

Reedley College  
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AgNR Department  
Plant Science 4A

## **Plant Science 4A – Tree & Vine Management**

### **Course Description**

An overview of orchard & vineyard crop management in California with an emphasis on those grown in the Central Valley. Subjects covered include: site development, variety characteristics and selection, orchard physiology, pest management, pruning, fertility management, irrigation management, harvest, and marketing.

### **Units and Hours**

3 units; 2 hours Lecture - MW 11:00 a.m. to 11:50 a.m.  
Laboratory - W 3:00 p.m. to 5:50 p.m.  
Final: May 15, 2017 – 11:00-12:50

### **Textbook**

A. Peaches, Plums, and Nectarines : Growing and Handling for Fresh Market.  
University of California. Publication 3331.

B. Viticulture. Volume 2, Practices. Edited by Coombe, B.G., and Dry, P.R. Winetitles.  
Underdale. 1992.

### **Assignments and Grading**

Three major tests will be given that correlate to the assigned readings and course lecture notes. Quizzes will be given weekly on the discussed subject matter.

		Point Distribution		
1.	Assignments/Quizzes			200
2.	Laboratory Assignments & Participation			200
3.	Examinations			600
	Total			1000
90% = A	80% = B	70% = C	60% = D	Less = F

<b><u>Important Dates:</u></b>	Last Day to Drop Class with Refund:	January 20, 2017
	Last Day to Drop w/o Transcript Record:	January 27, 2017
	Last Day to Change CR/NR:	February 3, 2017
	Last Day to Drop w/o Letter Grade Assigned:	March 19, 2017

**Assignments:** All assignments are due at the beginning of class on the date due. Late submission of assignments will be assessed a penalty of 50%. No exceptions are made.

**Academic Dishonesty:** Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper or project; failure in course; and or expulsion from the University. For more information refer to the "Academic Dishonesty" policy in the College Catalog.

**Need for Assistance:** If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it, or which will require academic accommodations, please notify me as soon as possible.

**Posting of Grades:** Final grades will not be posted. If you wish to have your final grade sent to you, please bring a self-addressed, stamped envelope to the final exam.

**Attendance**

Attendance of lectures and labs is required and roll will be taken at each meeting. A "tardy" is considered an absence unless the student contacts and explains the incident. Students must make prior arrangements with the instructor to be excused from lectures and labs, make-up of missed tests and labs are permitted only with excused absences.

**Office Hours - Ag 4**

Monday 9:00

Thursday 9:00

Friday 9:00 – Online

**Lecture Schedule**

<u>Week</u>	<u>Topics</u>	<u>Reading Assignments</u>
1	Introduction/Administration	
1	Introduction/Varieties/Rootstocks	
2	Holiday - No Class	
2	Propagation	
3	Orchard & Vineyard Design	
3	Training & Pruning	
4	Growth & Development	
4	Growth & Development	
5	Photosynthesis & Respiration	
5	Photosynthesis & Respiration	
6	Holiday - No Class	
6	Review	
7	Examination I	
7	Dormancy & Plant Hardiness	
8	Pollination/Flowering	
8	Fruit Thinning/Tree Girdling	
9	Soil & Water Analysis	
9	Soil & Water Analysis	
10	Mineral Nutrition	
10	Mineral Nutrition	
11	Mineral Nutrition	
11	Orchard Fertilization	
12	Orchard Fertilization/Review	
12	Examination II	
13	Irrigation Management	
13	Irrigation Management	

14	Integrated Pest Management
14	Insect & Mite Pest Management
15	Insect & Mite Pest Management
15	Orchard Diseases
16	Orchard Diseases/Weeds
16	Nematodes
17	Harvesting & Marketing
17	Review

### **Course Outcomes**

- A. Explain the physiological processes occurring within vineyards/orchards and analyze the management and cultural operations that affect these processes.
- B. Demonstrate skills and competencies in pruning, fertilization, pesticide application, systems calibration, and irrigation scheduling and systems evaluation.
- C. Perform economic analyses of orchard/vineyard operations and profit and loss scenario.
- D. Identify optimum trellis, training and layout systems for tree and vine varieties and special conditions
- E. Analyze orchard and vineyard soil and tissue laboratory results and recommend efficient and economical solutions.

### **Course Objectives**

- A. Identify the general structure and physiology of the fruit trees and grapevines.
- B. Identify key growth stages and the operations that are stage sensitive.
- C. Demonstrate skills in the area of cultural operations for the maintenance of vineyards and orchards.
- D. Identify pests, diseases, nutrient deficiencies, and other stressors.
- E. Perform budgets, cash flows and development costs for orchards and vineyards.
- F. Learn different marketing strategies for tree fruit, grapes, and wine.
- G. Plan irrigation seasonal schedules and amounts.
- H. Contrast and compare trellis and training systems.
- I. Evaluate soil properties and nutrient status to prescribe optimum fertilizers types and rates, and other necessary amendments.