



## Semi-Automatic Welding Welding Technology TOP: 0956.50

May 2020

Prepared by the South Central Coast Center of Excellence for  
Labor Market Research

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### Program Recommendation

This report was compiled by the South Central Coast Center of Excellence to provide regional labor market data for the program recommendation – Welding Technology. This report can help determine whether there is demand in the local labor market that is not being met by the supply from programs of study (CCC and non-CCC) that align with this occupation group.

### Key Findings

- In the South Central Coast region, **the number of jobs related to Welding Technology are expected to remain the same** for Welders, Cutters, Solderers, and Brazers **and decrease** for Welding, Soldering, and Brazing Machine Operators, and Tenders.
- Welding Technology is anticipated to experience a **high risk of automation** for both occupations included in this analysis.
- In 2018 there were 431 regional completions in programs related to the occupations identified as related to Welding Technology and 1,126 openings, indicating an **undersupply**.
- Typical entry-level education is a **high school diploma or equivalent** for both occupations.
- Completers of Welding Technology programs from the 2015-2016 academic year had a **median annual wage** upon completion of \$27,283 (Statewide Data).
- 69% of students are **employed within a year** after completing a program (Statewide Data).
- 54% of students **attained a living wage** within a year of completion (Statewide Data).

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<sup>1</sup> The South Central Coast Region consists of San Luis Obispo County, Santa Barbara County, Ventura County, and the following cities from North Los Angeles County: Canyon Country, Castaic, Lake Hughes, Lancaster, Littlerock, Llano, Newhall, Palmdale, Pearblossom, Santa Clarita, Stevenson Ranch, and Valencia.

## Occupation Codes and Descriptions

Currently, there are two occupations in the standard occupational classification (SOC) system that were identified as related to Welding Technology for this analysis. The occupation titles and descriptions, as well as reported job titles are included in Exhibit 1.

**Exhibit 1 – Occupation, description, and sample job titles**

<b>SOC Code</b>	<b>Title</b>	<b>Description</b>	<b>Sample of Reported Job Titles</b>
51-4121	<b>Welders, Cutters, Solderers, and Brazers</b>	Use hand-welding or flame-cutting equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.	Aluminum Welder, Fabrication Welder, Fabricator, Fitter/Welder, Maintenance Welder, MIG Welder (Metal Inert Gas Welder), Sub Arc Operator, Welder, Welder-Fitter
51-4122	<b>Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders</b>	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.	Braze Operator, Fabricator, Finishing Technician, Fitter-Welder, Machine Operator, MIG Welder, Operator, Robot Operator, Spot Welder, Technical Associate (TA)

Source: O\*NET Online

## Current and Future Employment

In the South Central Coast region, the number of jobs related to Welding Technology are expected to remain the same for Welders, Cutters, Solderers, and Brazers and decrease for Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders.

**Exhibit 2 – Five-year projections for Welding Technology in the South Central Coast region**

SOC	Occupation	2018 Jobs	2023 Jobs	2018-2023 Change	2018-2023 % Change
51-4121	<b>Welders, Cutters, Solderers, and Brazers</b>	7,884	7,996	112	1%
51-4122	<b>Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders</b>	1,121	1,021	-100	-9%

Source: Economic Modeling Specialists International (EMSI)

## Earnings

In the South Central Coast region, the average wage for the listed occupations is \$18.81 per hour.

Exhibit 3 contains hourly wages and annual average earnings for these occupations. Entry-level hourly earnings are represented by the 25<sup>th</sup> percentile of wages, median hourly earnings are represented by the 50<sup>th</sup> percentile of wages, and experienced hourly earnings is represented by the 75<sup>th</sup> percentile of wages, demonstrating various levels of employment.

**Exhibit 3 – Earnings for Welding Technology in the South Central Coast region**

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
51-4121	<b>Welders, Cutters, Solderers, and Brazers</b>	\$15.28	\$18.89	\$24.92
51-4122	<b>Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders</b>	\$14.54	\$18.23	\$22.80

Source: Economic Modeling Specialists International (EMSI)

## Employer Job Postings

In this research brief, real-time labor market information is used to provide a more nuanced view of the current job market, as it captures job advertisements for occupations relevant to the field of study. Employer job postings are consulted to understand who is looking for welders and solderers, and what they are looking for in potential candidates. To identify job postings related to Welding Technology the following standard occupational classifications were used:

51-4121	Welders, Cutters, Solderers, and Brazers
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

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## Top Occupations

In 2018, there were 123 employer postings for occupations related to Welding Technology.

**Exhibit 4 – Top occupations in job postings and risk of automation tables**

SOC Code	Occupation	Job Postings, Full Year 2018
51-4121	Welders, Cutters, Solderers, and Brazers	121
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	2

Source: Labor Insight/Jobs (Burning Glass)

SOC Code	Occupation	Risk of Automation
51-4121	Welders, Cutters, Solderers, and Brazers	High
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	High

Source: Labor Insight/Jobs (Burning Glass)

### **Top Titles**

The top job titles for employers posting ads for jobs related to Welding Technology are listed in Exhibit 5. Welder is mentioned as the job title in 54% of all relevant job postings (66 postings).

**Exhibit 5 –Job titles**

<b>Title</b>	<b>Job Postings, Full Year 2018</b>
Welder	66
Solderer	11
Production Welder	9
TIG Welder	7
Mechanic	3

Source: Labor Insight/Jobs (Burning Glass)

### **Top Employers**

Exhibit 6 lists the major employers hiring professionals in the Welding Technology field. The top employer posting job ads was Meggitt PLC. The top worksite cities in the region for these occupations were Simi Valley, Santa Clarita, Oxnard, Camarillo, and Palmdale.

**Exhibit 6 – Top employers (n=118)**

<b>Employer</b>	<b>Job Postings, Full Year 2018</b>
Meggitt PLC	7
Entegris Incorporated	5
Lockheed Martin Corporation	4
RSA Engineered Products, LLC	4
ASC Process Systems	3

Source: Labor Insight/Jobs (Burning Glass)

## Skills

Welding is the most sought after skill for employers hiring for jobs related to Welding Technology.

**Exhibit 7 –Job skills (n=102)**

Skills	Job Postings, Full Year 2018
Welding	94
MIG and TIG Welding	38
Repair	32
Soldering	28
Hand Tools	23
Basic Mathematics	20
Schematic Diagrams	20

Source: Labor Insight/Jobs (Burning Glass)

## Industry Concentration

Exhibit 8 shows the industries with most Welding Technology postings in the South Central Coast. Note: 23% of records have been excluded because they do not include an industry. As a result, the chart below may not be representative of the full sample.

**Exhibit 8 – Top Industries employing in Welding, 2018**

Industry	Occupation Group Jobs in Industry	% of Occupation Group in Industry
Manufacturing	39	41.1%
Construction	37	38.9%
Professional, Scientific, and Technical Services	4	4.2%
Administrative and Support and Waste Management and Remediation Services	3	3.2%
Agriculture, Forestry, Fishing and Hunting	3	3.2%

Source: Labor Insight/Jobs (Burning Glass)

## Education and Training

Exhibit 9 shows the typical entry-level education requirement for the occupations of interest, along with the typical on-the-job training needed to attain competency in the occupation.

**Exhibit 9 – Education and training requirements**

SOC	Occupation	Typical entry-level education	Typical on-the-job training
51-4121	<b>Welders, Cutters, Solderers, and Brazers</b>	High school diploma or equivalent	Moderate-term on-the-job training
51-4122	<b>Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders</b>	High school diploma or equivalent	Moderate-term on-the-job training

Source: Bureau of Labor Statistics Employment Projections (Educational Attainment)

## Regional Completions and Openings

There were 431 regional completions (2018) and 1,126 regional openings (2018) in the South Central Coast region in programs related to the occupations identified as related to Welding Technology.

**Exhibit 10 – Completions and Openings**

<b>1</b> Regional Institutions had Related Programs (2018)	<b>431</b> Regional Completions (2018)	<b>1,126</b> Annual Openings (2018)
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Source: Economic Modeling Specialists International (EMSI)

## Related Programs

CIP Code	Program	Completions (2018)
48.0508	Welding Technology/Welder	431

Source: Economic Modeling Specialists International (EMSI)

## **Student Outcomes**

The CTE LaunchBoard provides student outcome data on the effectiveness of CTE programs. The following student outcome information was collected from exiters of the Welding Technology Program (TOP: 0956.50) statewide for the 2015-16 academic year.

- The median annual wage for students after exiting is \$27,283.
- 69% of students are employed within a year after completing a program.
- 54% of students attained a living wage within a year of completion.

Source: CTE LaunchBoard

## **Sources**

O\*Net Online, Labor Insight/Jobs (Burning Glass), Economic Modeling Specialists International (EMSI), MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

## **Notes**

Data included in this analysis represent the labor market demand for relevant positions most closely related to Welding Technology. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study and can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions. All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.