



Labor Market Analysis: 1213.00 – Cardiovascular Technician Telemetry Technician – Certificate requiring 8 to fewer than 16 semester units Los Angeles Center of Excellence, January 2025

Program Endorsement:	Endorsed: All Criteria Met	<input type="checkbox"/>	Endorsed: Some Criteria Met	<input checked="" type="checkbox"/>	Not Endorsed	<input type="checkbox"/>
Program Endorsement Criteria						
Supply Gap:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	(See below)	
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 does not appear to be a supply gap for the one identified middle-skill occupation in the region. While 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 *cardiovascular technologists and technicians*. Furthermore, 318 out of the 345 annual average awards (92%) included in the supply/demand analysis were issued by proprietary training institutions. With community colleges only issuing 27 related awards, there may be an opportunity to attract a larger portion of prospective students to community colleges if program offerings are expanded. In addition, this occupation's entry-level wages exceed the self-sufficiency standard wage in Los Angeles County, and the typical entry-level education level is an associate degree.

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

- 116 annual job openings are projected in the region through 2028. This number is less than the three-year average of 345 awards conferred by educational institutions in the region.
 - However, over the past 12 months there were **2,597 online job postings for cardiovascular technologists and technicians** in the Los Angeles/Orange County region. The highest number of job postings were for travel cath lab technologists, monitor technicians, cath lab technicians, echo technicians, and EKG technicians.

Living Wage

\$25.70 is the typical entry-level hourly wages for *cardiovascular 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 *cardiovascular technologists and technicians*, according to the Bureau of Labor Statistics (BLS).
- 43% of workers in the field have completed some college or an associate degree, according to national educational attainment data.

Community college supply

- 3 community colleges issued awards related to cardiovascular technology and/or electrocardiography in the greater LA/OC region.
- 27 awards (degrees and certificates) were conferred on average each year between 2021 and 2023.

Other postsecondary supply

- 3 educational institutions in the LA/OC region have conferred awards in programs related to cardiovascular technology over the past three years.
- 318 awards were conferred on average each year by other postsecondary institutions throughout the greater LA/OC region between 2020 and 2022.

TARGET OCCUPATION

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

- **Cardiovascular Technologists and Technicians (29-2031)** Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic, therapeutic, or research purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary functions, lung capacity, and similar tests.³

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for *cardiovascular technologists and technicians*. In the greater Los Angeles/Orange County region, the number of jobs related to

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

³ [Cardiovascular Technologists and Technicians \(bls.gov\)](https://www.bls.gov/occupations/cv-tech/)

this occupation is projected to increase by 4% through 2028. There will be more than 100 job openings per year through 2028 due to job growth and replacements. The majority of jobs in 2023 for this middle-skill occupation (77%) were located in Los Angeles County.

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	1,245	1,286	41	3%	85
Orange	380	412	32	8%	30
Total	1,625	1,698	73	4%	116

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. On average, 81% of workers across all occupations in California are employed full-time.

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
Cardiovascular Technologists and Technicians	1,245	1,286	3%	85	8.3	22%	100%

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for *cardiovascular 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.

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.

Los Angeles County

The typical entry-level hourly wages for *cardiovascular technologists and technicians* are \$25.70, 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 \$58.16.

Exhibit 3: Earnings for occupation in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Cardiovascular Technologists and Technicians	\$25.70	\$39.40	\$58.16	\$82,000

*Rounded to the nearest \$100

Orange County

The typical entry-level hourly wages for *cardiovascular technologists and technicians* are \$25.07, which is below the self-sufficiency standard wage for one adult (\$27.13 in Orange County). Experienced workers can expect to earn wages of \$56.89, which is higher than the self-sufficiency standard (Exhibit 4).

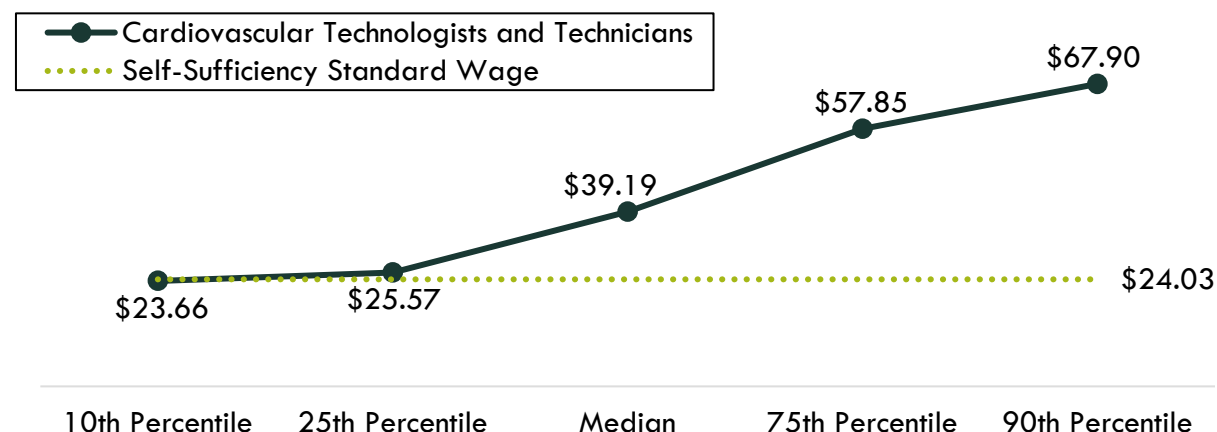
Exhibit 4: Earnings for occupation in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Cardiovascular Technologists and Technicians	\$25.07	\$38.58	\$56.89	\$80,200

*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 \$25.57; 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 cardiovascular technologists and technicians, Los Angeles and Orange counties



JOB POSTINGS

There were 2,597 online job postings for *cardiovascular 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 occupation in this report (Exhibit 6).

Exhibit 6: 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"> • Travel cath lab technologists • Monitor technicians • Cath lab technicians • Echo technicians • EKG technicians • Medical technologists 	<ul style="list-style-type: none"> • Cath lab • Cardiology • Radiology • Electrocardiography • Medical ultrasonography • Cardiac catheterization • Echocardiography 	<ul style="list-style-type: none"> • University of California • Aya Healthcare* • Providence • PIH Health • Kaiser Permanente • Cedars-Sinai • Prime Healthcare Services

*Staffing company

In the greater Los Angeles/Orange County region, 29% of the *cardiovascular technologist and technician* job postings listed a minimum educational requirement. Exhibit 7 details the number and percentage of job postings by educational level.

Exhibit 7: Education levels requested in job postings for cardiovascular technologists and technicians, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	72	10%
Associate degree	181	24%
High school diploma or vocational training	500	66%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *cardiovascular technologists and technicians* (Exhibit 8). Furthermore, the national-level data indicates 43% 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 occupation in this report:

Exhibit 8: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
<i>Cardiovascular 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 the related TOP codes: Cardiovascular Technician (1213.00) and Electrocardiography (1215.00). The only colleges with current programs in the region are Glendale, LA Pierce, and Orange Coast.

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
1213.00	Cardiovascular Technician	Orange Coast	13	10	14	12
		OC Subtotal	13	10	14	12
Supply Subtotal/Average			13	10	14	12
1215.00	Electro-cardiography	Glendale	3	-	-	1
		LA Pierce	1	2	-	1
		LA Subtotal	4	2	-	2
		Orange Coast	13	15	10	13
		OC Subtotal	13	15	10	13
Supply Subtotal/Average			17	17	10	15
Supply Total/Average			30	27	24	27

Other Postsecondary Supply

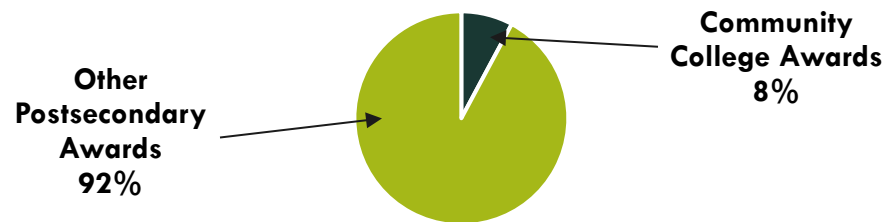
For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for *cardiovascular technologists and technicians*. Exhibit 10 shows the number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent data is from 2020 to 2022. Between 2020 and 2022, other postsecondary college institutions in the region conferred an average of 318 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 10: Other regional postsecondary awards, 2020-2022

CIP Code	Program	Postsecondary Institution	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
51.0901	Cardiovascular Technology/ Technologist	Associated Technical College-LA	173	134	132	146
		ATI College-Whittier	2	-	5	2
		Smith Chason College	196	186	127	170
Supply Total/Average			371	320	264	318

Exhibit 11 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 other institutions in the greater Los Angeles/Orange County region.

Exhibit 11: Percentage of community college awards compared to other postsecondary institution awards in the Los Angeles/Orange County region



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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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