

Department:

Viticulture and Enology

Course Description:

This course is designed to provide students initiated in the field of viticulture with practical experience in winter and spring vineyard operations. This course offers an understanding of the obstacles and promise of growing grapes in cold climates. Topics include physical limits of grapes, pruning practices, trellis maintenance, and early season pest and canopy management practices.

Course Competencies:

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

1. Identify different parts of the grapevine.
2. List and describe the characteristics of canopy ideotype.
3. Describe the sequence of growth events through growing and dormant seasons.
4. Describe the annual and perennial growth cycles.
5. Accurately identify one season old wood, diseased wood, live and dead buds, and basal buds.
6. Identify three vine tying systems.
7. Properly tie cordons.
8. Perform bud counts on single vines.
9. Position renewal spurs and properly space fruiting spurs.
10. Explain the concept of balanced pruning.
11. Calculate the number of buds to retain based on pruning weight and the appropriate balanced pruning formula for the variety being pruned.
12. Evaluate vines for winter or early spring frost/freeze damage.
13. Prune vines using the results of appropriate balanced pruning formula.
14. Identify the major spring pest concerns at the vineyard site.
15. Describe and adjust early season pest management strategies at the vineyard site.
16. Describe and perform the tasks required to prep winterized equipment for use in the spring.
17. List and demonstrate the steps used in sprayer calibration.
18. Adjust a given spray schedule to accomplish the goals of a stated pest management program.
19. Design a checklist of tasks required for proper trellis maintenance.
20. Perform or describe the tasks required for trellis maintenance at the vineyard site.
21. Discuss the water management strategy at the vineyard site.
22. Explain the purpose of desuckering and shoot thinning.
23. Identify and demonstrate proper suckering and shoot thinning techniques according to a specified trellis system.
24. Complete leaf/petiole sampling.
25. Implement a nutritional plan based on lab analysis of leaf/petiole sample.
26. Demonstrate proper cluster thinning, leaf removal, and shoot positioning.

Course Content:

- A. Review of Grapevine Anatomy
- B. Vineyard Safety
- C. Preventing Winter Grapevine Injury
- D. Identification of Winter Injury on Grapevines
- E. Trellis Systems and Maintenance
- F. Principles and Practices of Pruning
- G. Grapevine Propagation
- H. Understanding and Preventing Spring Frost and Freeze Damage to Grapevines
- I. Early Season Pest Management
- J. Spraying and Calibration, Sprayer Mechanics, and Equipment
- K. Early Season Canopy Management
- L. Early Season Nutrient Monitoring
- M. Vine Planting and Establishment

Learning Assessments:

Competencies may be evaluated by multiple measures, including exams, quizzes, article reviews, field observations, papers, experiments, and projects.

Instructional Materials:

Dami, I., Bordelon, B., Ferree, D. C., Brown, M., Ellis, M. A., Williams, R. N., & Doohan, D. (2005). **Midwest Grape Production Guide**. Bulletin 919. Publisher: Ohio State University Extension. This is a free download at: https://plantpathology.ca.uky.edu/files/mw_grape_productn_b919.pdf

Goldammer, T. (2018). **Grape Grower's Handbook: A Guide to Viticulture for Wine Production** (Third Edition). Apex Publishers. Centreville, VA. ISBN: 978-0-9675212-5-1

Landers, A. (2016). **Effective Vineyard Spraying**. (2nd ed.). ISBN-13: 978-14-9518-844-2
Available online from <http://www.effectivespraying.com> or the vendor of your choice.

The Minnesota Grape Growers Association. (2016). **Growing Grapes in Minnesota**. (10th ed.). This is a free download at:
https://cdn.ymaws.com/www.mngrapes.org/resource/resmgr/Growing_Grapes_in_MN_Best_Practices/GGIM_Best_Practices-book.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" on our [Disability Services website](#).

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.

A Note on Harassment, Discrimination and Sexual Misconduct

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an [online report](#) about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our [Equity Grievance Policy](#).