



Labor Market Analysis: 0956.30 – Machining and Machine Tools 48.0501 – Machine Tool Technology/Machinist

Machinist – Noncredit Vocational Program

Los Angeles Center of Excellence, September 2026

Program Endorsement:	Endorsed: All Criteria Met	☐	Endorsed: Some Criteria Met	☒	Not Endorsed	☐
Program Endorsement Criteria						
Supply Gap:	Yes	☒	No	☐		
Living Wage: (Entry-Level, 25 th)	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 occupations¹ 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 four identified middle-skill occupations in the region. While the majority of annual openings have entry-level wages that are lower than the self-sufficiency standard wage in both Los Angeles and Orange counties, more than one-third of current workers in the field have completed some college or an associate degree as their highest level of educational attainment.

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.

Key Findings

Supply Gap

- 1,974 annual job openings are projected in the region through 2030. This number is greater than the three-year average of 281 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

- 88% of annual job openings for these middle-skill machining occupations have entry-level wages **below** Los Angeles County's self-sufficiency standard hourly wage (\$24.03/hour).²

Educational Attainment

- 88% of the annual job openings typically require a high school diploma or equivalent for middle-skill occupations related to machining in the LA/OC region.
- 41%-48% of workers in the field have completed some college or an associate degree, according to national educational attainment data.

Community college supply

- 11 community colleges issued awards related to machining in the greater LA/OC region.
- 167 awards (degrees and certificates) were conferred on average each year between 2023 and 2025.

Other postsecondary supply

- 2 educational institutions in the LA/OC region have conferred awards in programs related to machining over the past three years.
- 114 awards were conferred on average each year by other postsecondary institutions throughout the greater LA/OC region between 2022 and 2024.

TARGET OCCUPATIONS

LA COE prepared this report to provide regional labor market and postsecondary supply data related to four middle-skill occupations. **For full occupation descriptions, please see Appendix.**

- **Machinists (51-4041)**³
- **Tool and Die Makers (51-4111)**⁴
- **Computer Numerically Controlled Tool Operators (51-9161)**⁵
- **Computer Numerically Controlled Tool Programmers (51-9162)**⁶

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for these middle-skill machining occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to decrease by 3% through 2030. However, there will be nearly 2,000 job openings per year through 2030 due to retirements and workers leaving the field. The majority of jobs in 2025 for these middle-skill machining occupations (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 [Machinists and Tool and Die Makers \(bls.gov\)](https://www.bls.gov/occupations/machinists-and-tool-and-die-makers)

⁴ [Ibid.](#)

⁵ [Computer Numerically Controlled Tool Operators \(bls.gov\)](https://www.bls.gov/occupations/cnc-tool-operators)

⁶ [Computer Numerically Controlled Tool Programmers \(bls.gov\)](https://www.bls.gov/occupations/cnc-tool-programmers)

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁷

Geography	2025 Jobs	2030 Jobs	2025-2030 Change	2025-2030 % Change	Annual Openings
Los Angeles	13,493	12,983	(510)	(4%)	1,265
Orange	7,352	7,215	(137)	(2%)	709
Total	20,845	20,198	(647)	(3%)	1,974

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for each of the target occupations 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. On average, 81% of workers across all occupations in California are employed full-time.

Exhibit 2: Detailed employment and occupational demand, Los Angeles County⁸

Occupation	2025 Jobs	2030 Jobs	5-Yr % Change	Annual Openings	% Aged 55 and older	% Full Time Workers
Machinists	5,441	5,430	(0%)	535	42%	100%
Tool and Die Makers	653	632	(3%)	66	55%	100%
Computer Numerically Controlled Tool Operators	6,530	6,034	(8%)	581	29%	100%
Computer Numerically Controlled Tool Programmers	870	887	2%	84	29%	100%
Total	13,493	12,983	(4%)	1,265	-	-

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill machining occupations 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 majority, 88%, of annual openings for middle-skill machining occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$24.03 in Los Angeles County). Typical entry-level hourly wages are in a range between \$20.72 and \$32.27. (Exhibit 3).

⁷ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁸ Ibid.

Two occupations have entry-level wages above the self-sufficiency standard wage:

- *Computer numerically controlled tool programmers*, \$32.27
- *Tool and die makers*, \$26.05

Experienced workers can expect to earn wages between \$30.49 and \$47.95, which are higher than the self-sufficiency standard.

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*
Machinists	\$20.72	\$26.56	\$31.69	\$55,200
Tool and Die Makers	\$26.05	\$36.43	\$44.44	\$75,800
Computer Numerically Controlled Tool Operators	\$22.64	\$26.42	\$30.49	\$55,000
Computer Numerically Controlled Tool Programmers	\$32.27	\$39.76	\$47.95	\$82,700

*Rounded to the nearest \$100

Orange County

The majority, 93%, of annual openings for middle-skill machining occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$27.13 in Orange County).

Typical entry-level hourly wages are in a range between \$20.61 and \$32.53 (Exhibit 4).

One occupation has entry-level wages above the self-sufficiency standard wage:

- *Computer numerically controlled tool programmers*, \$32.53

Experienced workers can expect to earn wages between \$30.55 and \$48.33, which are higher than the self-sufficiency standard.

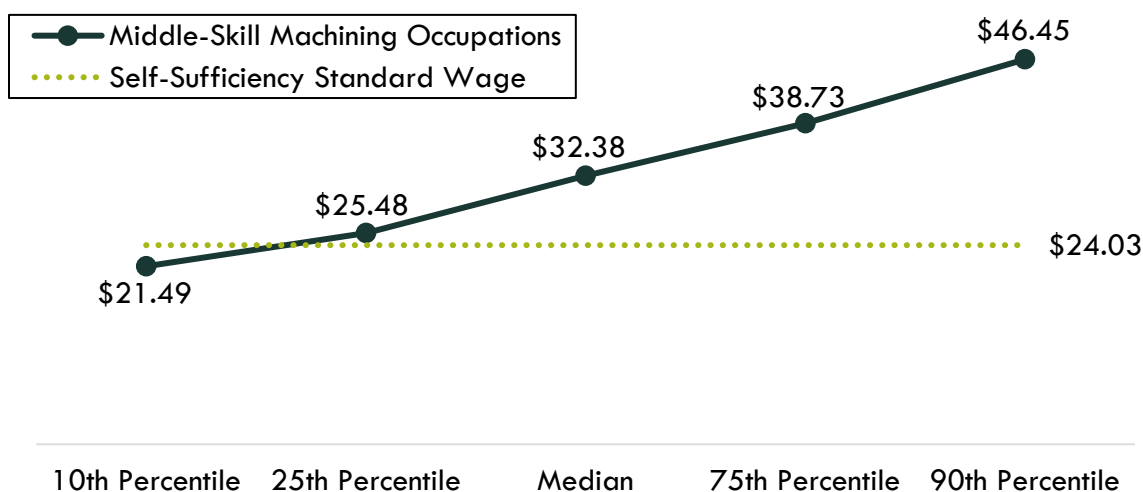
Exhibit 4: Earnings for occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Machinists	\$20.61	\$26.35	\$31.37	\$54,800
Tool and Die Makers	\$26.65	\$37.33	\$45.38	\$77,600
Computer Numerically Controlled Tool Operators	\$22.68	\$26.47	\$30.55	\$55,100
Computer Numerically Controlled Tool Programmers	\$32.53	\$40.08	\$48.33	\$83,400

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for the occupations in this report are \$25.48; 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 occupations in this report, for entry-level to experienced workers.

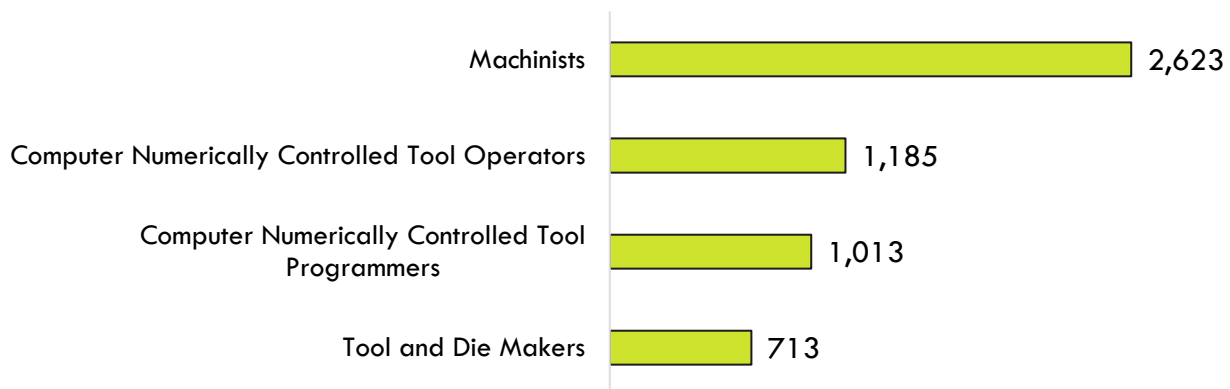
Exhibit 5: Average hourly earnings for target occupations, Los Angeles and Orange counties



JOB POSTINGS

There were 5,535 online job postings related to middle-skill machining 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 (47%) were for *machinists*, followed by *computer numerically controlled tool operators* (21%) and *computer numerically controlled tool programmers* (18%).

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 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
• CNC machinists • CNC programmers • Machinists • CNC operators • CNC machine operators • CNC set up operators • CNC lathe machinists • CNC milling machinists • Tool and die makers	• Machining • Tooling • Lathes • Computer numerical control (CNC) • Blueprinting • Mills • Calipers • Micrometers	• Aerotek* • Howmet Aerospace • Precision Castparts • Jobot* • AppleOne* • Ultimate Staffing* • Orchid Orthopedic Solutions • Volt*

*Staffing company

In the greater Los Angeles/Orange County region, 42% 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	64	3%
Associate degree	91	4%
High school diploma or vocational training	2,163	93%

EDUCATIONAL ATTAINMENT

In the greater Los Angeles/Orange County region, the majority of annual job openings (88%) typically require a high school diploma or equivalent (Exhibit 9). However, the national-level data indicates between 41% and 48% 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
Tool and Die Makers	Postsecondary non-degree award
Computer Numerically Controlled Tool Programmers	Postsecondary non-degree award
Machinists	High school diploma or equivalent
Computer Numerically Controlled Tool Operators	High school diploma or equivalent

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 10 shows the annual and three-year average number of awards conferred by community colleges in the related TOP code: Machining and Machine Tools (0956.30). The colleges with the most completions in the region are Orange Coast, Santa Ana, and El Camino.

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
0956.30	Machining and Machine Tools	Cerritos	21	33	5	20
		Compton	8	7	7	7
		El Camino	23	34	46	34
		Glendale	2	6	-	3
		LA Pierce	7	5	6	6
		LA Trade-Tech	7	14	4	8
		LA Valley	-	1	7	3
		Pasadena	2	9	8	6
		LA Subtotal	70	109	83	87
		Fullerton	-	-	4	1
		Orange Coast	29	46	47	41
		Santa Ana	45	28	40	38
		OC Subtotal	74	74	91	80
		Supply Total/Average	144	183	174	167

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 (75%).

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

Award Type	# of Awards	% of Awards
A.A./A.S. degrees	41	25%
Certificates	126	75%
Total	167	100%

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 machining. Exhibit 12 shows the number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent data is from 2022 to 2024. Between 2022 and 2024, other postsecondary college institutions in the region conferred an average of 114 sub-baccalaureate

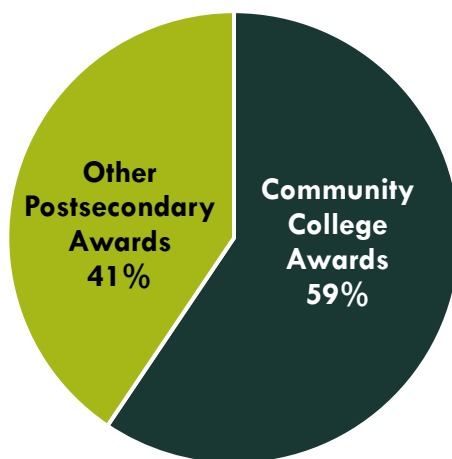
awards. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards that typically take fewer than four years to complete.

Exhibit 12: Other regional postsecondary awards, 2022-2024

CIP Code	Program	Postsecondary Institution	2021-22 Awards	2022-23 Awards	2023-24 Awards	3-Year Average
48.0501	Machine Tool Technology/ Machinist	NTMA Training Centers of Southern California	113	118	81	104
		Pomona USD Adult and Career Education	1	7	4	4
48.0503	Machine Shop Technology/ Assistant	Pomona USD Adult and Career Education	5	4	8	6
Supply Total/Average			119	129	93	114

Exhibit 13 shows the proportion of community college awards conferred in the greater Los Angeles/Orange County region compared to the number of other postsecondary awards for the programs in this report. The majority of awards conferred in these programs are awarded by community colleges in the greater Los Angeles/Orange County region.

Exhibit 13: Percentage of community college awards compared to other postsecondary institution awards in the Los Angeles/Orange County region



APPENDIX: OCCUPATION DESCRIPTIONS

LA COE prepared this report to provide regional labor market supply and demand data related to these target occupations:

- **Machinists (51-4041)** Set up and operate a variety of machine tools to produce precision parts and instruments out of metal. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.⁹
- **Tool and Die Makers (51-4111)** Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.¹⁰
- **Computer Numerically Controlled Tool Operators (51-9161)** Operate computer-controlled tools, machines, or robots to machine or process parts, tools, or other work pieces made of metal, plastic, wood, stone, or other materials. May also set up and maintain equipment.¹¹
- **Computer Numerically Controlled Tool Programmers (51-9162)** Develop programs to control machining or processing of materials by automatic machine tools, equipment, or systems. May also set up, operate, or maintain equipment.¹²

Contact information:

Luke Meyer, Director

Los Angeles Center of Excellence

Lmeyer7@mtsac.edu

If for any reason this document is not accessible or if you have specific needs for readability, please contact us and we will do our utmost to accommodate you with a modified version.

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)

⁹ [Machinists and Tool and Die Makers \(bls.gov\)](https://www.bls.gov)

¹⁰ [Machinists and Tool and Die Makers \(bls.gov\)](https://www.bls.gov)

¹¹ [Computer Numerically Controlled Tool Operators \(bls.gov\)](https://www.bls.gov)

¹² [Computer Numerically Controlled Tool Programmers \(bls.gov\)](https://www.bls.gov)

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.

© 2026 California Community Colleges Chancellor's Office,
Centers of Excellence for Labor Market Research, Economic and Workforce Development Program