



# 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  
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## 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
<b>Total</b>	<b>88,187</b>	<b>91,485</b>	<b>3,298</b>	<b>4%</b>	<b>70,304</b>	<b>14,060</b>		

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

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
<b>Total</b>	<b>13,818</b>	<b>13,909</b>	<b>91</b>	<b>1%</b>	<b>10,569</b>	<b>2,114</b>		

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

Employer	Bay	Employer	North Bay
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
<b>Total</b>		<b>37</b>	<b>30</b>	<b>1</b>	<b>68</b>

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/](http://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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