VIT 130 Course Outline as of Spring 2008

CATALOG INFORMATION

Dept and Nbr: VIT 130 Title: GRAPEVINE PHYSIOLOGY
Full Title: Grapevine Physiology
Last Reviewed: 9/27/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	4.50	4	Lecture Scheduled	18.00
Minimum	1.00	Lab Scheduled	0	4	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	4.50		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:	

Catalog Description:
An advanced viticulture theory short course that covers grapevine physiology and phenology. Topics include vine balance, flowering and fruit set, stages of berry growth, and vine water status. This course is designed for those working in the winegrape industry and already familiar with basic vineyard operations.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: An advanced viticulture theory short course that covers grapevine physiology and phenology. Topics include vine balance, flowering and fruit set, stages of berry growth, and vine water status. This course is designed for those working in the winegrape industry and already familiar with basic vineyard operations. (Grade or P/NP)
Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100
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

Outcomes and Objectives:
Upon successful completion of this course, the student will be able to:
1. Explain how vine structure relates to vine function.
2. Explain the physiological processes that drive vine growth and fruit ripening.
3. Describe vine balance and its relationship to fruit quality.
4. Explain vine water potential and its impact on vine growth and irrigation management.
5. Discuss the impacts of environment and management on vine flowering and fruit set.
6. Explain how photosynthesis and source/sink relationships affect vine growth and fruit ripening.

Topics and Scope:

I. Review of vine annual cycle of growth
  A. Vocabulary and definitions
  B. Vine structure
  C. Vegetative growth phases vs. reproductive growth phases
II. Vine phenology
  A. Budbreak
  B. Flowering
  C. Fruit ripening
III. Vine physiological processes
  A. Photosynthesis
  B. Respiration
  C. Translocation
  D. Transpiration

E. Source-sink relationships
F. Water uptake and vine turgor

IV. Vine balance
A. Definition and how to measure it
B. Effects on vine vigor
C. Effects on fruit quality

V. Anlagen and grapevine inflorescence initiation
A. Effects of plant growth substances on anlagen and inflorescence fertility
B. Effects of environment
C. Effects of pathological intervention

VI. Grapevine flowering, pollination and fertilization
A. Vine nutritional impacts
B. Vine water status impacts
C. Environmental impacts

VII. Seed, embryo, and fruit development post-fertilization
A. Vine nutritional impacts
B. Vine water status impacts
C. Environmental impacts

VIII. Vine water potential - vine water status
A. Definition
B. How to measure it, what the numbers mean
C. Impacts on vine vegetative growth
D. Impacts on vine reproductive growth

Assignment:

1. Reading from textbook (20-30 pages/week)
2. Written original research paper on a specific vine physiological function and its impact on vine growth. (5-8 pages)
3. Quizzes (1-3)

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.

Term papers	Writing 45 - 60%

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

None	Problem solving 0 - 0%

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.

Matching items, Completion, Short Answer	Exams 15 - 25%

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

Participation and discussion	Other Category 20 - 30%

Representative Textbooks and Materials:
Instructor prepared materials
"Flowering and Fruit Set on Grapevines", Peter May, Lythrum Press South Australia, 2004.