



## Drafting Technology (TOP: 0953.00)

October 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<sup>1</sup> Center of Excellence to provide regional labor market data for the program recommendation – Drafting 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 Drafting Technology are expected to increase** for Architectural and Civil Drafters, Electrical and Electronics Drafters, and Drafters, All Other and to **decrease** for Mechanical Drafters.
- Drafting Technology is anticipated to experience a **low risk of automation** for all four related occupations.
- In 2019 there were 97 regional completions in programs related to the occupations identified as related to Drafting Technology and 147 openings, indicating an **undersupply**.
- Typical entry-level education is **an Associate's degree** for all related occupations.
- Completers of regional Drafting Technology programs from the 2017-2018 academic year had a **median annual wage upon completion of \$36,104**.
- 61% of students are **employed within a year** after completing a program.
- 60% of students **attained a living wage** within a year of completion.
- +28% **change in earnings** for completers.
- 65% of students were **part time**, 12% **skill builders**, 31% **first-generation**, and 74% **economically disadvantaged**.

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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

There are four occupations in the standard occupational classification (SOC) system that were identified as related to Drafting 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>
17-3011	<b>Architectural and Civil Drafters</b>	Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Use knowledge of building materials, engineering practices, and mathematics to complete drawings.	Architectural Designer, Architectural Drafter, Architectural Draftsman, Architectural Technician, CAD Technician (Computer-Aided Design Technician), CADD Operator, (Computer-Aided Design and Drafting Operator), Detailer, Drafter, Draftsman, Truss Designer
17-3012	<b>Electrical and Electronics Drafters</b>	Prepare wiring diagrams, circuit board assembly diagrams, and layout drawings used for the manufacture, installation, or repair of electrical equipment.	Designer Drafters, Designer, Drafter, Integrated Circuit IC Layout Designer, Layout Designer, Mask Designer, Printed Circuit Board (PCB) Designer, Printed Circuit Board (PCB) Draftsman, Senior Designer, Senior Printed Circuit Board Designer
17-3013	<b>Mechanical Drafters</b>	Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.	CAD Designer (Computer Aided Design Drafter), CAD Operator (Computer Aided Design Operator), Design Drafter, Designer, Drafter, Drafting Technician, Mechanical Designer, Mechanical Drafter, Product Designer, Project Designer
17-3019	<b>Drafters, All Other</b>	All drafters not listed separately.	--

Source: O\*NET Online

## Current and Future Employment

In the South Central Coast region, the number of jobs related to Drafting Technology are expected to increase for Architectural and Civil Drafters, Electrical and Electronics Drafters, and Drafters, All Other and to decrease for Mechanical Drafters.

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

SOC	Occupation	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change
17-3011	Architectural and Civil Drafters	653	689	36	6%
17-3012	Electrical and Electronics Drafters	154	158	4	3%
17-3013	Mechanical Drafters	391	385	-6	-2%
17-3019	Drafters, All Other	104	111	7	7%

Source: Economic Modeling Specialists International (EMSI)

## Earnings

In the South Central Coast region, the average wage for the listed occupations is \$28.18 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 are represented by the 75<sup>th</sup> percentile of wages, demonstrating various levels of employment.

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

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
17-3011	Architectural and Civil Drafters	\$21.48	\$26.71	\$32.96
17-3012	Electrical and Electronics Drafters	\$25.64	\$33.20	\$43.62
17-3013	Mechanical Drafters	\$23.60	\$31.71	\$40.27
17-3019	Drafters, All Other	\$18.61	\$24.04	\$29.37

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 drafters, and what they are looking for in potential candidates. To identify job postings related to Drafting Technology following standard occupational classifications were used:

17-3011	Architectural and Civil Drafters
17-3012	Electrical and Electronics Drafters
17-3013	Mechanical Drafters
17-3019	Drafters, All Other

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## Top Occupations

In 2019, there were 388 employer postings for the occupations related to Drafting Technology.

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

SOC Code	Occupation	Job Postings, Full Year 2019
17-3019	<b>Drafters, All Other</b>	167
17-3013	<b>Mechanical Drafters</b>	115
17-3012	<b>Electrical and Electronics Drafters</b>	78
17-3011	<b>Architectural and Civil Drafters</b>	28

Source: Labor Insight/Jobs (Burning Glass)

SOC Code	Occupation	Risk of Automation
17-3019	<b>Drafters, All Other</b>	Low
17-3013	<b>Mechanical Drafters</b>	Low
17-3012	<b>Electrical and Electronics Drafters</b>	Low
17-3011	<b>Architectural and Civil Drafters</b>	Low

Source: Labor Insight/Jobs (Burning Glass)

### **Top Titles**

The top job titles for employers posting ads for jobs related to Drafting Technology are listed in Exhibit 5. Mechanical Drafter is mentioned as the job title in 3% of all relevant job postings (11 postings).

**Exhibit 5 –Job titles**

<b>Title</b>	<b>Job Postings, Full Year 2019</b>
Mechanical Drafter	11
Drafter	10
CAD Designer	9
Mechanical Designer	9
Mechanical Design Drafter	9

Source: Labor Insight/Jobs (Burning Glass)

### **Top Employers**

Exhibit 6 lists the major employers hiring professionals in the Drafting Technology field. The top employer posting job ads was Edison International. The top worksite cities in the region for these occupations were Santa Clarita, Goleta, Oxnard, Simi Valley, and Ventura.

**Exhibit 6 – Top employers (n=198)**

<b>Employer</b>	<b>Job Postings, Full Year 2019</b>
Edison International	17
Northrop Grumman	17
Lockheed Martin Corporation	14
Skyworks	12
Hertz Corporation	7

Source: Labor Insight/Jobs (Burning Glass)

**Skills**

AutoCAD is the most sought after skill for employers hiring for jobs related Drafting Technology.

**Exhibit 7 –Job skills (n=360)**

Skills	Job Postings, Full Year 2019
AutoCAD	152
CAD	147
SolidWorks	114
Calculation	53
CATIA	49
Mechanical Design	45
Engineering Drawings	44

Source: Labor Insight/Jobs (Burning Glass)

**Industry Concentration**

Exhibit 8 shows the industries with most Drafting Technology postings in the South Central Coast. Note: 33% 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 – Industries employing the most in the Drafting Technology field, 2019**

Industry	Occupation Group Jobs in Industry	% of Occupation Group in Industry
Manufacturing	93	35.6%
Administrative and Support and Waste Management and Remediation Services	68	26.1%
Professional, Scientific, and Technical Services	51	19.5%
Utilities	20	7.7%
Real Estate and Rental and Leasing	8	3.1%

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
17-3011	<b>Architectural and Civil Drafters</b>	Associate's degree	None
17-3012	<b>Electrical and Electronics Drafters</b>	Associate's degree	None
17-3013	<b>Mechanical Drafters</b>	Associate's degree	None
17-3019	<b>Drafters, All Other</b>	Associate's degree	None

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

## Regional Completions and Openings

There were 97 regional completions (2019) and 147 regional openings (2019) in the South Central Coast region in programs related to the occupations identified as related to Drafting Technology.

**Exhibit 10 – Completions and Openings**

<b>5</b> Regional Institutions had Related Programs (2019)	<b>97</b> Regional Completions (2019)	<b>147</b> Annual Openings (2019)
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Source: Economic Modeling Specialists International (EMSI)

## Related Programs

CIP Code	Program	Completions (2019)
15.1301	Drafting and Design Technology/Technician, General	61
15.1303	Architectural Drafting and Architectural CAD/CADD	15
15.1306	Mechanical Drafting and Mechanical Drafting CAD/CADD	10
04.0901	Architectural Technology/Technician	7
15.1305	Electrical/Electronics Drafting and Electrical/Electronics CAD/CADD	4

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 current students and exiters of regional Drafting Technology Programs (TOP: 0953.00) for the 2017-18 academic year.

- **Median annual wage** upon completion of \$36,104.
- 61% of students are **employed within a year** after completing a program.
- 60% of students **attained a living wage** within a year of completion.
- +28% **change in earnings** for completers.
- 65% of students were **part time**, 12% **skill builders**, 31% **first-generation**, and 74% **economically disadvantaged**.

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 Drafting 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.