
  - C. Spring growth cycle
- II. Propagation and Nursery Operations
  - A. Vine products
    1. Grapevine products

- a. Scion cuttings
    - b. Rootstock cuttings
  - 2. Dormant rootings
    - a. Scion rootings
    - b. Rootstock rootings
  - 3. Dormant bench-grafted vines
  - 4. Grafted potted green-vines
- B. Budwood collection
  - 1. Sanitation
  - 2. Cold storage
- III. Weed Control
  - A. Pesticide safety and protective equipment
  - B. Weed Control
    - 1. Weed identification
    - 2. Control techniques
      - a. Chemical
      - b. Organic and sustainable weed control
    - 3. Age of vine
- IV. Disease Control
  - A. Diseases of grapevines
    - 1. Winter
    - 2. Spring
    - 3. Summer
    - 4. Fall
  - B. Control methods
    - 1. Conventional
    - 2. Sustainable
    - 3. IPM (integrated pest management)
    - 4. Organic
- V. Insect Pest Control
  - A. Identification
  - B. Control methods
  - C. Rodents
  - D. Birds
- VI. Frost Control
  - A. Mechanical methods
    - 1. Wind machines
    - 2. Heaters
    - 3. Sprinklers and micro-pulsators
  - B. Cultural methods
- VII. Vineyard Layout and Planting
  - A. Layout
  - B. Planting
    - 1. Sorting
    - 2. Trimming stock
  - C. Planting methods
    - 1. Hand
    - 2. Auger
    - 3. High pressure water
    - 4. Mechanical planters
- VIII. Vineyard Soils and Fertilizer
  - A. Soils

1. Types, texture and structure
2. Soil profile and horizons
- B. Fertilization
  1. Visual evaluation
  2. Chemical soil test
  3. Tissue analysis
  4. Amendments
  5. Fertilizer needs
- C. Fertilizer application techniques and equipment
  1. Foliar
  2. Fertigation
  3. Broadcast
- IX. Irrigation Theory and Practice
  - A. Water needs of grapevines
  - B. Irrigation system selection and installation
  - C. Drip irrigation vs. other systems
  - D. Moisture measuring devices
- X. Canopy Management
  - A. Canopy evaluation
  - B. Crop control
    1. Shoot thinning
    2. Cluster thinning
  - C. Cordon suckering and weak shoot removal
  - D. Shoot positioning
- XI. Vineyard Equipment
  - A. Tractors
    1. Wheel
    2. Tract
  - B. Implements
    1. Discs
    2. Tillage equipment
    3. Mowing equipment
    4. In-row equipment
  - C. Sprayers
- XII. Crop Projections
- XIII. Farming and Managing an Established Vineyard
  - A. Overview of vineyard practices during the growth cycle
  - B. Vineyard floor management
  - C. Vineyard facilities maintenance
  - D. Equipment repair and maintenance
  - E. Harvest Preparation
- XIV. Sustainable Agricultural Practices
- XV. Organic Agricultural Practices

### **Assignment:**

Representative assignments:

1. Reading, 15 - 20 pages per week.
2. Lab activities such as:
  - a. Pruning and training
  - b. Sorting and planting techniques
  - c. Vineyard layout - mapping a vineyard

- d. Irrigation
3. Lab reports, 2-3 pages per activity.
4. Four quizzes; midterm; final exam.

### 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.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

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

Lab reports

Problem solving  
20 - 30%

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

Pruning and training.

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  
60 - 70%

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

None

Other Category  
0 - 0%

### Representative Textbooks and Materials:

General Viticulture, 2nd edition. Winkler, A.J. UC Press, 1974.  
Grape Pest Management, 2nd edition. UC Cooperative Service/  
Growing Quality Grapes to Winery Specifications. Krsic, Mark and Moulds, Gregory. Winetitles, 2003.  
Western Fertilizer Handbook, 9th edition. Prentice Hall, 2002.