



# Labor Market Analysis for Program Recommendation

## Welding Technology Occupations

### Los Medanos College

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

May 2024

#### Recommendation

Based on all available data, there appears to be an “undersupply” of Welding Technology workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda, Contra Costa counties). There is a projected annual gap of about 820 students in the Bay region and 299 students in the East Bay Sub-Region.

#### Introduction

This report provides student outcomes data on employment and earnings for TOP 0956.50 - Welding 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 Los Medanos College and in the region.

This report profiles Welding Technology Occupations in the 12 county Bay region and in the East Bay sub-region for a regional program recommendation for Los Medanos College.

Los Medanos’s Welding Technology Certificate of Achievement already exists, but is undergoing a curriculum revision. The Chancellor’s Office indicated that somehow they lacked supporting documentation from Los Medanos for the original program approval, and therefore they are requiring new documentation in order to process the curriculum revision. The college continues to offer an approved A.S. in Welding Technology.

- **Reinforcing Iron and Rebar Workers (47-2171):** Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Includes rod busters.  
Entry-Level Educational Requirement: High school diploma or equivalent  
Training Requirement: Apprenticeship  
Percentage of Community College Award Holders or Some Postsecondary Coursework: 18%
- **Welders, Cutters, Solderers, and Brazers (51-4121):** Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.  
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: 31%
- **Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders (51-4122):** Set up, operate, or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products,

components, or assemblies. Includes workers who operate laser cutters or laser-beam machines.

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: 31%

## Occupational Demand

**Table 1. Employment Outlook for Welding Technology Occupations in Bay Region**

Occupation	2022 Jobs	2027 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Wage	Median Hourly Wage
Reinforcing Iron and Rebar Workers	527	517	-10	-2%	224	45	\$20	\$26
Welders, Cutters, Solderers, and Brazers	6,135	6,571	436	7%	3,539	708	\$23	\$28
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	1,148	1,187	40	3%	619	124	\$20	\$25
<b>Total</b>	<b>7,810</b>	<b>8,276</b>	<b>466</b>	<b>6%</b>	<b>4,381</b>	<b>877</b>		

Source: Lightcast 2024.1

**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 Welding Technology Occupations in East Bay Sub-region**

Occupation	2022 Jobs	2027 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Wage	Median Hourly Wage
Reinforcing Iron and Rebar Workers	154	146	-7	-5%	61	12	\$18	\$26
Welders, Cutters, Solderers, and Brazers	2,363	2,529	166	7%	1,354	271	\$23	\$27
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	396	436	40	10%	242	48	\$20	\$25
<b>Total</b>	<b>2,912</b>	<b>3,111</b>	<b>199</b>	<b>7%</b>	<b>1,656</b>	<b>331</b>		

Source: Lightcast 2024.1

**East Bay Sub-Region includes:** Alameda, Contra Costa Counties

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

**Table 3. Number of Job Postings by Occupation for latest 12 months (May 2023 - Apr. 2024)**

Occupation	Bay Region	East Bay
Welders, Cutters, Solderers, and Brazers	153	68
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	127	38
Reinforcing Iron and Rebar Workers	9	2

Source: Lightcast

**Table 4a. Top Job Titles for Welding Technology Occupations for latest 12 months (May 2023 - Apr. 2024)****Bay Region**

Title	Bay	Title	Bay
Welders	79	Brazers	4
Welders/Fabricators	23	Certified Welders	4
Certified Welding Inspectors	14	Interviewing Clerks	4
Car Detailers	12	Ironworkers	4
Fabricators	8	Robot Operators	4
Sign Fabricators	8	Structural Welders	4
Folder Operators	6	Staff Workers	3
Journeyman Welders	6	Technical Support Representatives	3
Container Shop Welders	5	AWS Certified Welding Inspectors	2

Source: Lightcast

**Table 4b. Top Job Titles for Welding Technology Occupations for latest 12 months (May 2023 - Apr. 2024)****East Bay Sub-Region**

Title	East Bay	Title	East Bay
Welders	33	Structural Welders	2
Certified Welding Inspectors	7	Certified Welders	1
Welders/Fabricators	7	Code Welders	1
Sign Fabricators	5	Contract Welders	1
Journeyman Welders	4	Crystal Managers	1
Brazers	3	Engineering Technicians Specialist	1
Container Shop Welders	3	Fabrication Welders	1
AWS Certified Welding Inspectors	2	Fabricators	1
Combination Pipe Welders	2	Field Installers	1

Source: Lightcast

**Industry Concentration****Table 5. Industries hiring Welding Technology Workers in Bay Region**

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2022)	Jobs in Industry (2027)	% Change (2022-27)	% Occupation Group in Industry (2023)
Semiconductor Machinery Manufacturing	700	808	15%	9%
Automobile and Light Duty Motor Vehicle Manufacturing	540	668	24%	7%

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2022)	Jobs in Industry (2027)	% Change (2022-27)	% Occupation Group in Industry (2023)
Sheet Metal Work Manufacturing	495	509	3%	6%
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	432	413	-4%	5%
Machine Shops	339	358	5%	4%
Semiconductor and Related Device Manufacturing	304	315	4%	4%
Temporary Help Services	238	221	-7%	3%
Electronic Computer Manufacturing	176	202	15%	2%
Structural Steel and Precast Concrete Contractors	163	179	10%	2%
Commercial and Institutional Building Construction	155	184	19%	2%

Source: Lightcast 2024.1

**Table 6. Top Employers Posting Welding Technology Occupations in Bay Region and East Bay Sub-Region (May 2023 - Apr. 2024)**

Employer	Bay	Employer	East Bay
Adia	27	Performance Contracting, Inc. (Pci)	6
Aerotek	17	GPAC	5
Randstad	15	Aerotek	4
GPAC	9	Randstad	4
Anytime Welding	8	Amtec Human Capital	3
Tradesmen International	8	Krazan & Associates	3

Source: Lightcast

## Educational Supply

There are eight (8) community colleges in the Bay Region issuing 57 awards on average annually (last 3 years ending 2021-23) on TOP 0956.50 - Welding Technology. In the East Bay Sub-Region, there are four (4) community colleges that issued 32 awards on average annually (last 3 years) on this TOP code.

**Table 7. Community College Awards on TOP 0956.50 - Welding Technology in Bay Region**

College	Subregion	Associate Degree	High unit Certificate	Low unit Certificate	Total
Chabot	East Bay	3	0	5	8
Laney	East Bay	5	0	3	8
Las Positas	East Bay	3	0	2	5
Los Medanos	East Bay	7	3	1	11
Napa	North Bay	2	1	1	4
San Francisco	Mid-Peninsula	0	0	0	0
Santa Rosa	North Bay	1	0	15	16
Solano	North Bay	2	0	3	5

College	Subregion	Associate Degree	High unit Certificate	Low unit Certificate	Total
<b>Total</b>		<b>23</b>	<b>4</b>	<b>30</b>	<b>57</b>

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 877 annual openings for the Welding Technology occupational cluster and 57 annual (3-year average) awards for an annual undersupply of 820 students. In the East Bay Sub-Region, there is also a gap with 331 annual openings and 32 annual (3-year average) awards for an annual undersupply of 299 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0956.50 - Welding Technology**

Metric Outcomes	Bay All CTE Program	Los Medanos All CTE Programs	State 0956.50	Bay 0956.50	East Bay 0956.50	Los Medanos 0956.50
Students with a Job Closely Related to Their Field of Study	74%	72%	70%	70%	74%	71%
Median Annual Earnings for SWP Exiting Students	\$53,090	\$36,864	\$39,556	\$46,652	\$49,362	\$44,452
Median Change in Earnings for SWP Exiting Students	24%	37%	40%	32%	30%	38%
Exiting Students Who Attained the Living Wage	54%	37%	59%	56%	58%	48%

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

## Skills, Certifications and Education

**Table 9. Top Skills for Welding Technology Occupations in Bay Region (May 2023 - Apr. 2024)**

Skill	Posting	Skill	Posting
Welding	104	Construction	29
Metal Inert Gas (MIG) Welding	81	Workflow Management	29
Gas Tungsten Arc Welding	53	Logo Design	27
Fabrication	52	Brazing (Metal Work)	25
Hand Tools	39	Flux-Cored Arc Welding	24
Sheet Metal	36	Grinding Machine	24
Blueprinting	34	Welding Equipment	21
Structural Steel	33	Safety Standards	20
Aluminum	31	Arc Welding	19

Skill	Posting	Skill	Posting
Machinery	30	Welding Symbols	18

Source: Lightcast

**Table 10. Certifications for Welding Technology Occupations in Bay Region (May 2023 - Apr. 2024)**

Certification	Posting	Certification	Posting
Valid Driver's License	37	American Concrete Institute (ACI) Certification	4
Certified Welding Inspector	18	ACI Concrete Strength Testing Technician	4
Certified Welder	7	3G Welding Certification	2
American Welding Society Certification	5	Forklift Certification	2
ACI Concrete Field Testing Technician	5	Boom Lift Certification	1
ASNT Non-Destructive Tester	5	4G Welding Certification	1
CDL Class A License	4	Tanker and Hazmat Combo X Endorsement	1
NICET Level II Certification	4	Cardiopulmonary Resuscitation (CPR) Certification	1
NICET Construction Material Testing Certification	4	Hazmat Endorsement	1

Source: Lightcast

**Table 11. Education Requirements for Welding Technology Occupations in Bay Region**

Education Level	Job Postings	% of Total
High school or GED	78	78%
Associate degree	13	13%
Bachelor's degree & higher	9	9%

Source: Lightcast

Note: 68% 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 CCCCO Data Mart and CTE Launchboard.

## Sources

O\*Net Online

Lightcast

CTE LaunchBoard [www.calpassplus.org](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**

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