

# Labor Market Analysis for Program Recommendation

# Viticulture and Winery Technology Occupations

# Napa Valley College

## Prepared by the San Francisco Bay Center of Excellence for Labor Market Research

**January 2022**

## Recommendation

Based on all available data, there appears to be an “undersupply” of Viticulture and Winery Technology workers compared to the demand for this cluster of occupations in the Bay region and in the North Bay sub-region (Marin, Napa, Solano, Sonoma counties). There is a projected annual gap of about 13,992 students in the Bay region and 2,050 students in the North Bay Sub-Region.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 0104.00 Viticulture, Enology and Wine Business programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Napa Valley College and in the region.

This report profiles Viticulture and Winery Technology Occupations in the 12 county Bay region and in the North Bay sub-region for a proposed new program at Napa Valley College. It is important to note the occupations selected are both very broad in nature and are found in multiple industries in the regional economy, not just the wine business. Because of this, the total occupational demand shown in Tables 1 and 2 will be overstated.

* **Marketing Managers (11-2021):** Plan, direct, or coordinate marketing policies and programs, such as determining the demand for products and services offered by a firm and its competitors, and identify potential customers. Develop pricing strategies with the goal of maximizing the firm’s profits or share of the market while ensuring the firm’s customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.  
    Entry-Level Educational Requirement: Bachelor’s degree  
    Training Requirement: None  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 15%
* **Farmers, Ranchers, and Other Agricultural Managers (11-9013):** Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, and supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, and financial and marketing activities. Excludes “First-Line Supervisors of Farming, Fishing, and Forestry Workers” (45-1011).  
    Entry-Level Educational Requirement: High school diploma or equivalent  
    Training Requirement: None  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 32%
* **Farmworkers and Laborers, Crop, Nursery, and Greenhouse (45-2092):** Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; or cleaning, grading, sorting, packing, and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Excludes “Graders and Sorters, Agricultural Products” (45-2041) and “Forest, Conservation, and Logging Workers” (45-4011 through 45-4029).  
    Entry-Level Educational Requirement: No formal educational credential  
    Training Requirement: Short-term on-the-job training  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 14%
* **Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012):** Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a refined product. Includes dairy processing equipment operators. Excludes “Chemical Equipment Operators and Tenders” (51-9011).  
    Entry-Level Educational Requirement: High school diploma or equivalent  
    Training Requirement: Moderate-term on-the-job training  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 36%

## Occupational Demand

**Table 1. Employment Outlook for Viticulture and Winery Technology Occupations in Bay Region**

| **Occupation** | **2020 Jobs** | **2025 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marketing Managers | 19,680 | 20,934 | 1,254 | 6% | 10,871 | 2,174 | $76 | $121 |
| Farmers, Ranchers, and Other Agricultural Managers | 11,027 | 11,037 | 10 | 0% | 6,584 | 1,317 | $20 | $64 |
| Farmworkers and Laborers, Crop, Nursery, and Greenhouse | 54,037 | 56,023 | 1,985 | 4% | 50,732 | 10,146 | $11 | $32 |
| Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders | 3,443 | 3,491 | 47 | 1% | 2,117 | 423 | $20 | $51 |
| **Total** | **88,187** | **91,485** | **3,298** | **4%** | **70,304** | **14,060** |  |  |
| Source: EMSI 2021.3 | | | | | | | | |

**Bay Region includes:** Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 2. Employment Outlook for Viticulture and Winery Technology Occupations in North Bay Sub-region**

| **Occupation** | **2020 Jobs** | **2025 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marketing Managers | 1,026 | 1,044 | 17 | 2% | 503 | 101 | $58 | $106 |
| Farmers, Ranchers, and Other Agricultural Managers | 2,267 | 2,180 | -86 | -4% | 1,251 | 250 | $25 | $64 |
| Farmworkers and Laborers, Crop, Nursery, and Greenhouse | 8,018 | 8,141 | 122 | 2% | 7,268 | 1,454 | $14 | $39 |
| Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders | 2,507 | 2,544 | 37 | 1% | 1,547 | 309 | $20 | $51 |
| **Total** | **13,818** | **13,909** | **91** | **1%** | **10,569** | **2,114** |  |  |
| Source: EMSI 2021.3 | | | | | | | | |

**North Bay Sub-Region includes:** Marin, Napa, Solano, Sonoma Counties

### Job Postings in Bay Region and North Bay Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Dec 2020 - Nov 2021)**

| **Occupation** | **Bay Region** | **North Bay** |
| --- | --- | --- |
| Marketing Managers | 40,045 | 739 |
| Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders | 720 | 444 |
| Farmworkers and Laborers, Crop | 259 | 106 |
| Farm and Ranch Managers | 242 | 52 |
| Aquacultural Managers | 108 | 13 |
| Nursery and Greenhouse Managers | 66 | 23 |
| Nursery Workers | 29 | 7 |
| Source: Burning Glass | | |

**Table 4a. Top Job Titles for Viticulture and Winery Technology Occupations for latest 12 months (Dec 2020 - Nov 2021) Bay Region**

| **Title** | **Bay** | **Title** | **Bay** |
| --- | --- | --- | --- |
| Product Manager | 1,616 | Content Marketing Manager | 171 |
| Senior Product Manager | 843 | Director, Product Management | 155 |
| Product Marketing Manager | 782 | Growth Marketing Manager | 135 |
| Marketing Manager | 732 | Marketing Director | 130 |
| Digital Marketing Manager | 299 | Director Of Product Management | 128 |
| Technical Product Manager | 216 | Head Of Marketing | 126 |
| Director Of Marketing | 187 | Associate Product Manager | 121 |
| Marketing Operations Manager | 181 | Field Marketing Manager | 120 |
| Principal Product Manager | 172 | Vice President Of Marketing | 110 |
| Source: Burning Glass | | | |

**Table 4b. Top Job Titles for Viticulture and Winery Technology Occupations for latest 12 months (Dec 2020 - Nov 2021) North Bay Sub-Region**

| **Title** | **North Bay** | **Title** | **North Bay** |
| --- | --- | --- | --- |
| Cellar Worker | 64 | Associate Brand Manager | 19 |
| Harvest Cellar Worker | 43 | Cellar Master | 13 |
| Assistant Winemaker | 28 | Winemaker | 12 |
| Digital Marketing Manager | 27 | Marketing Director | 11 |
| Product Manager | 27 | Associate Product Manager | 9 |
| Marketing Manager | 26 | Api | 8 |
| Brand Manager | 24 | Harvest | 8 |
| Director Of Marketing | 23 | Harvest Cellar Workers | 8 |
| Cellar Technician | 22 | Marketing Project Manager | 8 |
| Source: Burning Glass | | | |

## Industry Concentration

**Table 5. Industries hiring Viticulture and Winery Technology Workers in Bay Region**

| **Industry – 6 Digit NAICS (No. American Industry Classification) Codes** | **Jobs in Industry (2020)** | **Jobs in Industry (2025)** | **% Change (2020-25)** | **% Occupation Group in Industry (2020)** |
| --- | --- | --- | --- | --- |
| Farm Labor Contractors and Crew Leaders | 21,470 | 23,214 | 8% | 25% |
| Crop Production | 21,020 | 20,726 | -1% | 24% |
| Postharvest Crop Activities (except Cotton Ginning) | 9,445 | 10,300 | 9% | 11% |
| Wineries | 3,435 | 3,315 | -4% | 4% |
| Internet Publishing and Broadcasting and Web Search Portals | 2,366 | 2,916 | 23% | 3% |
| Farm Management Services | 2,265 | 2,248 | -1% | 3% |
| Crop Harvesting, Primarily by Machine | 1,695 | 1,603 | -5% | 2% |
| Soil Preparation, Planting, and Cultivating | 1,413 | 1,556 | 10% | 2% |
| Custom Computer Programming Services | 1,338 | 1,540 | 15% | 2% |
| Corporate, Subsidiary, and Regional Managing Offices | 1,694 | 1,526 | -10% | 2% |
| Source: EMSI 2021.3 | | | | |

**Table 6. Top Employers Posting Viticulture and Winery Technology Occupations in Bay Region and North Bay Sub-Region (Dec 2020 - Nov 2021)**

| **Employer** | **Bay** | **Employer** | **North Bay** |
| --- | --- | --- | --- |
| Google Inc. | 946 | Medtronic | 34 |
| Facebook | 921 | Constellation Brands Incorporated | 33 |
| Uber | 616 | Take-Two Interactive | 28 |
| Paypal | 498 | Jackson Family Wines | 26 |
| Salesforce | 481 | Vintage Wine Estates | 21 |
| Cisco Systems Incorporated | 480 | Trinchero Family Estates | 21 |
| Intuit | 403 | Ste Michelle Wine Estates | 14 |
| Amazon | 371 | Biomarin Pharmaceutical Incorporated | 13 |
| Walmart / Sam's | 333 | Change Healthcare | 12 |
| Splunk | 333 | Duckhorn Wine Company | 11 |
| Source: Burning Glass | | | |

## Educational Supply

There are three (3) community colleges in the Bay Region issuing 68 awards on average annually (last 3 years ending 2018-19) on TOP 0104.00 Viticulture, Enology and Wine Business. In the North Bay Sub-Region, there are two (2) community colleges that issued 64 awards on average annually (last 3 years) on this TOP code.

**Table 7. Community College Awards on TOP 0104.00 Viticulture, Enology and Wine Business in Bay Region**

| **College** | **Subregion** | **Associate** | **Certificate Low** | **Noncredit** | **Total** |
| --- | --- | --- | --- | --- | --- |
| Las Positas | East Bay | 2 | 1 | 1 | 4 |
| Napa | North Bay | 20 | 15 | 0 | 35 |
| Santa Rosa | North Bay | 15 | 14 | 0 | 29 |
| **Total** |  | **37** | **30** | **1** | **68** |
| Source: Data Mart; *Note: The annual average for awards is 2016-17 to 2018-19* | | | | | |

## Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 14,060 annual openings for the Viticulture and Winery Technology occupational cluster and 68 annual (3-year average) awards for an annual undersupply of 13,992 students. In the North Bay Sub-Region, there is also a gap with 2,114 annual openings and 64 annual (3-year average) awards for an annual undersupply of 2,050 students.

It is important to note the occupations selected are both very broad in nature and are found in multiple industries in the regional economy, not just the wine industry. Because of this, the total occupational demand shown in Tables 1 and 2 will be overstated and therefore the undersupply of students may actually be significantly less.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0104.00 Viticulture, Enology and Wine Business**

| **Metric Outcomes** | **Bay All CTE Programs** | **Napa Valley All CTE Programs** | **State 0104.00** | **Bay 0104.00** | **North Bay 0104.00** | **Napa Valley 0104.00** |
| --- | --- | --- | --- | --- | --- | --- |
| Students with a Job Closely Related to Their Field of Study | 73% | 76% | 66% | 67% | 76% | 84% |
| Median Annual Earnings for SWP Exiting Students | $44,575 | $42,458 | $48,771 | $54,165 | $53,249 | $54,870 |
| Median Change in Earnings for SWP Exiting Students | 31% | 31% | 20% | 30% | 40% | 43% |
| Exiting Students Who Attained the Living Wage | 53% | 50% | 65% | 71% | 71% | 75% |
| Source: Launchboard Strong Workforce Program Median of 2016-18. | | | | | | |

## Skills, Certifications and Education

**Table 9. Top Skills for Viticulture and Winery Technology Occupations in Bay Region (Dec 2020 - Nov 2021)**

| **Skill** | **Posting** | **Skill** | **Posting** |
| --- | --- | --- | --- |
| Product Management | 20,745 | Customer Service | 3,906 |
| Marketing | 12,171 | Social Media | 3,865 |
| Product Marketing | 9,801 | Salesforce | 3,668 |
| Product Development | 8,618 | Data Science | 3,610 |
| Project Management | 8,382 | Thought Leadership | 3,466 |
| Budgeting | 6,766 | Market Research | 3,232 |
| Market Strategy | 6,028 | E-Commerce | 3,159 |
| Marketing Management | 5,776 | Experiments | 3,141 |
| Business-to-Business | 5,605 | Competitive Analysis | 3,045 |
| Software as a Service (SaaS) | 5,556 | Stakeholder Management | 3,045 |
| Key Performance Indicators (KPIs) | 5,004 | Sales | 2,575 |
| Business Development | 4,107 | SQL | 2,532 |
| Digital Marketing | 4,015 | Articulating Value Propositions | 2,392 |
| Product Sales | 3,908 | Market Planning | 2,286 |
| Source: Burning Glass | | | |

**Table 10. Certifications for Viticulture and Winery Technology Occupations in Bay Region (Dec 2020 - Nov 2021)**

| **Certification** | **Posting** | **Certification** | **Posting** |
| --- | --- | --- | --- |
| Driver's License | 641 | Food Handler Certification | 29 |
| Project Management Certification | 402 | Lean Six Sigma Certification | 28 |
| Project Management Professional (PMP) | 257 | Series 7 | 26 |
| Certified Scrum Product Owner (CSPO) | 67 | IT Infrastructure Library (ITIL) Certification | 26 |
| Certified Information Systems Security Professional (CISSP) | 50 | Food Service Certification | 24 |
| Certified ScrumMaster (CSM) | 49 | Chartered Advisor For Senior Living | 23 |
| OSHA Forklift Certification | 42 | Certified Information Systems Auditor (CISA) | 23 |
| Agile Certification | 41 | Certified Salesforce Administrator | 22 |
| Security Clearance | 33 | Marketing Automation Certification | 21 |
| Six Sigma Certification | 29 | Certified Quality Auditor (CQA) | 20 |
| Source: Burning Glass | | | |

*Note: 96% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.*

**Table 11. Education Requirements for Viticulture and Winery Technology Occupations in Bay Region**

| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **Percent 12 Mos. Postings** |
| --- | --- | --- |
| High school or vocational training | 819 | 3% |
| Associate's degree | 158 | 1% |
| Bachelor's degree and higher | 25,016 | 96% |
| Source: Burning Glass | | |

## Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

## Sources

O\*Net Online  
Labor Insight/Jobs (Burning Glass)  
Economic Modeling Specialists International (EMSI)  
CTE LaunchBoard www.calpassplus.org/Launchboard/  
Statewide CTE Outcomes Survey  
Employment Development Department Unemployment Insurance Dataset  
Living Insight Center for Community Economic Development  
Chancellor’s Office MIS system

## Contacts

For more information, please contact:

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