



Labor Market Analysis for Program Recommendation HVACR Occupations Santa Rosa Junior 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 Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) 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 873 students in the Bay region and 180 students in the North Bay Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0946.00 - Environmental Control Technology 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 Santa Rosa Junior College and in the region.

This report profiles HVACR Occupations in the 12 county Bay region and in the North Bay sub-region for a proposed new HVACR Fundamentals program at Santa Rosa Junior College.

- Heating, Air Conditioning, and Refrigeration Mechanics and Installers (49-9021):** Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.
 Entry-Level Educational Requirement: Postsecondary nondegree award
 Training Requirement: Long-term on-the-job training
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 43%

Occupational Demand

Table 1. Employment Outlook for HVACR Occupations in Bay Region

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	8,911	9,535	624	7%	4,978	996	\$23	\$31
Total	8,911	9,535	624	7%	4,978	996	\$23	\$31

Source: Lightcast 2022.3

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 HVACR Occupations in North Bay Sub-region

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,548	1,685	137	9%	900	180	\$22	\$28
Total	1,548	1,685	137	9%	900	180	\$22	\$28

Source: Lightcast 2022.3

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 (Nov. 2022 - Oct. 2023)**

Occupation	Bay Region	North Bay
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2,097	380

Source: Lightcast

Table 4a. Top Job Titles for HVACR Occupations for latest 12 months (Nov. 2022 - Oct. 2023) - Bay Region

Title	Bay	Title	Bay
HVAC Technicians	176	Appliance Service Technicians	33
HVAC Service Technicians	145	Mechanics	32
Service Technicians	121	Commercial HVAC Technicians	31
HVAC Installers	106	Refrigeration and Appliance Repair Technicians	31
HVAC/Refrigeration Service Technicians	78	HVAC Project Managers	28
Commercial Refrigeration Service Technicians	63	Power Technicians	28
Refrigeration Technicians	60	Field Technicians	26
Lead HVAC Technicians	36	Fleet Technicians	26
Lead HVAC Service Technicians	35	HVAC Mechanics	25

Source: Lightcast

Table 4b. Top Job Titles for HVACR Occupations for latest 12 months (Nov. 2022 - Oct. 2023) - North Bay Sub-Region

Title	North Bay	Title	North Bay
HVAC Installers	37	HVAC Refrigeration Technicians	8
HVAC Technicians	29	Refrigeration and Appliance Repair Technicians	8
Power Technicians	28	Appliance Service Technicians	7

Title	North Bay	Title	North Bay
HVAC/Refrigeration Service Technicians	26	Plumbing Technicians	7
HVAC Service Technicians	24	Boiler Service Technicians	6
Mechanics	15	Commercial Refrigeration Service Technicians	6
Service Technicians	15	Facilities Mechanics	6
Refrigeration Technicians	14	Fleet Technicians	6
Lead HVAC Technicians	9	Building Mechanics	5

Source: Lightcast

Industry Concentration

Table 5. Industries hiring HVACR Workers in Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2021)	Jobs in Industry (2026)	% Change (2021-26)	% Occupation Group in Industry (2022)
Plumbing, Heating, and Air-Conditioning Contractors	6,342	7,330	16%	70%
Residential Remodelers	244	264	8%	3%
Electrical Contractors and Other Wiring Installation Contractors	192	209	9%	2%
Natural Gas Distribution	138	157	14%	2%
Local Government, Excluding Education and Hospitals	101	115	15%	1%
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	101	103	2%	1%
New Single-Family Housing Construction (except For-Sale Builders)	102	97	-5%	1%
All Other Specialty Trade Contractors	89	81	-9%	1%
Colleges, Universities, and Professional Schools (State Government)	75	83	12%	1%
Temporary Help Services	62	66	5%	1%

Source: Lightcast 2022.3

Table 6. Top Employers Posting HVACR Occupations in Bay Region and North Bay Sub-Region (Nov. 2022 - Oct. 2023)

Employer	Bay	Employer	North Bay
Coolsys	99	Coolsys	31
GPAC	59	Blue Mountain Air Incorporated	15
Blue Mountain Air Incorporated	43	Transdev	14

Employer	Bay	Employer	North Bay
EMCOR Group	36	The Estate Yountville	12
Service Experts	35	Gene Burch Plumbing Heating and Air	10
Aerotek	34	John Owens Services	10

Source: Lightcast

Educational Supply

There are five (5) community colleges in the Bay Region issuing 123 awards on average annually (last 3 years ending 2021-22) on TOP 0946.00 - Environmental Control Technology. In the North Bay Sub-Region, there are no community colleges that issued awards on average annually (last 3 years) on this TOP code.

Table 7a. Community College Awards on TOP 0946.00 - Environmental Control Technology in Bay Region

College	Subregion	Associate Degree	High unit Certificate	Low unit Certificate	Total
Gavilan	Silicon Valley	1	0	3	4
Laney	East Bay	6	4	18	28
Mission	Silicon Valley	0	8	0	8
San Francisco	Mid-Peninsula	0	0	9	9
San Jose City	Silicon Valley	8	20	46	74
Total		15	32	76	123

Source: Data Mart

Note: The annual average for awards is 2019-20 to 2021-22.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 996 annual openings for the HVACR occupational cluster and 123 annual (3-year average) awards for an annual undersupply of 873 students. In the North Bay Sub-Region, there is also a gap with 180 annual openings and no annual (3-year average) awards for an annual undersupply of 180 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0946.00 - Environmental Control Technology

Metric Outcomes	Bay All CTE Programs	SRJC All CTE Programs	State 0946.00	Bay 0946.00	North Bay 0946.00	SRJC 0946.00
Students with a Job Closely Related to Their Field of Study	74%	76%	80%	83%	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$53,090	\$46,746	\$47,428	\$68,006	\$132,996	\$132,996
Median Change in Earnings for SWP Exiting Students	24%	31%	28%	37%	123%	123%
Exiting Students Who Attained the Living Wage	54%	61%	66%	66%	100%	100%

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

Skills, Certifications and Education

Table 9. Top Skills for HVACR Occupations in Bay Region (Nov. 2022 - Oct. 2023)

Skill	Posting	Skill	Posting
HVAC	1,853	Electrical Wiring	169
Preventive Maintenance	466	Furnaces	168
Plumbing	431	Technical Training	147
Boilers	288	Carpentry	145
Ventilation	267	Electrical Systems	132
Refrigerant	243	Painting	132
Hand Tools	242	Wiring Diagram	132
Refrigeration	180	Equipment Repair	131
Construction	173	Building Automation	127
Power Tool Operation	173	Roofing	127

Source: Lightcast

Table 10. Certifications for HVACR Occupations in Bay Region (Nov. 2022 - Oct. 2023)

Certification	Posting	Certification	Posting
Valid Driver's License	1,067	CDL Class C License	31
EPA 608 Technician Certification	375	Commercial Driver's License (CDL)	24
EPA Universal Certification	156	Forklift Certification	22
HVAC Certification	61	Security Clearance	16
NATE Certification (North American Technician Excellence)	59	EPA Type I Certification	15
10-Hour OSHA General Industry Card	54	Contractor License	8
CFC Refrigeration Certification	50	Aerial Lift Certification	7
EPA Type II Certification	49	Certified Industrial Refrigeration Operator (CIRO) Certification	7

Source: Lightcast

Table 11. Education Requirements for HVACR Occupations in Bay Region

Education Level	Job Postings	% of Total
High school or GED	833	79%
Associate Degree	102	10%
Bachelor's degree & higher	119	11%

Source: Lightcast

Education Level	Job Postings	% of Total
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Note: 55% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Methodology

Occupations for this report were identified by use of job descriptions and skills listed in O*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCCCO Data Mart and CTE Launchboard.

Sources

O*Net Online

Lightcast

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

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