VWT 234 - Integrated Pest Control for Grapes Course Outline

Approval Date: 11/14/2019
Effective Date: 08/14/2020

SECTION A

Unique ID Number	CCC000258327
Discipline(s)	Agriculture
Division	Career Education and Workforce Development
Subject Area	Viticulture and Winery Technology
Subject Code	VWT
Course Number	234
Course Title	Integrated Pest Control for Grapes
TOP Code/SAM Code	0104.00* - Viticulture, Enology, and Wine Business* / C - Occupational
Rationale for adding this course to the curriculum	To update Student Learning Outcomes and offer alternative online learning modalities.
Units	3
Cross List	*N/A*
Typical Course Weeks	18

Total Instructional Hours

	Contact Hours
Lecture	54.00
Lab	0.00
Activity	0.00
Work Experience	0.00
Outside of Class Hours	108.00

Total Contact Hours	54
Total Student Hours	162
Open Entry/Open Exit	No
Maximum Enrollment	
Grading Option	Letter Grade or P/NP
Distance Education Mode of Instruction	On-Campus Hybrid Entirely Online

SECTION B

General Education Information:

SECTION C

Course Description

Repeatability May be repeated 0 times

Catalog Description Introduction to the theory and practice of integrated pest control in grape growing including biology and control of common insects and disease problems of North Coast vineyards.

Schedule Description

SECTION D

Condition on Enrollment

1a. Prerequisite(s): *None*

1b. Corequisite(s): *None*

1c. Recommended

- VWT 130 with a minimum grade of C or better

1d. Limitation on Enrollment: *None*

SECTION E

Course Outline Information

1. Student Learning Outcomes:

A. Basic biology, lifecycle, environment and control of common vineyard pests.
B. Theory and practice of Integrated Pest Management as it relates to viticulture.
C. Skills required in the workplace.

2. Course Objectives: Upon completion of this course, the student will be able to:

A. Describe the basic principles of Integrated Pest Control.
B. Describe the basic principles of plant pathology.
C. Describe the biology of major and minor grape vine diseases.
D. Describe the basic principles of entomology.
E. Describe the biology of major and minor grape vine insect pests.
F. Select appropriate rootstocks for the control of phylloxera and nematodes.
G. Describe the biology of vertebrate pests of the grape vine.
H. Recognize physiological disorders of the grape vine.
I. Understand the differences between problems of nutrient status (deficiency or toxicity) and pests or pathogens and how they may relate to one another.
J. Design and implement a pest and pathogen control program.
K. Design and implement a vineyard floor vegetation management program.
L. Design and implement pest control programs that fit sustainably into a healthy ecosystem for the crops and the larger environment.
M.

3. Course Content

A. Principles of Integrated Pest Management
B. Basic plant pathology principles
C. Proper vineyard monitoring techniques
D. Problematic fungal diseases including but not limited to: powdery mildew, bunch rots, and trunk diseases.
E. Problematic bacterial disease including but not limited to Pierce's disease.
F. Problematic viral diseases including but not limited to: Fanleaf virus, the Grapevine Leafroll viruses, and Red Blotch associated virus
G. Basic entomology principles
H. Problems caused by invasive species and introduced diseases
I. The control and erradication of the European Grapevine Moth
J. Problematic arthropod pests including but not limited to: Grape and Vine Mealybugs, pest mites, Western Grape Leafhoppers, Phylloxera, and Lepidopteran pests

K. The use of beneficial arthropod species for pest control
L. Nematodes biology and problematic nematodes.
M. Minor grapevine diseases and insect pests
N. Vineyard floor vegetation management
O. Vertebrate pests of the grape vine
P. Physiological and abiotic disorders of the grape vine
Q. Mineral nutrient deficiencies and toxicities of the grape vine
R. Proper use of chemical control including legal obligations and safeguards
S. Problems of pest and disease resistance to chemical control
T. Research tools for writing and creating scientific presentations
U. Methods and tools to stay current with new and evolving topics in Integrated Pest Management
V.

4. Methods of Instruction:

Activity:
Discussion:
Field Trips:
Lecture:
Observation and Demonstration:
Projects:
Online Adaptation: Activity, Directed Study, Discussion, Group Work, Individualized Instruction, Lecture

6. Methods of Evaluation: Describe the general types of evaluations for this course and provide at least two, specific examples.

Typical classroom assessment techniques

Exams/Tests --
Quizzes --
Research Projects --
Oral Presentation --
Group Projects --
Class Participation --
Class Work --
Home Work --
Final Exam --
Mid Term --

Additional assessment information:

One midterm examination, one final examination and a research presentation on a relevant pest or disease.

Examples include:
-a midterm examination and a final examination consisting of true/false, multiple choice questions.
-a classroom presentation in which the student describes the biology, environmental factors and farming practices which influence the development of a disease infection or an insect pest infestation.

Letter Grade or P/NP

7. Assignments: State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments

-Assigned readings from class handouts (example: "Environmental Factors that Influence Grapevine Diseases")

-Assigned readings from the textbook (example: "Grape Leafhopper")

B. Writing Assignments
Writing:

Classroom Presentation (example: a presentation in which the student describes the biology, environmental factors and farming practices which influence the development of a disease infection or an insect pest infestation.)

Problem Solving:

Essay or short paper (example: an essay question on the midterm examination in which the student selects from alternative disease and pest control options and justifies the choices).

C. Other Assignments
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8. Required Materials

A. EXAMPLES of typical college-level textbooks (for degree-applicable courses) or other print materials.

Book #1:

Author:	Technical editor Bettiga, L. J.
Title:	Grape Pest Management
Publisher:	University of California Division of Agriculture and Natural Resources
Date of Publication:	2013
Edition:	3rd

B. Other required materials/supplies.