



Labor Market Analysis:

0953.30 – Electrical, Electronic and Electro-Mechanical Drafting Electromechanical Instrumentation, Maintenance and Repair –

Certificate requiring 8 to fewer than 16 semester units

Los Angeles Center of Excellence, January 2025

Program Endorsement:	Endorsed: All Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some Criteria Met <input type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Living Wage: (Entry-Level, 25 th)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupation¹ or whether a shortage of workers exists. Labor market demand is measured by annual job openings while education supply is measured by the number of awards (degrees and certificates) conferred on average each year.

Based on the available data, there appears to be a supply gap for the one identified middle-skill occupation in the region. Furthermore, entry-level wages exceed the self-sufficiency standard wage in both Los Angeles and Orange counties, and the Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education.

Recommendation: Due to all three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

Key Findings

Supply Gap

- 46 annual job openings are projected in the region through 2028. This number is greater than the three-year average of 4 awards conferred by educational institutions in the region.

¹ Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree. The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

Living Wage

- \$28.09 is the typical entry-level hourly wages for *electro-mechanical and mechatronics technologists and technicians*, which is higher than Los Angeles County's self-sufficiency standard hourly (\$24.03/hour).²

Educational Attainment

- An associate degree is the typical entry-level education for *electro-mechanical and mechatronics technologists and technicians*, according to the Bureau of Labor Statistics (BLS).
- 50% of workers in the field have completed some college or an associate degree, according to national educational attainment data.

Community college supply

- 1 community college issued awards related to electro-mechanical technology in the greater LA/OC region.
- 4 awards (degrees and certificates) were conferred on average each year between 2021 and 2023.

Other postsecondary supply

- No educational institutions in the LA/OC region have conferred sub-baccalaureate awards in programs related to electro-mechanical technology over the past three years.

TARGET OCCUPATION

LA COE prepared this report to provide regional labor market and postsecondary supply data related to one middle-skill occupation:

- ***Electro-Mechanical and Mechatronics Technologists and Technicians (17-3024)*** Operate, test, maintain, or adjust unmanned, automated, servomechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment to observe or record visual information at sites such as oil rigs, crop fields, buildings, or for similar infrastructure, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.³

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for *electro-mechanical and mechatronics technologists and technicians*. In the greater Los Angeles/Orange County region, the number of jobs related to this occupation is projected to decrease by 5% through 2028. However, there will be nearly 50 job openings per year through 2028 due to retirements and workers leaving the field. The majority of jobs in 2023 for *electro-mechanical and mechatronics technologists and technicians* (65%) were located in Los Angeles County.

² Center for Women's Welfare, University of Washington. (2024). *The self-sufficiency standard for California 2024*. <http://selfsufficiencystandard.org/California>.

³ [Electro-Mechanical and Mechatronics Technologists and Technicians \(bls.gov\)](https://www.bls.gov/occupations/electromechanical-and-mechatronics-technologists-and-technicians)

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁴

Geography	2023 Jobs	2028 Jobs	2023-2028 Change	2023-2028 % Change	Annual Openings
Los Angeles	343	321	(22)	(6%)	30
Orange	182	179	(3)	(1%)	16
Total	525	500	(24)	(5%)	46

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for the target occupation in Los Angeles County. Positive scores for automation resilience⁵ reflect a lower-than-average threat of the occupation(s) being replaced by automation, while negative scores reflect a greater-than-average risk of automation. The average percentage of workers aged 55+ across all occupations in the Los Angeles/Orange County region is 26%; occupations with a larger share of workers aged 55 and older typically have greater replacement needs to offset the amount of impending retirements.

Exhibit 2: Detailed employment and occupational demand, Los Angeles County⁶

Occupation	2023 Jobs	2028 Jobs	5-Yr % Change	Annual Openings	Auto-mation Resilience	% Aged 55 and older	% Full Time Workers
Electro-Mechanical and Mechatronics Technologists and Technicians	343	321	(6%)	30	(5.7)	31%	Data unavail.

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for *electro-mechanical and mechatronics technologists and technicians* in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater Los Angeles/Orange County region.

Los Angeles County

The typical entry-level hourly wages for *electro-mechanical and mechatronics technologists and technicians* are \$28.09, which is above the self-sufficiency standard wage for one adult (\$24.03 in Los Angeles County). Experienced workers can expect to earn wages of \$46.34 (Exhibit 3).

⁴ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁵ Automation risk is calculated based on the percentage of time spent on high-risk compared to low-risk work, the number of high-risk jobs in compatible occupations, and the overall industry automation risk.

⁶ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 3: Earnings for occupations in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Electro-Mechanical and Mechatronics Technologists and Technicians	\$28.09	\$37.99	\$46.34	\$79,000

*Rounded to the nearest \$100

Orange County

The typical entry-level hourly wages for *electro-mechanical and mechatronics technologists and technicians* are \$29.05, which is above the self-sufficiency standard wage for one adult (\$27.13 in Orange County). Experienced workers can expect to earn wages of \$47.82 (Exhibit 4).

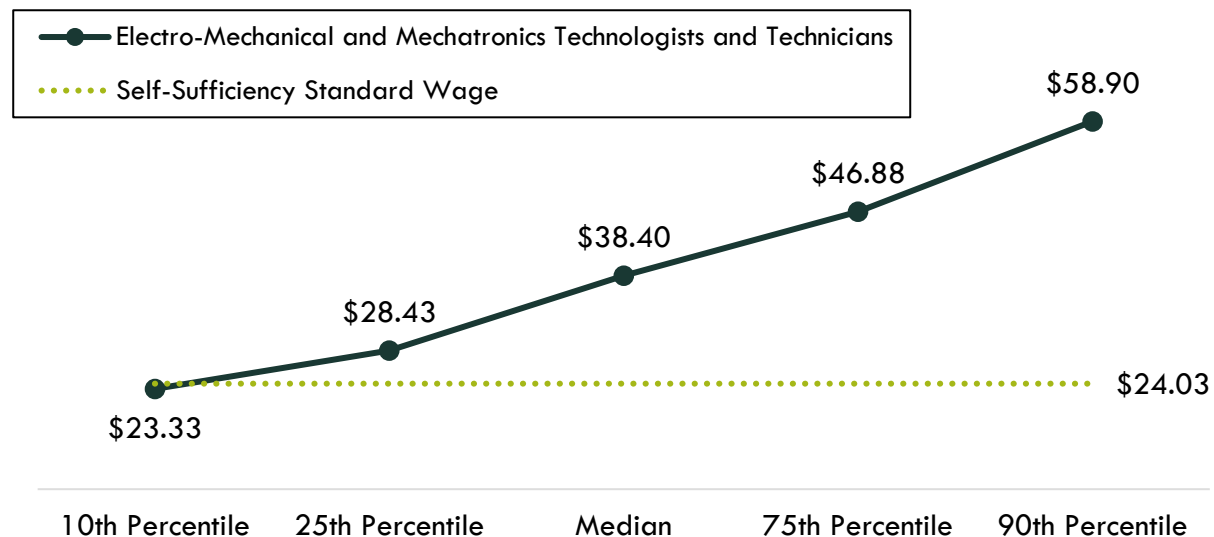
Exhibit 4: Earnings for occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Electro-Mechanical and Mechatronics Technologists and Technicians	\$29.05	\$39.24	\$47.82	\$81,600

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for the occupation in this report are \$28.43; this is above the living wage for one single adult in Los Angeles County (\$24.03). Exhibit 5 shows the average hourly wage for the occupation in this report, for entry-level to experienced workers.

Exhibit 5: Average hourly earnings for electro-mechanical and mechatronics technologists and technicians, Los Angeles and Orange counties



JOB POSTINGS

There were 83 online job postings for *electro-mechanical and mechatronics technologists and technicians* listed in the past 12 months in Los Angeles and Orange counties. Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupations in this report (Exhibit 6).

Exhibit 6: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> • Electromechanical technicians • Mechatronics technicians • Robot technicians • Robotics technicians • Field application specialists 	<ul style="list-style-type: none"> • Robotics • Electronics • Mechatronics • Preventative maintenance • Safety Standards 	<ul style="list-style-type: none"> • Cushman & Wakefield • Amazon • CBRE • Jobot* • SpaceX • ATS Automation*

*Staffing company

In the greater Los Angeles/Orange County region, 65% of the *electro-mechanical and mechatronics technologist and technician* job postings listed a minimum educational requirement. Exhibit 8 details the number and percentage of job postings by educational level.

Exhibit 8: Education levels requested in job postings for electro-mechanical and mechatronics technologists and technicians, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	8	15%
Associate degree	8	15%
High school diploma or vocational training	38	70%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *electro-mechanical and mechatronics technologists and technicians* (Exhibit 9). Furthermore, the national-level data indicates 50% of workers in the field have completed some college or an associate degree as their highest level of educational attainment. The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

Exhibit 9: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
<i>Electro-Mechanical and Mechatronics Technologists and Technicians</i>	Associate degree

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 9 shows the annual and three-year average number of awards conferred by community colleges in programs that have historically trained for the occupation of interest. The only college with completions in the region over the past three years is Santa Ana. Currently, there are no programs in the region under the related TOP Code:

- Electrical, Electronic, and Electro-Mechanical Drafting (0953.30)

In the past three years, there were no other postsecondary institutions in the greater LA/OC region that conferred sub-baccalaureate awards in programs that train for *electro-mechanical and mechatronics technologists and technicians*.

Exhibit 9: Regional community college awards (certificates and degrees), 2021-2023

TOP Code Program College 2020-21 Awards 2021-22 Awards 2022-23 Awards 3-Year Average						
0935.00	Electro-Mechanical Technology	Santa Ana	-	4	8	4
		OC Subtotal	-	4	8	4
Supply Total/Average			-	4	8	4

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DATA SOURCES

POWERED BY



- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

Important Disclaimer: All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon components or recommendations contained in this study.

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