



WINE-100: INTRODUCTION TO VITICULTURE

Effective Term

Fall 2026

BOT Approval Date

12/11/2025

Discipline

WINE - Viticulture, Enology & Winery

Course Number

100

Course Title

Introduction to Viticulture

Short Title

Intro to Viticulture

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lecture Units**

3.00

Total Units

3.00

Hours**Lecture Contact Hours**

48-54

Out of Class Hours Lecture

96-108

Total Contact Hours

48 - 54

Total Out of Class Hours

96 - 108

Total Student Learning Hours

144 - 162

Distance Education

Yes

Distance Education**Distance Education Type**

Both Fully Online and Hybrid Online

Fully Online Delivery Requirements:

- a. Students must be notified via the college schedule of classes and the syllabus for the class if proctored tests are required for this course
- b. Any planned face-to-face meetings, such as an orientation or study session, must be optional

c. The MSJC curriculum committee requires the use of accessible, asynchronous discussion as a component of every fully online course

Are you using publisher content?

No

Regular Substantive Interaction

Instructor-to-student, student-to-student, and student-to-content contact shall be distributed in a manner that will ensure regular substantive interaction (RSI) is maintained not only weekly but also for the duration of the course. Instructor interactions should be equivalent in time, quality and consistency to the engagement students would receive in a face-to-face course—for example, through announcements, discussion participation, personalized feedback, video messages, or other instructional communications. Instructors are expected to be responsive to student inquiries within a 24-72 hour time frame excluding holidays. RSI will be maintained through a variety of methods:

- Orientation - Students must be oriented to the online and face-to-face portions at the start of the course.
- Announcements - Announcements using the course management system must be posted at least weekly to keep students current on course events, due dates, materials, etc.
- Discussion Forums - Content-related discussion forums within the designated CMS will include appropriate instructor participation and will be initiated and maintained, with timely feedback provided. Instructors are required to monitor the discussions and related activities to provide guidance and direction. Open-ended discussion boards may be used to further learning and interaction.
- MSJC Communication – Instructor will use MSJC-administered communication tools (such as email or the designated CMS communication tools) to regularly communicate with and provide ease of access to students.
- Timely Feedback - Timely feedback on student work will be provided by the instructor, which may include comments and/or rubrics, within the Grades area of the designated CMS.
- Scheduled Meetings – Hybrid and synchronous courses will meet at regularly scheduled times.

ADA Compliance - All course interactions and content must be designed with accessibility in mind and meet ADA requirements.

Catalog Description

This course introduces the science and practice of viticulture - the cultivation and management of grapevines for wine, table grapes, and raisins. Students explore the relationship between grapevine biology, climate, soils, and vineyard management techniques. Topics include grapevine anatomy and physiology, site selection, vineyard design, propagation, canopy management, irrigation, nutrient management, pest and disease control, and harvest timing.

Codes

TOP Code (CB 03)

0104.00* - *Viticulture, Enology, and Wine Business

CIP Code

01.0309 - Viticulture and Enology.

Repeatability Code

No

Grading Option

Letter grade OR P/NP

Minimum Qualifications

Minimum Qualifications	And/Or
Agricultural Business and Related Services	Or
Agricultural Production	Or
Chemistry (Masters Required)	End

GE Information

Check GE Types Requested

AA/AS A - Natural and Physical Sciences

Learning Objectives

Learning Objectives

Learning Objective
1. Evaluate the historical, cultural, and social significance of grape and wine production across regions, recognizing contributions from diverse communities and traditions.
2. Analyze the fundamental principles of grapevine biology and physiology to inform sustainable and equitable vineyard management practices.
3. Interpret the relationships among soil, climate, and environmental factors that influence grape cultivation and production outcomes.
4. Differentiate major grape species and varieties based on their characteristics, uses, and regional or cultural importance.
5. Examine the stages of grapevine growth and development in relation to seasonal cycles, labor practices, and ecological sustainability.
6. Assess vineyard and winemaking practices through global, technological, and ethical lenses, emphasizing sustainability and equity in the wine industry.

Learning Outcome Information

Course Learning Outcomes

Learning Outcome
1. Students will identify and describe the fundamental structures and physiological processes of the grapevine.
2. Students will analyze how soil, climate, and environmental conditions influence grape growth and vineyard productivity.
3. Students will explain the historical, cultural, and economic significance of viticulture within regional and global contexts.
4. Students will evaluate sustainable vineyard management practices that promote inclusion, environmental responsibility, and industry equity.

Content

Course Lecture Content

- History of Grape Cultivation
 - Origins and historical development of viticulture, including cultural significance across time and regions.
- Global Grape Distribution
 - Major grape-growing regions worldwide and factors influencing regional production.
- Socioeconomic and Environmental Intersections
 - Explore how economics, access to resources, and climate variability intersect to shape vineyard management decisions and affect local communities.
- Evolution and Taxonomy
 - Domestication, classification, and identification of cultivated and wild grape species.
- Grape Species, Cultivars, and Rootstocks
 - Key wine, table, and raisin grape varieties; selection and use of rootstocks for site conditions and pest resistance.
- California Viticulture
 - Historical development, major production regions, and leading cultivars for wine, table, and raisin grapes.
- Grapevine Morphology and Anatomy
 - Structures and functions of grapevine cells, tissues, and organs.
- Grapevine Physiology
 - Photosynthesis, transpiration, and other key processes influencing vine health and productivity.
- Growth and Development
 - Dormancy, budbreak, phenology, and stages of vegetative, reproductive, and berry development.
- Propagation
 - Methods and techniques for grapevine propagation, including cuttings and grafting.
- Vineyard Soils and Management
 - Soil types, conservation, and practices to support healthy vineyards.
- Water-Plant-Soil Relationships
 - Interactions that affect nutrient uptake, growth, and vine performance.
- Water and Nutrient Management
 - Irrigation, fertilization, and soil fertility practices to optimize production and quality.

14. Nutrient Applications and Deficiencies
 - a. Methods for applying nutrients and identifying water stress and nutrient deficiency symptoms.
15. Vineyard Establishment
 - a. Site selection, soil preparation, planting, and early vine training.
16. Trellis Systems and Canopy Management
 - a. Trellis design and canopy techniques to improve light, airflow, and fruit quality.
17. Seasonal Vineyard Practices
 - a. Annual tasks including pruning, irrigation scheduling, and canopy adjustments.
18. Pruning Systems and Techniques
 - a. Timing and methods to balance vine vigor and productivity.
19. Weed, Pest, and Disease Management
 - a. Identification and control strategies with emphasis on sustainable practices.
20. Harvest and Maturity Assessment
 - a. Determining ripeness and planning harvest for different grape uses.
21. Post-Harvest Handling and Storage
 - a. Processing, storage, and shipping practices for wine, table, and raisin grapes.
22. Introduction to Winemaking
 - a. Overview of basic winemaking steps, including processing, fermentation, and aging.
23. Labor Equity and Workforce Diversity
 - a. Analyze different labor models and workforce structures in vineyards, including immigrant labor, cooperative farming, and fair-trade practices, emphasizing social justice and equitable working conditions.

Methods of Instruction

Method

Lecture

Integration

Instructor-led presentations covering grapevine anatomy, growth cycles, vineyard site selection, soil and climate relationships, canopy management, irrigation scheduling, pest and disease management, and harvest decision-making. Lecture topics incorporate global viticulture examples and diverse production systems to highlight cultural, geographic, and socioeconomic variation in grape growing and wine production. Presentation slides and demonstrations are supplemented with open-ended classroom discussion questions to contemporary issues in viticulture.

DE Adaptations for MOI

Synchronous video lectures via accessible video conferencing software or pre-recorded lectures with embedded interactive quizzes and discussion prompts. All accessibility requirements will be met to ensure that all students, including those with disabilities, have equitable access to participate in discussions and fully engage with course content.

Method

Discussion

Integration

Facilitated classroom discussions addressing vineyard management challenges, sustainability strategies, varietal and rootstock selection, and the influence of environmental factors on grape quality. Discussions emphasize respect for diverse perspectives and explore how cultural traditions, labor practices, and community values influence vineyard management across regions. Case studies and problem-based learning exercises are used to promote applied understanding of viticultural decision-making.

DE Adaptations for MOI

Online discussion boards and collaborative documents to facilitate peer interaction and instructor feedback. All accessibility requirements will be met to ensure that all students, including those with disabilities, have equitable access to participate in discussions and fully engage with course content.

Method

Field Trips

Integration

Visits to vineyards, wineries, and nurseries to observe grape varieties, vineyard practices, and winemaking processes firsthand. Field experiences include exposure to a variety of vineyard operations that represent diverse scales, ownership models, and management philosophies, emphasizing equitable access to agricultural knowledge.

DE Adaptations for MOI

Virtual field trips via high-quality video tours, interactive vineyard walkthroughs, or curated online winery visits. All class participation will adhere to accessibility standards.

Method

Lab Activities

Integration

In-class labs including grapevine morphology examination, propagation techniques, soil and water testing, and other viticulture experiments.

DE Adaptations for MOI

At-home lab kits (where feasible), accessible video demonstrations of lab techniques, virtual simulations, and data analysis exercises using sample datasets. All submissions and feedback must meet accessibility guidelines.

Method

Reading

Integration

Assigned textbook chapters, industry publications, and current research articles focusing on grapevine biology, vineyard establishment, canopy management, soil fertility, and sustainable viticulture practices. Reading assignments are selected and sequenced to complement lecture and lab topics. In-class discussions, guided reading prompts, and reflective exercises are used to connect technical information to practical vineyard applications.

DE Adaptations for MOI

Digital readings, eBooks, and curated online resources integrated into the CMS, with guided reflection questions and asynchronous discussion opportunities. All accessibility requirements will be met to ensure that all students, including those with disabilities, have equitable access to participate in discussions and fully engage with course content.

Methods of Evaluation**Method**

Exams/Tests

Integration

Written and practical examinations are used to evaluate comprehension of viticulture principles and terminology, including grapevine anatomy, vineyard management practices, soil–water–plant relationships, and pest and disease identification. Assessments may include multiple-choice, short answer, matching, and diagram-based identification questions to measure both conceptual understanding and applied knowledge.

DE Adaptations for MOE

Online timed exams or quizzes using the CMS, with question pools and proctoring options to maintain integrity. All accessibility requirements will be met to ensure that all students, including those with disabilities, have equitable access to participate and fully engage with course content.

Method

Other

Integration

Written reports, reflections, or presentations based on observations from on-site vineyard or winery visits.

DE Adaptations for MOE

Virtual field trip reflections or reports based on curated video tours, interactive simulations, or online winery visits. All class participation will adhere to accessibility standards.

Method

Class Work

Integration

Hands-on lab exercises including grapevine morphology, propagation, soil and water testing, and other viticulture techniques, submitted as lab reports or practical demonstrations.

DE Adaptations for MOE

Video-based lab demonstrations, virtual simulations, at-home lab kits (when feasible), and submission of lab reports or data analyses online. All submissions and feedback must meet accessibility guidelines.

Method

Homework

Integration

Assigned problem sets, vineyard observation reports, and data interpretation exercises reinforce lecture and lab content. Homework may include vineyard layout analysis, soil and irrigation calculations, canopy management planning, and critical review of viticulture case studies. Assignments emphasize application of viticultural concepts to real-world production scenarios. Assignments allow for flexibility in cultural and regional perspectives on viticulture practices and encourage reflection on social and environmental sustainability.

DE Adaptations for MOE

Digital readings, eBooks, and online articles with discussion board posts, quizzes, or guided reflections to assess comprehension. All submissions and feedback must meet accessibility guidelines.

Method

Class Participation

Integration

Active engagement in lectures, laboratory sessions, and vineyard field trips is expected through contribution to discussions, analysis of viticulture problems, and collaboration on group activities. Participation emphasizes the integration of theoretical and practical aspects of grapevine management. Evaluation of participation emphasizes respectful dialogue, inclusivity in discussions, and recognition of diverse viewpoints in viticulture contexts.

DE Adaptations for MOE

Participation in online discussions, synchronous sessions, group work in breakout rooms, and engagement with multimedia materials. All class participation will adhere to accessibility standards.

Assignments**Assignment Type**

Writing

In-class and/or outside of class

In-class

Formative or Summative

Formative

Assignment

Maintain a weekly journal documenting grapevine growth and development stages (bud break, flowering, fruit set, veraison, and harvest). Record observations from vineyard visits or provided vineyard data sets, noting environmental conditions, vine responses, and management implications. Summarize trends and reflect on how seasonal changes affect vine physiology and vineyard operations.

How assignment will be adapted in online format

Review a curated set of photographs and short video clips of grapevines at different stages of growth, provided by the instructor. Complete observation journals by identifying growth stages and recording reflections. Submissions are made via the CMS, with instructor feedback provided digitally. Optional online discussion forums allow peer-to-peer comparisons and questions.

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Summative

Assignment

Develop a comprehensive vineyard management plan for a selected grape variety and site. Include vineyard layout, trellis design, irrigation scheduling, nutrient management, canopy training, and pest control strategies. Present the plan in a written report with supporting maps, data tables, and rationale based on viticulture principles and best practices

How assignment will be adapted in online format

Complete the same project using provided datasets, maps, and photos representing different vineyard scenarios. The written report is submitted online, and the presentation is recorded using tools like PowerPoint with voiceover or a simple phone video. Peer review is done through discussion boards or instructor-facilitated virtual feedback sessions.

Assignment Type

Reading

In-class and/or outside of class

In-class

Outside of class

Formative or Summative

Formative

Assignment

Read assigned articles or case studies on viticulture practices in different wine-producing regions around the world. Compare climate, soil management, canopy systems, and sustainability strategies. Assigned readings may include textbook sections and supplemental articles highlighting vineyard practices in regions such as South Africa, Argentina, France, or Japan. Write a short reflection connecting these practices to local vineyard conditions and management considerations. During class, participate in a guided discussion comparing global vineyard practices to those in California, emphasizing cultural diversity, climate adaptation, and equitable agricultural practices.

How assignment will be adapted in online format

Readings and guiding questions are accessed through the CMS and personal research. Compose and post reflections to an online discussion board and respond thoughtfully to at least two peers from different regions of focus. The instructor will facilitate the forum, highlight diverse perspectives and prompt deeper analysis of how global practices contribute to a more inclusive understanding of viticulture.

Course Materials

Textbooks

Keller, M. (2025). The Science of Grapevines. Elsevier Science & Technology. United Kingdom: Academic Press. ISBN: 9780443330070

Class Size Information

Class Size

35

Class Size Category

B - Facilitated learning 35

Diversity and Inclusion

Course Design and Materials: Course will incorporate diverse perspectives, authors, and examples that reflect a variety of cultures, identities, and lived experiences. Instructional materials will be reviewed regularly to ensure representation, inclusivity, and alignment with equity-minded practices across disciplines.

Inclusive Learning Environment: Instructors will establish classroom norms and policies that promote respect, civil discourse, and belonging in both online and face-to-face classes. Clear expectations for communication and engagement will support a learning space where all students feel valued and heard.

Accessible Instruction: Course content will be delivered using accessible design. Materials will follow accessibility guidelines within the CMS, including captioned media, readable document formats, and multiple means of engagement to support diverse learning.

Equitable Teaching Practices: Instructors will use transparent and grading criteria, varied assessment methods, and timely feedback to promote fairness and student success. Opportunities for revision, reflection, and multiple demonstrations of learning may be incorporated when appropriate to the discipline.

Culturally Responsive Pedagogies: Instructional strategies will encourage critical thinking about diverse perspectives and systems of power relevant to the course content. Faculty will foster opportunities for students to connect course material to real-world contexts.

Ongoing Reflection and Improvement: Faculty will engage in continuous professional development related to IDEAA principles and reflect on course practices using metacognition to identify opportunities for increased equity, inclusion, and accessibility.

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

Diversity and inclusion are embedded in WINE 100 through an exploration of viticulture's global and cultural dimensions and by recognizing the diverse individuals and communities who have shaped the wine industry. The course highlights how grape cultivation and winemaking practices have developed across different regions, cultures, and histories. Additionally, examples and case studies are selected to reflect global wine traditions and culturally varied production techniques, emphasizing respect for diverse perspectives and practices. By integrating these narratives, students gain a broader understanding of how viticulture is not only a science but also a cultural practice deeply connected to identity, and global exchange.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

Assignments are designed to promote equity by providing students with multiple ways to demonstrate their learning. Projects and reflections encourage students to explore viticulture practices across different regions and cultures, allowing them to connect course content to their own experiences and interests. Assignments are offered in flexible formats, such as written reports, visual presentations, or audio submissions, so that students with diverse strengths and learning preferences can fully engage and succeed. Instruction is centered on inclusivity and accessibility by incorporating multiple perspectives and teaching strategies. Lectures highlight diverse voices and global vineyard practices, using examples that reflect the contributions of different cultures and communities within the wine industry. Concepts are explained using clear language, real-world scenarios, and visual aids to support a range of learning styles and to ensure that students with varying levels of prior knowledge can participate fully.

Evaluation methods are structured to be transparent and fair. A mix of low-stakes formative assignments, such as observation journals and quizzes, and high-stakes summative assessments, such as the vineyard management project, provide students with multiple opportunities to demonstrate mastery over time. Rubrics are provided in advance and focus on both content knowledge and skill development, helping to clarify expectations and reduce barriers to success.

Course content addresses not only the scientific and technical aspects of viticulture but also the cultural, historical, and economic factors that shape grape production. This includes discussions of labor equity, sustainability, and the global diversity of wine traditions. Course materials are selected to avoid stereotypes and to include diverse authors, perspectives, and practices. Classroom and online interactions are intentionally structured to create a respectful and inclusive learning environment. Clear guidelines are established for discussions to ensure that all voices are valued and heard. Participation is assessed based on thoughtful engagement rather than dominant speaking time, fostering equitable opportunities for students to contribute and learn from one another.

Through these approaches, WINE 100 promotes equitable learning experiences and supports diverse students in building the knowledge and skills necessary to succeed in viticulture and related fields.

Interactions

Explain how the course will incorporate student-to-student interaction.

Students will collaborate through group discussions, peer reviews of vineyard management assignments, and joint data analysis projects. They will work together to evaluate grapevine physiology, compare vineyard design and soil management strategies, and solve practical viticulture challenges. These interactions promote communication and critical thinking while reinforcing course concepts related to grape growth, vineyard operations, and wine production techniques. This allows students to share diverse perspectives and experiences related to viticulture and wine production while developing communication and teamwork skills.

Explain how the course will incorporate instructor-to-student interaction.

Student-to-instructor engagement will occur through interactive lectures, class discussions, and one-on-one or small group consultations during office hours. In both in-person and online formats, the instructor will guide students in applying viticulture concepts such as grapevine growth, soil management, and vineyard operations. The instructor will also provide timely, constructive feedback on assignments and lab activities, ensuring students deepen their understanding of viticultural science and its practical applications.

Explain how the course will incorporate student-to-content interaction.

Engagement will take place through hands-on learning experiences such as vineyard observations, lab activities, reading assignments, and analysis of case studies. Students will apply concepts to real-world situations, such as developing vineyard management plans, to deepen their understanding of viticulture.

Explain how the course will incorporate student-to-self interaction (metacognitive).

Students will engage in reflective activities such as observation journals, self-assessments, and independent research for the final summative project. These tasks encourage students to evaluate their understanding of viticulture concepts including grapevine biology, soil and climate relationships, and vineyard management practices, and to connect this knowledge to real-world applications in the wine industry. Through reflection and independent investigation, students will identify gaps in current science, strengthen critical thinking, and develop foundational understanding as emerging professionals in viticulture.

Key: 2930