CENTER OF EXCELLENCE FOR LABOR MARKET RESEARCH
LOS ANGELES

Labor Market Analysis: 0956.00 – Manufacturing and Industrial Technology
15.0405 – Robotics Technology/Technician
Robotics Technician – Certificate requiring 16 to <30 semester units

Los Angeles Center of Excellence, April 2026

Program Endorsement:	Endorsed: All Criteria Met ☐	Endorsed: Some Criteria Met ☒	Not Endorsed ☐
Program Endorsement Criteria			
Supply Gap:	Yes ☐	No ☑ *(See comments)*	
Living Wage: (Entry-Level, 25th)	Yes ☑	No ☐	
Education:	Yes ☑	No ☐	
Emerging Occupation(s)			
Yes ☑		No ☐	

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupation[1] 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 does not appear to be a supply gap for the one identified middle-skill occupation in the region. However, since there is not a specific TOP code that solely trains for robotics occupations, the supply data is likely overstated for the target occupation. Since this program does not meet the traditional supply/demand endorsement criteria, there may be demand for these workers from local employers that is not reflected in traditional labor market data. For this reason, real-time labor market data is included in this report as well – to provide a more nuanced view of the regional job market for the target and emerging occupations related to robotics. Furthermore, entry-level wages for the target occupation 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 two of three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

[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.

Key Findings

Supply Gap

- 31 annual job openings are projected in the region through 2029. This number is less than the three-year average of 90 awards conferred by educational institutions in the region.
    - The Manufacturing and Industrial Technology (0956.00) TOP code trains for *electro-mechanical and mechatronics technologists and technicians* and robotics technicians, as well as other middle-skill manufacturing occupations. Since there is not a TOP code solely for robotics, it is likely that the supply data is overstated for robotics technicians.
- Over the past 12 months, there were **98 online job postings related to middle-skill robotics occupations**. The highest number of job postings were for mechatronics technicians, robotics instructors, and robotics technicians.

Living Wage

- $29.55 is the typical entry-level hourly wage 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

- 13 community colleges issued awards related to manufacturing/industrial technology and/or robotics in the greater LA/OC region.
- 90 awards (degrees and certificates) were conferred on average each year between 2023 and 2025.
- The Manufacturing and Industrial Technology (0956.00) TOP code trains for *electro-mechanical and mechatronics technologists and technicians* and robotics technicians, as well as other middle-skill manufacturing occupations. Since there is not a TOP code solely for robotics, it is likely that the supply data is overstated for robotics technicians.

Other postsecondary supply

- While there are various engineering technician programs at Los Angeles County postsecondary institutes that may teach robotics skills, there are no programs specifically coded within the electro-mechanical technology or robotics technology disciplines.

TARGET OCCUPATION

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

- ***Electro-Mechanical and Mechatronics Technologists and Technicians* (17-3024)** Operate, test, maintain, or adjust unmanned, automated, servomechanical, or electromechanical

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

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]

- ***Robotics Technicians* (17-3024.01)** Build, install, test, or maintain robotic equipment or related automated production systems. [4]

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 slightly increase/decrease by less than 1% through 2029. There will be more than 30 job openings per year through 2029 due to job growth and replacements. The majority of jobs in 2024 for *electro-mechanical and mechatronics technologists and technicians* (69%) were located in Los Angeles County.

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties[5]

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	246	245	(1)	(0%)	22
Orange	111	112	1	1%	10
Total	**357**	**357**	**1**	**0%**	**31**

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for the target occupation in Los Angeles County. 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 County[6]

Occupation	2024 Jobs	2029 Jobs	5-Yr % Change	Annual Openings	% Aged 55 and older
Electro-Mechanical and Mechatronics Technologists and Technicians	246	245	(0%)	22	30%

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

[3] Electro-Mechanical and Mechatronics Technologists and Technicians (bls.gov)
[4] Robotics Technicians (onetonline.org)
[5] Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.
[6] Ibid.

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 $29.55, 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 $49.49 (Exhibit 3).

Exhibit 3: Earnings for occupation in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)	Median Annual Earnings*
Electro-Mechanical and Mechatronics Technologists and Technicians	$29.55	$37.29	$49.49	$77,600

*Rounded to the nearest $100

Orange County

The typical entry-level hourly wages for *electro-mechanical and mechatronics technologists and technicians* are $31.34, which is above the self-sufficiency standard wage for one adult ($27.13 in Orange County). Experienced workers can expect to earn wages of $51.25 (Exhibit 4).

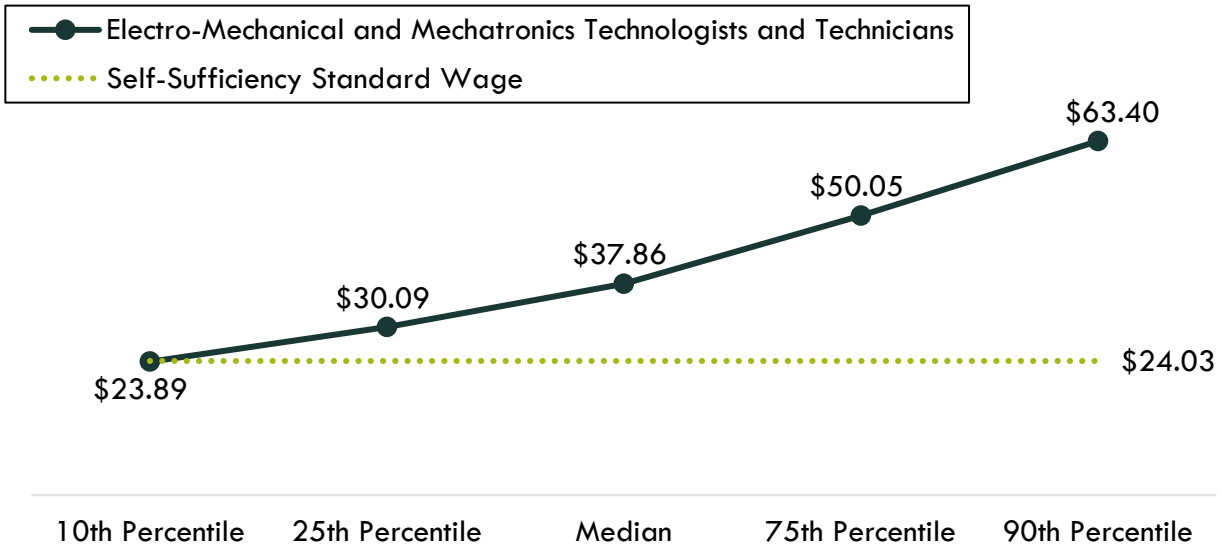
Exhibit 4: Earnings for occupation in Orange County

Occupation	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)	Median Annual Earnings*
Electro-Mechanical and Mechatronics Technologists and Technicians	$31.34	$39.03	$51.25	$81,200

*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 $30.09; 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.

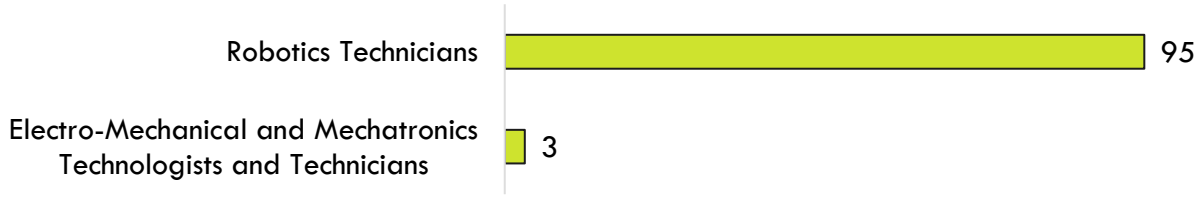
Exhibit 5: Average hourly earnings for target occupation, Los Angeles and Orange counties



JOB POSTINGS

There were 98 online job postings related to the target and emerging occupations listed in the past 12 months in Los Angeles and Orange counties. Exhibit 6 displays the number of job postings by occupation. The majority of job postings (97%) were for *robotics technicians*.

Exhibit 6: Job postings by occupation (last 12 months), Los Angeles and Orange counties



Job postings were analyzed for the most common job titles, skills, and employers associated with the target and emerging occupations in this report (Exhibit 7).

Exhibit 7: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
• Mechatronics technicians • Robotics instructors • Robotics technicians • Robotics techs • Robot technicians • Electromechanical technicians • Assembly technicians	• Robotics • Mechatronics • Electronics • Material handling equipment • Safety standards • Packaging and labeling • Conveyor Systems	• Cushman & Wakefield • Amazon • CBRE* • Divergent Agency • Brick Tech • Precise Personnel* • Relativity Space • KBR

*Staffing company

In the greater Los Angeles/Orange County region, 67% of the target 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 target occupations, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	5	8%
Associate degree	3	5%
High school diploma or vocational training	58	88%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *electro-mechanical and mechatronics and 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 level for the occupation in this report:

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

Occupation	Education Level
Electro-mechanical and mechatronics technologists and technicians	Associate degree

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 10 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 colleges with the most completions in the region are Mt. San Antonio, Fullerton, and Santa Ana.

The Manufacturing and Industrial Technology (0956.00) TOP code trains for *electro-mechanical and mechatronics technologists and technicians* and robotics specialists, as well as other middle-skill manufacturing occupations. Since there is not a TOP code solely for robotics, it is likely that the supply data is overstated for robotics technicians.

Exhibit 10: Regional community college awards (certificates and degrees), 2023-2025

TOP Code	Program	College	2022-23 Awards	2023-24 Awards	2024-25 Awards	3-Year Average
0935.00	Electro-Mechanical Technology	Orange Coast	-	3	1	1
		Santa Ana	8	11	12	10
		OC Subtotal	**8**	**14**	**13**	**12**
Supply Subtotal/Average			**8**	**14**	**13**	**12**
0956.00	Manufacturing and Industrial Technology	Cerritos	1	5	1	2
		El Camino	1	-	3	1
		LA Trade-Tech	3	5	20	9
		LA Valley	2	5	8	5
		Mt San Antonio	26	28	27	27
		West LA	-	2	3	2
		LA Subtotal	**33**	**45**	**62**	**47**
		Cypress	-	4	3	2
		Fullerton	9	12	46	22
		Irvine	-	-	3	1
		Saddleback	4	3	4	4
		Santiago Canyon	6	2	-	3
		OC Subtotal	**19**	**21**	**56**	**32**
Supply Subtotal/Average			**52**	**66**	**118**	**79**
Supply Total/Average			**60**	**80**	**131**	**90**

Exhibit 11 displays the community college awards broken down by award type. In this case, the majority of awards issued by community colleges are certificates (68%).

Exhibit 11: Community college awards by award type, 2023-2025

Award Type	# of Awards	% of Awards
A.A./A.S. degrees	26	29%
Certificates	61	68%
Noncredit awards	3	3%
Total	**90**	**100%**

Exhibit 12 shows the current robotics programs offered at community colleges throughout the state. Seven community colleges in the Los Angeles/Orange County region currently offer robotics programs, including one associate degree program, four certificate programs, and four noncredit programs. Since these programs are widely distributed among TOP codes and many of the programs are relatively new, awards data for all robotics programs is not available.

Exhibit 12: Current community college robotics programs in California

TOP Code	Program Title	College	Award Type	Approval Date
0707.00 – Computer Software Development	**Robotics**	**L.A. Mission**	**Noncredit**	**January 2021**
0924.00 – Engineering Technology, General (requires Trigonometry)	Practical Robotics	Antelope Valley	Noncredit	May 2025
0934.00 – Electronics and Electric Technology	**Robotics and PLCs**	**L.A. Valley**	**Noncredit**	**June 2020**
0934.20 – Industrial Electronics	Robotics	American River	Certificate of Achievement	January 2008
	Robotics and Mechatronics Controls	Laney	Certificate of Achievement	February 2019
	Robotics Exploration	**Long Beach**	**Noncredit**	**July 2023**
0935.00 – Electro-Mechanical Technology	**Fundamentals of Robotics**	**L.A. Southwest**	**Noncredit**	**May 2021**
	Robotics Technician	**Orange Coast**	**Certificate of Achievement**	**October 2021**
0956.00 – Manufacturing and Industrial Technology	Industrial Robotics Technician	Clovis	A.S. Degree; Certificate of Achievement	June 2025
	Mechatronics, Robotics and Automation	**Cypress**	**A.S. Degree**	**-**
	Robotics Technician	**Cypress**	**Certificate of Achievement**	**September 2023**
	Industrial Automation and Robotics	Diablo Valley	Certificate of Achievement	-
	Robotics Technician	Diablo Valley	Certificate of Achievement	July 2024
	Robotics Specialist	Norco	Certificate of Achievement	-
	Essentials of Robotics and Programming	**West L.A.**	**Certificate of Achievement**	**February 2024**
0956.40 – Sheet Metal and Structural Metal	**Robotic Welding Automation**	**Long Beach**	**Certificate of Achievement**	**-**
0956.50 – Welding Technology	Robotic Welding Automation	Canyons	Certificate of Achievement	January 2021

Other Postsecondary Supply

For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs *for electro-mechanical and mechatronics technologists and technicians*. While there are various engineering technician programs at Los Angeles County postsecondary institutes that may teach robotics skills, there are no programs specifically coded within the electro-mechanical technology discipline, such as Electromechanical

Technology/Electromechanical Engineering Technology (CIP 15.0403) or Robotics Technology/Technician (15.0405).

According to RoboticsCareer.org, the following postsecondary robotics training programs are offered in the Los Angeles/Orange County region:

Exhibit 12: Other postsecondary robotics programs in Los Angeles and Orange counties[7]

Program Title	College	Award Type	Program Length
Applied Mathematics & Robotics	California State Polytechnic University – Pomona	Certificate of Completion	7 days
Computer Science – Artificial Intelligence	University of Southern California	Master's degree	1 Year
Computer Science – Intelligent Robotics*	University of Southern California	Master's degree	1 Year
Educational Robotics Training – Core	Universal Robots – California	Workforce certificate	Not specified
Electrical Engineering	California Institute of Technology	Bachelor's degree	4 years
Electronics Engineering Technology	California State University – Long Beach	Bachelor's degree	4 years
Mechanical Engineering	California State University – Long Beach	Bachelor's degree	4 years

*Program discontinued effective Fall 2024

[7] RoboticsCareer.org

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DATA SOURCES

- 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)