

VIT 122 Course Outline as of Fall 2022**CATALOG INFORMATION**

Dept and Nbr: VIT 122 Title: VINE CANOPY MNGMT

Full Title: Vineyard Canopy Management

Last Reviewed: 9/13/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	9.00	2	Lecture Scheduled	18.00
Minimum	1.00	Lab Scheduled	0	2	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	9.00		Contact Total	18.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 36.00

Total Student Learning Hours: 54.00

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 281.21

Catalog Description:

Latest techniques in developing trellising systems for wine grape production. Principles and practices of canopy management are covered, focusing on improving grape and wine quality.

Prerequisites/Corequisites:**Recommended Preparation:**

Course completion of VIT 120

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

Description: Latest techniques in developing trellising systems for wine grape production. Principles and practices of canopy management are covered, focusing on improving grape and wine quality. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Course completion of VIT 120

Limits on Enrollment:

Transfer Credit:

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:		Effective:	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Define microclimate, mesoclimate, macroclimate within the vineyard.
2. Explain how vine microclimate affects vine growth, fruit quality and bud fruitfulness.
3. Identify various canopy management techniques and explain how each can alter vine microclimate.
4. Assess and evaluate canopy management practices and make recommendations for improvement.

Objectives:

In order to achieve these learning outcomes, during the course students will:

1. Define and give examples of grapevine canopy management techniques.
2. Compare and contrast various grapevine trellis support systems.
3. Describe the yearly vineyard cycle in the context of both vegetative and reproductive growth.
4. Compare and contrast pruning methods for producing a balanced vine.
5. Describe the importance of sunlight and microclimate on vine productivity.
6. Evaluate the relationship between effective canopy management and wine grape quality.
7. Assess canopy management practices for their effects on wine grape quality.

Topics and Scope:

I. Introduction to Canopy Management

- A. Definitions and vocabulary
- B. Review of grapevine phenology
- C. Goals of canopy management
- D. Relationship of canopy management with pruning concepts
- E. Richard Smart system of canopy evaluation (vineyard scorecard)

II. Overview of Pruning, Training, and Trellis Systems

- A. Pruning systems
 1. Spur
 2. Cane

- 3. Hybrid
- B. Trellis systems
 - 1. Vertical and vertical split canopies
 - 2. Horizontal split canopies
 - 3. Shoot positioning versus non-shoot positioning
 - 4. Retro-fitting
- III. Basic Grapevine Phenology and Growth Cycle with Eichorn-Lorenz Numbers
- IV. Vine Balance
 - A. Site vigor potential and its components
 - B. Fruit: pruning weights method
 - C. Pruning formulas/ bud counts
 - D. Dense vs. open canopies
- V. Canopy Configuration
 - A. Single curtain
 - B. Double curtain
 - C. Influence of training/trellis system on vine growth
- VI. Importance of Sunlight
 - A. Quantity, quality, and distribution
 - B. Leaf exposure
 - C. Fruit exposure
 - D. Dormant bud exposure
 - E. Influence of microclimate on vine productivity
 - 1. Exposed canopies, sunburn and other potential problems
 - 2. Temperature and berry damages
 - 3. Strategies to protect grapes from sunburn
- VII. Management factors that influence vine vigor
 - A. Single curtain
 - B. Double curtain
 - C. Influence of training/trellis system on vine growth
- VIII. Managing Vine Vigor
 - A. Tools
 - 1. Irrigation
 - 2. Fertilization
 - 3. Rootstocks
 - 4. Trellis systems
 - 5. Pruning methods
 - B. Managing high vigor vs. low vigor vines
- IX. Canopy Assessment
 - A. Vineyard score card
 - 1. Richard Smart system
 - 2. Patrick Iland system
 - B. Shoots per meter
 - C. Sensory evaluation of wine and canopy management trials
- X. Troubleshooting Canopy Management Problems

Assignment:

- 1. Weekly reading (20-25 pages)
- 2. Fill out two vineyard scorecards, evaluating canopy management practices at specified vineyards.
- 3. Report summarizing recommendations for improving canopy management from vineyard scorecard results (3-5 pages).

4. 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.

Summary reports

Writing
30 - 30%

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

Vineyard scorecards

Problem solving
30 - 30%

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

None

Skill Demonstrations
0 - 0%

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

Final Exam

Exams
40 - 40%

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

None

Other Category
0 - 0%

Representative Textbooks and Materials:

The Grapevine from the Science to the Practice of Growing Grapes for Wine. Iland, Patrick and Dry, Peter and Proffitt, Tony and Terman, Steve. Patrick Inland Wine Promotions Pty Ltd. 2011 (classic)

Instructor prepared materials.