The programs of the Viticulture and Winery Technology department are designed to prepare students for careers in the North Coast wine industry. The one-year Certificate and two-year Associate of Science options provide students with the knowledge and skills essential for success.

The Certificate in Viticulture and Winery Technology consists of production-oriented courses in viticulture and winemaking. The Certificate in Wine Marketing and Sales is a mix of viticulture, winemaking and business courses. Certificate programs may be modified to meet the career goals of the individual student. The typical student will be able to earn a Certificate in one to two years.

Students who complete the Associate of Science in Viticulture and Winery Technology degree specialize in either Viticulture, Winemaking or Wine Marketing and Sales. The Associate of Science degree includes general education courses, basic science courses and core courses in the degree option. The typical student will be able to earn an Associate of Science degree in two to three years.

### CERTIFICATE PROGRAMS

#### VITICULTURE AND WINERY TECHNOLOGY

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<tr>
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<td>VWT 271</td>
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<td>VWT XXX</td>
<td>Program Elective+</td>
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<td>BUSI 100</td>
<td>Intro to Business</td>
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<td>BUSI XXX</td>
<td>Business Elective++</td>
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ASSOCIATE OF SCIENCE PROGRAMS
In VITICULTURE AND WINERY TECHNOLOGY

**VITICULTURE OPTION**

**FIRST SEMESTER**
- VWT 130 General Viticulture
- VWT 134 Vineyard Pruning
- CHEM 110 Intro to Chemistry* or EARTH SCI 110 Earth Science*
- ENGLISH COMPOSITION Elective*
- MATHEMATICS Elective*
- PHYSICAL EDUCATION Elective***

**SECOND SEMESTER**
- VWT 132 Vineyard Soils
- VWT 135 Grapevine Propagation
- VWT XXX Program Elective+
- BIOL 110 Intro to Biology*
- SOCIAL SCIENCE Elective*
- PHYSICAL EDUCATION Elective***

**THIRD SEMESTER**
- VWT 180 Fund of Enology
- VWT 199 Independent Study# or VWT 290 Work Experience#
- VWT 230 Fall Viticulture Oper
- VWT 234 Pest Management
- HUMANITIES Elective*
- MULTICULTURAL Elective**

**FOURTH SEMESTER**
- VWT 199 Independent Study# or VWT 291 Work Experience#
- VWT 231 Spring Viticulture Oper
- VWT 232 Vineyard Management
- VWT XXX Program Elective+
- VWT XXX Program Elective+

**WINEMAKING OPTION**

**FIRST SEMESTER**
- VWT 180 Fund of Enology
- VWT 172 Laboratory Analysis
- CHEM 110 Intro to Chemistry*
- MATHEMATICS Elective*
- PHYSICAL EDUCATION Elective***

**SECOND SEMESTER**
- VWT 137 Wines of California
- VWT 173 Sensory Evaluation
- CHEM 111 Intro Organic/Microbiol*
- BIOL 110 Intro to Biology*
- PHYSICAL EDUCATION Elective***

**THIRD SEMESTER**
- VWT 136 Wines of the World
- VWT 270 Advanced Winemaking
- VWT 280 Fall Winery Oper
- ENGLISH COMPOSITION Elective*
- SOCIAL SCIENCE Elective*

**FOURTH SEMESTER**
- VWT 130 General Viticulture
- VWT 271 Winery Management
- VWT 272 Wine Chem/Microbiol
- VWT 281 Spring Winery Oper
- HUMANITIES Elective*
- MULTICULTURAL Elective**

**WINE MARKETING AND SALES OPTION**

**FIRST SEMESTER**
- VWT 130 General Viticulture
- VWT 136 Wines of the World
- BUSI 100 Introduction to Business
- ENGLISH COMPOSITION Elective*
- MATHEMATICS Elective*
- PHYSICAL EDUCATION Elective***

**SECOND SEMESTER**
- VWT 137 Wines of California
- COMMUNICATIONS Elective*
- HUMANITIES Elective*
- MULTICULTURAL Elective**
- NATURAL SCIENCE Elective*
- SOCIAL SCIENCE Elective*
- PHYSICAL EDUCATION Elective***

**THIRD SEMESTER**
- VWT 140 Cultural Appreciation
- VWT 199 Independent Study# or VWT 290 Work Experience #
- VWT 180 Fund of Enology
- VWT XXX Program Elective+
- VWT XXX Program Elective+

**FOURTH SEMESTER**
- BUSI XXX Elective++
- VWT 173 Sensory Evaluation
- VWT 199 Independent Study# or VWT 291 Work Experience#
- VWT 241 Marketing/Sales
- VWT XXX Program Elective+
- VWT XXX Program Elective+
PROGRAM NOTES

KEY TO CERTIFICATE AND DEGREE SYMBOLS (preceding pages)
* Satisfies NVC General Education requirement.
** Multicultural elective may double count for General Education class.
*** Three units of PHYSICAL EDUCATION are required for degrees.
# A total of 5 units of VWT 190/191/199/290/291 is required.
+ Viticulture and Winery Technology program elective.
++ Business Elective: any ACCT, BUSI, CISA, CISN, COMS

PROGRAM ELECTIVES
VITICULTURE AND WINERY TECHNOLOGY
Any VWT courses not already required for the degree option may be used.

BUSINESS, NATURAL SCIENCE, FOREIGN LANGUAGE, INDUSTRIAL ARTS
All courses in these areas are acceptable Program Electives.

Other courses may also be accepted as electives at the discretion of the Program Coordinator, including course work from other colleges.

Please refer to the Napa Valley College General Catalog for course descriptions from other academic departments.

PROGRAM COUNSELING AND SCHEDULE PLANNING
Students are encouraged to meet with the Program Coordinator as soon as possible for counseling and schedule planning. Call for an appointment.

TRANSFER TO A FOUR-YEAR COLLEGE OR UNIVERSITY
Information about Napa Valley College courses for transfer to four-year institutions may be obtained from the Admissions and Records department, at (707) 253-3000.

Please note that Viticulture and Winery Technology certificate and degree programs provide the technical training needed for direct entry into wine industry employment and are not designed as transfer programs. Contact the Program Coordinator for more information.

KEY TO COURSE DESCRIPTION SYMBOLS (following pages)
VWT 101 Department name and course number
(3) Unit value of the course
Fall/Spring Semester during which the course is offered
(A) Afternoon meeting time (1-4 PM or 1-5 PM)
(E) Evening meeting time (7-10 PM)
(W) One or more weekend laboratory meeting times
**COURSE DESCRIPTIONS**

**VWT 130**  
**General Viticulture (3) Fall, Spring (E,W)**  
Introduction to grape growing, including botany and anatomy, history and distribution, propagation, grape varieties and wine types, climate, production practices, common diseases and pests.

**VWT 131**  
**Cover Crops for Vineyards (1) Summer (E,W)**  
The use of cover crops in North Coast vineyards, including erosion control, beneficial insect habitat enhancement, soil fertility, selection of cover crop cultivars. Six week course.

**VWT 132**  
**Vineyard Soils, Fertilizers, Irrigation (3) Spring (E,W)**  
Introduction to basic principles of soil science, mineral nutrition and plant/water relationships for North Coast vineyards.

**VWT 133**  
**Phylloxera and Rootstocks (1) Summer (E)**  
The selection of resistant rootstock for grapes, including biology and control of soil pests, adaptation to soil types, effect on wine quality. Six week course.

**VWT 134**  
**Vineyard Pruning (1) Fall (E,W)**  
Introduction to the theory and practice of grapevine pruning. Lecture topics illustrate grapevine responses to pruning. Laboratory consists of pruning in the field. Three Friday evenings, three Saturday mornings.

**VWT 135**  
**Grapevine Propagation (1) Spring (E,W)**  
Theory and practice of grapevine propagation. Topics include field budding, bench grafting, grafting to change varieties. Six week course.

**VWT 136**  
**Wines of the World (3) Fall, Spring (E)**  
Introduction to the wines of the world, including history, viticulture practices and winemaking styles. Sensory evaluation of representative wines. Lab fee. Must be at least 21 years of age.

**VWT 137**  
**Wines of California (3) Spring (E)**  
Introduction to the wines of California, including history, viticulture practices and winemaking styles. Sensory evaluation of representative wines. Lab fee. Must be at least 21 years of age.

**VWT 138**  
**VWT 138 International Wine Tour (2) Fall, Spring, Summer**  
Field study in a selected wine-producing region. Must be at least 21 years of age to participate in wine evaluation. Repeatable for credit as topic changes. Must contact VWT Program Coordinator before enrolling.
VWT 139 Introduction to North Coast Wines (1) Summer, Fall (E)
Short introductory course, including history, viticulture practices and winemaking styles of the North Coast Districts of California. Sensory evaluation of representative wines. Lab fee. Must be at least 21 years of age. Six week course. Offered at Upper Valley Campus, St. Helena.

VWT 140 A Cultural Appreciation of Wine (3) Fall, (E)
A survey of wine and its role in religion, art, culture and society from pre-history to the modern day. Sensory evaluation of representative wines. Lab fee. Must be at least 21 years of age.

VWT 145 The Greatest Wines of the World (1) Summer (E)
A survey of the greatest wines in the world, including sparkling, white and red table, dessert and fortified wines. Student must be at least 21 years of age. Lab fee. Six week course.

VWT 172 Laboratory Analysis of Wines and Musts (3) Fall (E)
An introduction to winery laboratory practices, including basic principles, techniques and common analyses for musts and wines. Students learn laboratory methods used to determine when to add amendments to wines and how to stabilize and clarify wines. Lab fee.

VWT 173 Sensory Evaluation of Wine (3) Spring (E)
Introduction to wine sensory evaluation methods, including statistical analysis of trials, study of wine styles, sensory testing techniques, identification of wine traits. Sensory evaluation of representative wines. Lab fee. Must be at least 21 years of age.

VWT 180 Fundamentals of Enology (3) Fall, Spring (E)
An introduction to the science of winemaking, including grape maturation, harvesting, fermentation, wine development, blending, filtration and bottling practices. Students learn the winemaking options available to create different wine styles.

VWT 190 Work Experience (2) Fall
Supervised practical work experience. Intended to help the student integrate classroom study with on-the-job training in the wine industry. Student must meet with the Program Coordinator before enrolling. For three unit fall semester Work Experience, see VWT 290.

VWT 191 Work Experience (2) Spring
Supervised practical work experience. Intended to help the student integrate classroom study with on-the-job training in the wine industry. Student must meet with the Program Coordinator before enrolling. For three unit spring semester Work Experience, see VWT 291.

VWT 199 Independent Study (1) Fall, Spring, Summer
Special project for advanced Viticulture and Winery Technology students. Student must meet with the Program Coordinator before enrolling.
VWT 229  **Summer Viticulture Operations (1) Summer (A)**
Vineyard practices for the summer season. Class operates the NVC Student Vineyards, with an emphasis on the practical applications of viticulture theory.

VWT 230  **Fall Viticulture Operations (3) Fall (A)**
Vineyard practices for the fall and winter seasons. Class operates the NVC Student Vineyards, with an emphasis on the practical applications of viticulture theory.

VWT 231  **Spring Viticulture Operations (3) Spring (A)**
Vineyard practices for the winter and spring seasons. Class operates the NVC Student Vineyards, with an emphasis on the practical applications of viticulture theory.

VWT 232  **Vineyard Management (3) Spring (A)**
Vineyard management practices, including annual plans and budgets, labor management and supervision, crop sale contracts, legal compliance.

VWT 234  **Integrated Pest Control for Grapes (3) Fall (A)**
Introduction to the theory and practice of integrated pest control in grape growing, including biology and control of common insect and disease problems in North Coast vineyards.

VWT 241  **Wine Marketing and Sales Practices (3) Spring (E)**
Introduction to wine marketing and sales methods, including basic approaches to packaging, advertising, promotion, retail and wholesale selling of wines.

VWT 270  **Advanced Winemaking (3) Fall (A)**
Advanced course in winemaking, including development of winemaking style, experimentation in production practices and enhancement of wine quality. Course provides essential skills for a career in commercial winemaking. Lab fee. Must be at least 21 years of age to participate in wine evaluation.
Prerequisite: VWT 180.

VWT 271  **Winery Management (3) Spring (A)**
Fundamentals of winery management, including the preparation of annual plans and budgets; labor management; legal compliance; record keeping.

VWT 272  **Wine Chemistry and Microbiology (3) Spring (E)**
The chemistry and microbiology of winemaking, including use of enzymes and yeasts, fermentation management, wine micro-organisms, phenols, aging, flavor development. Students learn how to make informed decisions to create high quality wines and to solve problems.
*VWT 275  Winery Compliance and Recordkeeping (1) Summer (E)*  
Introduction to federal, state and county laws and regulations for California wineries, including bonded winery establishment, winery operations recordkeeping, label compliance, government reporting.

*VWT 280  Fall Winery Operations (3) Fall (A)*  
Winery operations for the fall and winter seasons, including grape maturity monitoring, grape harvesting, fermentation, handling and storage of new wines, maintenance of wines from previous vintages, general cellar practices. Class operates the Teaching Winery.

*VWT 281  Spring Winery Operations (3) Spring (A)*  
Winery operations for the winter and spring seasons, including handling and storage of new wines, maintenance of wines from previous vintages, general cellar practices. Class operates the Teaching Winery.

*VWT 282  Summer Winery Operations (1) Summer (A)*  
Winery operations for the summer season, including handling and storage of new wines, maintenance of wines from previous vintages, general cellar practices. Class operates the Teaching Winery.

*VWT 288  Current Topics in Winemaking (1) Fall, Spring, Summer (E)*  
A presentation of current issues in winemaking. Course may include guest speakers and field trips to observe commercial practices. Topics vary with each offering. Student may enroll in class a total of four times for credit.

*VWT 290  Work Experience (3) Fall*  
Supervised practical work experience. Intended to help the student integrate classroom study with on-the-job training in the wine industry. Student must meet with the Program Coordinator before enrolling. For two unit fall semester Work Experience, see VWT 190.

*VWT 291  Work Experience (3) Spring*  
Supervised practical work experience. Intended to help the student integrate classroom study with on-the-job training in the wine industry. Student must meet with the Program Coordinator before enrolling. For two unit spring semester Work Experience, see VWT 191.

*VWT 298  Selected Topics in Viticulture and Winery Technology (1-3)*  
Special topics not covered by regular catalog listings. Course content and unit value varies. May be offered as a seminar, lecture or laboratory course during fall or spring semester, summer session.

Revised: 1/08