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Grape and Wine Education for the 21st Century

ENO 148 OL0 (VIN 148) – Winery Sanitation

Date: January 29 – May 11, 2018

VESTA Course No.: VIN 148

Course Name: Winery Sanitation

Instructor: Michael J. Leonardelli, MS

Office Hours: By appointment via phone or e-mail

Semester: Spring 2018

Delivery: Online

Course Credit: 3 Hours

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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 premises, tanks, pumps, filters, oak barrels and sampling equipment, including but not limited to chemical agents, reagents, and thermal treatments leading to sterile bottling. Environmental issues and compliance are also addressed.

Prerequisites: VIN 146 or instructor permission

Next Course in Sequence: VIN 160 or VIN 246

Course Objectives

Through lectures, facilitated discussions, quizzes and written assignments the student will:

- Define cleaning, sanitation, and sterilization
- List and explain the side effects of poor sanitation control in relation to cost.
- List the regulatory agencies involved with winery sanitation and describe their function.
- Explain the winemaking process in regards to high risk points of contamination (critical control points)
- Explain how poor winemaking practices can lead to wine spoilage
- Complete a sanitation analysis procedure for a winery operation.
- Identify and describe the variety of organisms that can infect wine
- Demonstrate the ability to recognize symptoms in problem wines
- Describe the processes used to identify some of the basic spoilage organisms
- Demonstrate an understanding of the methods used to prevent organisms from infecting wine
- Identify the different types of cleaning compounds and their roles in detergents
- List and describe cleaning compounds used in winery operations
- Describe the benefits and restrictions of cleaners in winery operations.
- Describe the difference between cleaning, sanitation, and sterilization.
- Describe the benefits and restrictions of sanitizers used in winery operation.
- Describe the use and function of ozone in the winery
- List and describe standard sterilization materials.

- Describe the cleaning techniques for the most commonly used winery equipment.
- Demonstrate the protocols for cold-sterile bottling.
- Explain the effects of specific sanitizing compounds on winery equipment
- Demonstrate a knowledge of the use of specialized sanitation equipment
- Explain the process used to test for the effectiveness of a sanitation plan.
- Demonstrate a knowledge of the different regulatory agencies that control winery chemical use and waste disposal
- Demonstrate an understanding of MSDS sheets
- Explain OSHA regulations as they pertain to wineries
- Describe how to determine water quality
- Estimate water usage of previously visited winery.
- Explain waste water issues.
- Identify the different pests that can affect wine quality
- Explain pest control strategy.
- Acquire sanitation plan from the previously visited winery
- Critically evaluate real life sanitation issues
- Develop winery and equipment cleaning protocol.
- Explain proper chemical storage.
- Explain the safety aspects of winery chemical usage

Required Course Materials

1. *Sanitation Guide for Wineries* published by the Wine Institute. (1971).
2. *Cleaning, Sanitizing, and Pest Control in Food Processing, Storage and Service Areas* published by the University of Georgia College of Agriculture and Environmental Sciences Cooperative Extension Service.
3. *Principles of Food Sanitation* (Food Science Texts Series) (5th ed.) by Marriott, Norman G. and Gravani, Robert B. (2006). New York: Springer Publishing.

These three documents are posted on the online course site. There is no need to purchase them.

Instructional Methods

This is an online course with a synchronous component. An online course site (Learning Management System) is provided by the host institution to provide announcements, prerecorded lectures, notes, supplemental printed and web-based materials, and assignments. It also serves as a central point for interaction/communication between the instructor and the students.

Live Class Meetings

The live class meeting will take place once a week on **Wednesday from 8:00 to 9:00 p.m. Central Time** via the **Zoom** web conferencing system. Participation to the live class meetings is *required* and a participation grade is assigned. This is an opportunity for the instructor to go over weekly topic highlights and for students to interact with the instructor and fellow students through questions and discussions. Students are expected to be prepared to ask questions and actively participate in the discussions.

The link to the Zoom virtual classroom will be posted at the top of each weekly module. Students will use the *same* virtual classroom for their live class meetings the entire semester. The sessions will take place on the dates listed in the above schedule.

It is the student's responsibility to notify the instructor in advance if he/she must miss a class. Students who missed a class meeting are required to view the recording of the live class as soon as possible.

Course Schedule and Outline of Topics

Module — Dates	Wednesday Live Class*	Topics
1 01/29 - 02/04	01/31	Introduction and Importance of Cleaning and Sanitation in the Winery
2 02/05 - 02/11	02/07	Winery Pests and Wine Spoilage Organisms
3 02/12 - 02/18	02/14	Overview of Winemaking Process and Evaluating Risks Submit Winery Visit Site by 11:59 PM Central Time, Tuesday 2/13
4 02/19 - 02/25	02/21	Cleaning Compounds and Water Quality Exam 1 (through module 3 content) Available 9:00 PM Central Time on Wednesday, 02/21 until 11:59 PM Sunday, 02/25 Any 3-hour window. Take your time but most take 1 hour to complete.
5 02/26 - 03/04	02/28	Cleaning Compounds (continued) Water
6 03/05 - 03/11	03/07	Sanitizers
7 03/12 - 03/18	03/14	Winery Specific Issues in Cleaning and Sanitizing I
8 03/19 - 03/25	03/21	Winery Specific Issues in Cleaning and Sanitizing II
9 03/26 - 04/01	03/28	Sterile Bottling "Sanitation Overview" Report due by 11:59 PM Central Time, Tuesday, 03/27
10 04/02 - 04/08	04/04	Cleaning Equipment SOPs Exam 2 (through module 8 content) Available 9:00 PM Central Time on Wednesday, 04/04 until 11:59 p.m. on Sunday, 04/08 Any 3-hour window. Take your time but most take 1 hour to complete.
11 04/09 - 04/15	04/11	Chemical Safety, Confined Space and Lock out/Tag out I Regulations
12 04/16 - 04/22	04/18	Sanitary Design SOP Cleaning/Sanitizing DRAFT Procedure due by 11:59 PM, Central Time on Wednesday, 04/18, (Post to Module 13 forum/discussion board)
13 04/23 - 04/29	04/25	Review all SOP Cleaning and sanitation DRAFT procedures SOP Final Report due by 11:59 p.m. Central Time on Sunday, 04/29
14 04/30 - 05/06	05/02	Water and Waste
15 05/07 - 05/11	No live class	Final Exam - comprehensive, emphasis on Modules 9-14 Available 9:00 AM Central Time on Monday, 05/07 until 11:59 PM on Friday, 05/11 Any 3-hour window. Most take 1 hour to complete.

The instructor reserves the right to adjust the schedule as necessary.

The live class meeting will take place every **Wednesday from 8:00 - 9:00 p.m. Central Time.*

Course Assignments

Course assignments (details follow) include:

1. Module readings (online lectures/presentations and print based materials)
2. Discussion Board/Forums: Posting and responding to session discussion questions
3. Three exams (2 exams, one comprehensive final)
4. Two written assignments based on observations at winery site and class material:
 - a. Sanitation Overview: Process Flow Chart with Sanitation Hazards and Controls
 - b. Cleaning and Sanitation SOP (Standard Operating Procedure)

Module Reading Assignments: Online lectures/presentations and web/print-based materials will be posted on the online course site. Students should view the prerecorded lecture and demo videos and complete the session reading assignments by deadline specified in course schedule.

Discussion Board/Forum Postings: Module discussion questions to be answered individually by each student by deadline specified in course schedule. In addition, students are encouraged to respond or comment on fellow students' postings. In the Moodle course site, "Discussion Boards" are actually listed as "Forums" in the "Activities" box.

Exams: There will be two exams and a final exam. The final exam will be cumulative but with an emphasis on the third part of the semester. The exams will be posted on the online course site with instructions.

Written Assignments: All written assignments will be typed, saved electronically, and submitted to the instructor via assignment links on the online course site. Spelling and grammar are extremely important in professional writing and papers will be scored accordingly. Photographs should be used in low resolution, or compressed to keep file size manageable. Saving as a PDF file is encouraged for this reason.

Winery Sanitation Projects ("Sanitation Overview" and "SOP"): Students will complete a winery sanitation project for this course. There are two parts to the project. The first part involves observing, surveying and practicing sanitation operations in a winery for at least 8 hours. The second part of the project is to prepare two reports to be submitted to the instructor based on your on-site experience, **1) a "Sanitation Overview" report; and 2) an "SOP" cleaning and sanitation standard operating procedure.** Detailed instruction of this class project can be found on the online course site.

The "Sanitation Overview": Process Flow Chart with Sanitation Hazards and Controls is to be presented in the format of a report of the current winery operations and sanitation state to your "boss". At minimum, the student should prepare a process flow diagram showing the general winery operations and comment on sanitation risks encountered at various steps along with current procedures for preventing or controlling contamination or adulteration. A list of the types of cleaning and sanitizing chemicals used at the facility, usage rates, suppliers, observed or anecdotal efficacy (that is, how well does the winery think they work), and any safety concerns is required. Additional documentation on current chemical, water, and other resource issues along with any recommendations for improvement or change is ideal. Comments on compliance with current regulations (especially safety issues) are encouraged.

The “SOP” Cleaning and Sanitation Standard Operating Procedure and Report is to be written using any standard SOP format and cover all the basics of an SOP as learned in the reading materials. The SOP should be written with a specific piece of equipment or cooperage (i.e. a carboy, a keg, or a barrel) in mind, and using the available materials and chemicals in the facility. Your mentor must approve of the SOP and you must follow your own instructions and perform the procedure as written. Your Report will include your approved SOP and your own evaluation of the efficacy based on your experience in trying to follow it, along with recommendations for improvement from yourself or your fellow students.

Expectations and Instructor Feedback

Students should participate in the weekly virtual class meeting. It is also the students’ responsibility to check the online course site on a regular basis, be aware of the required activities and assignments, and adhere to the deadlines. This will ensure a successful learning experience.

The instructor will make every effort to respond to student questions and complete assignment/exam grading on a timely manner.

Late Material

No late assignments will be accepted. In case of an extreme circumstance that prevented a student from submitting an assignment on time, the instructor will make an exception with a notification from the student. **The instructor will make only one exception for each student and the student will receive a 10% point deduction for the late assignment.**

Module Learning Routine

The learning routine of this course is module-based. During the first live class meeting, the instructor will provide an overview for the class and key points for Module One lecture/reading assignments in the format of questions. After the first live class meeting, students will follow the module routine listed below:

- Start module lecture/reading assignments and complete them by the following Sunday. Be prepared to answer the module key point questions provided by the instructor during the Wednesday live class meeting.
- Go to the online course site Discussion Board to answer the questions posted by the instructor in that week’s forum. These questions are designed to help you gain a better understanding of winery sanitation issues. There are no correct answers; the instructor is more interested in your perception and thoughts. These discussion questions should be answered no later than the Sunday of the module date. Students are encouraged to comment/respond to other students’ postings as well.
- Join the live class meeting every **Wednesday from 8:00 - 9:00 p.m. Central Time**. Be prepared to participate in discussions on module key points and discussion board/module forum questions. After reviewing the previous module, your instructor will provide key point questions for the new module.
- After the live class meeting, start the learning routine for the following week’s module.

Grading

Grading is on the following point system:

90 – 100%	= A
80 – 89.9%	= B
70 – 79.9%	= C
60 – 69.9%	= D
Below 60%	= F

Percentage Weight of Student Performance		
Activity	Percentage	Points
Live Class Attendance	10%	100 (full points for at least 14 participations)
Forum Discussion Questions	10%	100 (50 points each for first and second half)
Exam 1	15%	150
Exam 2	15%	150
Final Exam	15%	150
Sanitation Overview Report	20%	200
Cleaning/Sanitation SOP Report	15%	150
Total	100%	1000

It is the students' responsibility to see that all assignments, projects and exams reach the instructor in a timely fashion so grades can be issued. Incomplete grades are not given in this course.

Highland Community College Institutional Policies

Withdrawing from the Course

Should it become necessary to withdraw, it is the student's responsibility to do so according to the guidelines in the Highland Community College student handbook.

**Students planning to withdraw from this course must also complete the VESTA Withdrawal/Change of Schedule form and submitting to the VESTA office.*

Attendance Policy

VESTA believes that students must attend class in order to achieve the best learning results. In the case of online courses, attendance is defined as active participation in the form of attending synchronous class meetings (if applicable), completing reading/writing/testing assignments by assigned deadlines, and maintaining regular communication with course instructor via the online course site and communication tools designated by the instructor. For courses with a field practicum/workshop component, students must participate and complete the number of hours of practical experience required. Instructors may assign attendance grade as part of course grade if they choose to do so.

Make-up Policy

The exams can be made up only in the event of an excused absence where the instructor has prior knowledge of the absence. Allowance of make-up tests will be at the discretion of the instructor and will be taken on the date of the student's return to class.

Academic Integrity

This class is subject to Highland Community College's academic integrity policy. All submitted work must be your own. Cheating or plagiarism will not be tolerated. Any student found in violation of this policy will be subject to disciplinary action as outlined by Highland Community College's Academic Integrity Policy in the *Student Handbook* which can be viewed and/or downloaded at: <https://highlandcc.edu/caffeine/uploads/files/2016-17%20Handbook.pdf>

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.