

## Department:

Viticulture and Enology

## Course Description:

This is a course in the basic science and technology of winery sanitation. The course serves as an introduction to wine microbiology and covers all methods used for winery sanitation, including but not limited to premises, tanks, pumps, filters, oak barrels and sampling equipment, chemical agents, reagents, and thermal treatments leading to sterile bottling. Environmental issues and compliance are also addressed.

## Course Competencies:

Upon completion of the course, the student should be able to:

1. Define cleaning, sanitation, and sterilization.
2. List and explain the consequences of poor sanitation control in relation to cost.
3. List the regulatory agencies involved with winery sanitation and describe their function.
4. Explain how poor winemaking practices can lead to wine spoilage.
5. Complete a sanitation analysis procedure for a winery operation.
6. Identify and describe the organisms that can infect wine.
7. Demonstrate the ability to recognize symptoms in problem wines.
8. Describe the processes used to identify the basic spoilage organisms.
9. Demonstrate an understanding of the methods used to prevent organisms from infecting wine.
10. Identify the different types of cleaning compounds and their roles.
11. List and describe cleaning compounds used in winery operations.
12. Describe the benefits and restrictions of cleaners in winery operations.
13. Describe the difference between cleaning, sanitation, and sterilization.
14. Describe the use and function and health risk of ozone in the winery.
15. List and describe the standard sterilization methods.
16. Describe the cleaning techniques for the most commonly used winery equipment.
17. Demonstrate the protocols for cold-sterile bottling.
18. Explain the effects of specific sanitizing compounds on winery equipment.
19. Demonstrate knowledge of the use of specialized sanitation equipment.
20. Explain the process used to test for the effectiveness of a sanitation plan.
21. Explain the process for barrel cleaning and maintenance.
22. Demonstrate knowledge of the different regulatory agencies that control winery chemical use and waste disposal.
23. Demonstrate an understanding of MSDS sheets.
24. Explain OSHA regulations as they pertain to wineries.

25. Describe how to determine water quality.
26. Estimate water usage of previously visited winery.
27. Explain waste water issues.
28. Identify the different pests that can affect wine quality.
29. Explain pest control strategy.
30. Acquire sanitation plan from previously visited winery.
31. Critically evaluate real life sanitation issues.
32. Develop and submit a winery and equipment cleaning protocol.
33. Explain proper chemical storage.
34. Explain the safety aspects of winery chemical usage.

### Course Content:

- A. The Importance of Cleaning and Sanitation in the Winery
- B. Overview of the Winemaking Process: Sources of Contamination
- C. The Enemy: Wine Spoilage Organisms
- D. Practical Winery Sanitation Survey
- E. Basic Cleaning
- F. Water Quality
- G. The Solution: Cleaning Compounds
- H. Cleaning Equipment
- I. Sanitizing and Sanitizers
- J. Sterilizing and Sterilizers
- K. Hardware: Tanks, Pumps, Hoses, Walls, Floors, Ceilings, Drains
- L. Solid and Liquid Waste Disposal
- M. Government Regulations, Safety, OSHA, EPA, DNR, MSDS

### Learning Assessments:

Course competencies will be assessed by use of portfolios and presentations, written examinations, laboratory and field observations, class projects and activities, active participation in course dialog, and scholarly activities including discovery, application, and integration.

### Instructional Materials:

Principles of Food Sanitation (Food Science Texts Series), Marriott, Gravani, 5th Ed., 2006  
ISBN: 978-0387250250

#### **Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition**

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the “Disabilities Self-Identification Form” at this link:  
<https://highlandcc.edu/pages/disability-services>.

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.