

# VWT-234: INTEGRATED PEST CONTROL FOR GRAPES

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**Effective Term**

Fall 2020

**BOT Approval**

11/14/2019

**SECTION A - Course Data Elements**
**CB04 Credit Status**

Credit - Degree Applicable

**Discipline**

| Minimum Qualifications                                           | And/Or |
|------------------------------------------------------------------|--------|
| Agricultural Production (Any Degree and Professional Experience) |        |

**Subject Code**

VWT - Viticulture and Winery Technology

**Course Number**

234

**Department**

Viticulture and Winery Technology

**Division**

Career Education and Workforce Development (CEWD)

**Full Course Title**

Integrated Pest Control for Grapes

**Short Title**

Integrated Pest Control Grapes

**CB03 TOP Code**

0104.00 - \*Viticulture, Enology, and Wine Business

**CB08 Basic Skills Status**

NBS - Not Basic Skills

**CB09 SAM Code**

C - Clearly Occupational

**Rationale**

To update Student Learning Outcomes and offer alternative online learning modalities.

**SECTION B - Course Description**
**Catalog Course 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.

**SECTION C - Conditions on Enrollment**
**Open Entry/Open Exit**

No

**Repeatability**

Not Repeatable

**Grading Options**

Letter Grade or Pass/No Pass

**Allow Audit**

Yes

**Requisites****Advisory Prerequisite(s)**

Completion of VWT-130 with a minimum grade of C.

**SECTION D - Course Standards****Is this course variable unit?**

No

**Units**

3.00

**Lecture Hours**

54.00

**Outside of Class Hours**

108

**Total Contact Hours**

54

**Total Student Hours**

162

**Distance Education Approval****Is this course offered through Distance Education?**

Yes

**Online Delivery Methods**

| DE Modalities   | Permanent or Emergency Only? |
|-----------------|------------------------------|
| Entirely Online | Emergency Only               |
| Hybrid          | Permanent                    |

**SECTION E - Course Content****Student Learning Outcomes**

| Upon satisfactory completion of the course, students will be able to: |                                                                                 |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1.                                                                    | Basic biology, lifecycle, environment and control of common vineyard pests.     |
| 2.                                                                    | Theory and practice of Integrated Pest Management as it relates to viticulture. |
| 3.                                                                    | Skills required in the workplace.                                               |

**Course Objectives**

| Upon satisfactory completion of the course, students will be able to: |                                                                            |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------|
| 1.                                                                    | Describe the basic principles of Integrated Pest Control.                  |
| 2.                                                                    | Describe the basic principles of plant pathology.                          |
| 3.                                                                    | Describe the biology of major and minor grape vine diseases.               |
| 4.                                                                    | Describe the basic principles of entomology.                               |
| 5.                                                                    | Describe the biology of major and minor grape vine insect pests.           |
| 6.                                                                    | Select appropriate rootstocks for the control of phylloxera and nematodes. |
| 7.                                                                    | Describe the biology of vertebrate pests of the grape vine.                |

|     |                                                                                                                                                        |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.  | Recognize physiological disorders of the grape vine.                                                                                                   |
| 9.  | Understand the differences between problems of nutrient status (deficiency or toxicity) and pests or pathogens and how they may relate to one another. |
| 10. | Design and implement a pest and pathogen control program.                                                                                              |
| 11. | Design and implement a vineyard floor vegetation management program.                                                                                   |
| 12. | Design and implement pest control programs that fit sustainably into a healthy ecosystem for the crops and the larger environment.                     |

### Course Content

1. Principles of Integrated Pest Management
2. Basic plant pathology principles
3. Proper vineyard monitoring techniques
4. Problematic fungal diseases including but not limited to powdery mildew, bunch rots, and trunk diseases.
5. Problematic bacterial disease including but not limited to Pierce's disease.
6. Problematic viral diseases including but not limited to: Fanleaf virus, the Grapevine Leafroll viruses, and Red Blotch associated virus
7. Basic entomology principles
8. Problems caused by invasive species and introduced diseases.
9. The control and eradication of the European Grapevine Moth
10. Problematic arthropod pests including but not limited to: Grape and Vine Mealybugs, pest mites, Western Grape Leafhoppers, Phylloxera, and Lepidopteran pests
11. The use of beneficial arthropod species for pest control
12. Nematodes biology and problematic nematodes.
13. Minor grapevine diseases and insect pests
14. Vineyard floor vegetation management
15. Vertebrate pests of the grape vine
16. Physiological and abiotic disorders of the grape vine
17. Mineral nutrient deficiencies and toxicities of the grape vine
18. Proper use of chemical control including legal obligations and safeguards
19. Problems of pest and disease resistance to chemical control
20. Research tools for writing and creating scientific presentations.
21. Methods and tools to stay current with new and evolving topics in Integrated Pest Management

### Methods of Instruction

#### Methods of Instruction

| Types                         | Examples of learning activities |
|-------------------------------|---------------------------------|
| Activity                      |                                 |
| Discussion                    |                                 |
| Field Trips                   |                                 |
| Lecture                       |                                 |
| Observation and Demonstration |                                 |
| Other                         | Projects                        |

#### Online Adaptation

| Types                      | Examples of learning activities |
|----------------------------|---------------------------------|
| Activity                   |                                 |
| Directed Study             |                                 |
| Discussion                 |                                 |
| Group Work                 |                                 |
| Individualized Instruction |                                 |
| Journal                    |                                 |
| Lecture                    |                                 |

**Instructor-Initiated Online Contact Types**

Announcements/Bulletin Boards  
 Chat Rooms  
 Discussion Boards  
 E-mail Communication  
 Telephone Conversations  
 Video or Teleconferencing

**Student-Initiated Online Contact Types**

Chat Rooms  
 Discussions  
 Group Work

**Course design is accessible**

Yes

**Methods of Evaluation****Methods of Evaluation**

| Types               | Examples of classroom assessments                                                                                                                                                                      |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exams/Tests         | A midterm examination and a final examination consisting of true/false, multiple choice questions.                                                                                                     |
| Quizzes             |                                                                                                                                                                                                        |
| Projects            | Research Group                                                                                                                                                                                         |
| Oral Presentations  | 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. |
| Class Participation |                                                                                                                                                                                                        |
| Homework            |                                                                                                                                                                                                        |

**Assignments****Reading Assignments**

Assigned readings from class handouts (example: "Environmental Factors that Influence Grapevine Diseases")  
 Assigned readings from the textbook (example: "Grape Leafhopper")

**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).

**SECTION F - Textbooks and Instructional Materials****Material Type**

Textbook

**Author**

Technical editor Bettiga, L. J.

**Title**

Grape Pest Management

**Edition/Version**

3rd

**Publisher**

University of California Division of Agriculture and Natural Resources

**Year**  
2013

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## **SECTION G - Diversity, Equity and Inclusivity**

### **Course Codes (Admin Only)**

**CB00 State ID**  
CCC000258327

**CB10 Cooperative Work Experience Status**  
N - Is Not Part of a Cooperative Work Experience Education Program

**CB11 Course Classification Status**  
Y - Credit Course

**CB13 Special Class Status**  
N - The Course is Not an Approved Special Class

**CB23 Funding Agency Category**  
Y - Not Applicable (Funding Not Used)

**CB24 Program Course Status**  
Program Applicable

**Allow Pass/No Pass**  
Yes

**Only Pass/No Pass**  
No