

**Labor Market Analysis: 1213.00/Cardiovascular Technician
Telemetry Technician - (Certificate requiring 6 to <18 semester units)**
Los Angeles Center of Excellence, August 2023

Summary

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 comments below)	
Living Wage: (Entry-Level, 25th)	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"/>	

The Los Angeles Center of Excellence for Labor Market Research (LA COE) prepared this report to provide regional labor market supply and demand 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.¹

Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree.² This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupation.

Based on the available data, there does not appear to be a supply gap for *cardiovascular technologists and technicians* 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, 346 out of the 405 annual average awards (85%) included in the supply/demand analysis were issued by proprietary training institutions. With community colleges only issuing 59 related awards, there may be an opportunity to attract a larger portion of prospective students to community colleges if

¹ [Cardiovascular Technologists and Technicians \(bls.gov\)](https://www.bls.gov/occupations/cv-tech/)

² 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.

program offerings are expanded. In addition, this occupation's entry-level wages exceed the self-sufficiency standard wage in both Los Angeles and Orange counties, and workers typically need an associate degree. **Therefore, due to some of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, **159 jobs are projected to be available annually** in the region due to new job growth and replacements, **which is less than the three-year average of 405 awards conferred** by educational institutions in the region.
 - However, over the past 12 months there were **2,859 online job postings for cardiovascular technologists and technicians**. The highest number of job postings were for monitor technicians, travel echo technicians, echo technicians, EKG technicians, and telemetry monitor technicians.
- **Living Wage Criteria** – Within Los Angeles County, **typical entry-level hourly wages** for *cardiovascular technologists and technicians* are **\$28.70, which is higher than the self-sufficiency standard** hourly wage (living wage) for one adult in the region (\$18.10 in Los Angeles County).³
- **Educational Criteria** – The Bureau of Labor Statistics (BLS) lists an **associate degree** as the **typical entry-level education** for *cardiovascular technologists and technicians*.
 - Furthermore, the national-level educational attainment data indicates **42% of workers in the field have completed some college or an associate degree.**

Supply:

- There are **3 community colleges** in the greater LA/OC region that issue awards related to telemetry, conferring an average of **59 awards annually** between 2019 and 2022.
- Between 2019 and 2021, there was an average of **346 awards conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

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 these occupations is projected to increase by 6% through 2027. There will be more than 150 job openings per year through 2027 due to job growth and replacements.

³ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁴

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	1,552	1,641	89	6%	121
Orange	446	485	39	9%	38
Total	1,998	2,126	128	6%	159

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 to provide a complete analysis of the greater LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

The typical entry-level hourly wages for *cardiovascular technologists and technicians* are \$28.70, which is above the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Experienced workers can expect to earn wages of \$51.38.

Exhibit 2: Earnings for Occupations in LA 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 (29-2031)	\$28.70	\$32.42	\$51.38	\$67,400

*Rounded to the nearest \$100

Orange County

The typical entry-level hourly wages for *cardiovascular technologists and technicians* are \$27.55, which is above the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn wages of \$49.54.

Exhibit 3: Earnings for Occupations in Orange County

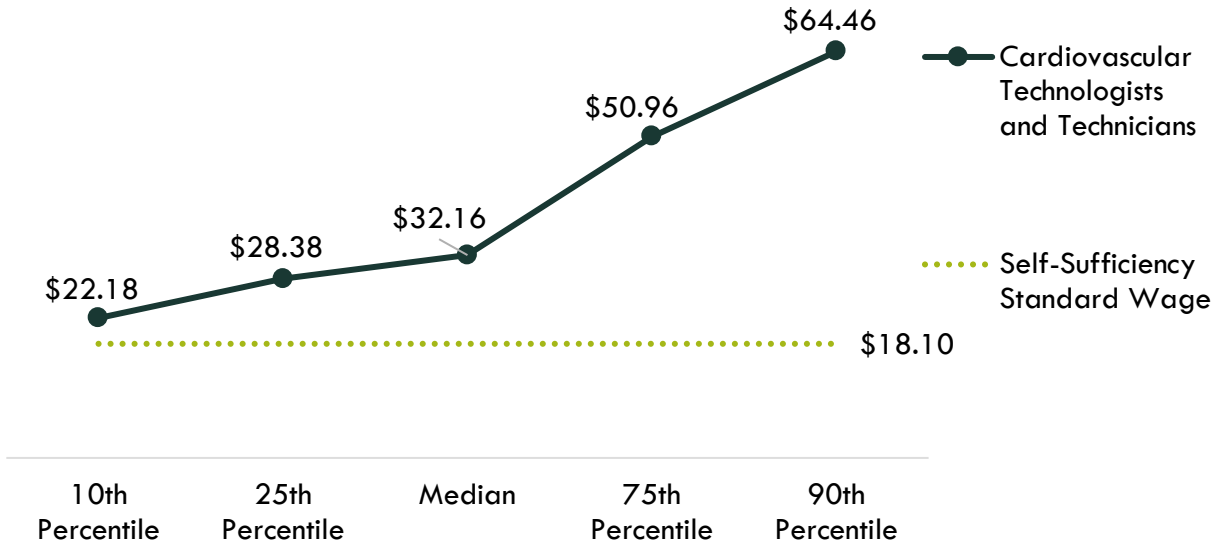
Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Cardiovascular Technologists and Technicians (29-2031)	\$27.55	\$31.16	\$49.54	\$64,800

*Rounded to the nearest \$100

On average, the entry-level earnings for the occupations in this report are \$28.38; this is above the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

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.

Exhibit 4: Average Hourly Earnings for Cardiovascular Technologists and Technicians in LA/OC



Job Postings

There were 2,859 online job postings related to *cardiovascular technologists and technicians* listed in the past 12 months. The highest number of job postings were for monitor technicians, travel echo technicians, echo technicians, EKG technicians, and telemetry monitor technicians. The top skills were electrocardiography, radiology, cardiology, medial telemetry, and cardiac dysrhythmia. The top three employers, by number of job postings, in the region were Healthcare Employment Network, Providence, and Aya Healthcare.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *cardiovascular technologists and technicians*. Furthermore, the national-level educational attainment data indicates 42% of workers in the field have completed some college or an associate degree. Of the 40% of *cardiovascular technologist and technician* job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 75% (846) requested high school or vocational training, 18% (204) requested an associate degree, and 7% (82) requested a bachelor's degree.

Educational Supply

Community College Supply

Exhibit 6 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 college with the most completions in the region is Orange Coast.

Exhibit 6: Regional community college awards (certificates and degrees), 2019-2022

TOP	Program	College	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
1213.00	Cardiovascular Technician	Orange Coast	19	13	10	14
		LA Subtotal	19	13	10	14
		Supply Subtotal/Average	19	13	10	14
1215.00	Electro-cardiography	Glendale	42	3	-	15
		LA Pierce	43	1	2	15
		LA Subtotal	85	4	2	30
		Orange Coast	16	13	15	15
		OC Subtotal	16	13	15	15
Supply Subtotal/Average			101	17	17	45
Supply Total/Average			120	30	27	59

Non-Community College 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 7 shows the annual and three-year average number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent three-year period of available data is from 2019 to 2021. Between 2019 and 2021, non-community college institutions in the region conferred an average of 346 sub-baccalaureate awards. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards that typically take fewer than four years to complete. Additional information about each program is hyperlinked in the footnotes at the bottom of this page.

Exhibit 7: Regional non-community college awards, 2019-2021

CIP	Program	Institution	2019-20 Awards	2020-21 Awards	2-Year Average
51.0901	Cardiovascular Technology/Technologist	Associated Technical College-Los Angeles ⁵	173	134	154
		ATI College-Whittier ⁶	2	-	1
		Triad Education ⁷	196	186	191
Supply Total/Average			371	320	346

Exhibit 8 shows the proportion of community college awards conferred in LA/OC compared to the number of non-community college awards for the programs in this report. More than four out of

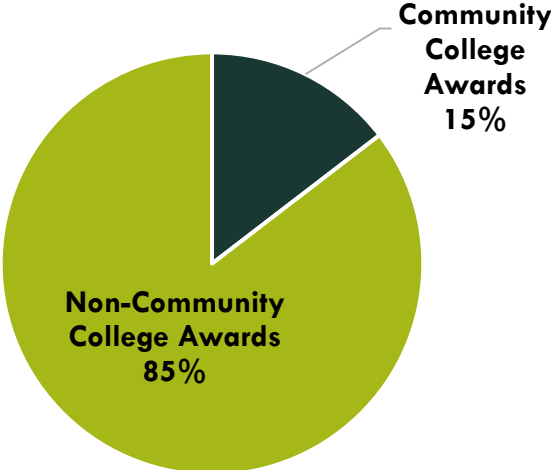
⁵ This program is not listed on their website and may be discontinued: <https://atcla.edu/>

⁶ <https://wp.ati.edu/programs/athletics/echocardiography/>

⁷ Goes by Smith Chason College's [West Coast Ultrasound Institute \(WCUI\)](#)

five awards conferred in these programs are awarded by community colleges in the LA/OC region.

Exhibit 8: Community College Awards Compared to Non-Community College Awards in LA/OC Region, 3-Year Average



Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Cardiovascular Technologists and Technicians (29-2031)	1,552	1,641	89	6%	121	\$28.70	\$32.42	\$51.38

Exhibit 10. Orange County

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Cardiovascular Technologists and Technicians (29-2031)	446	485	39	9%	38	\$27.55	\$31.16	\$49.54

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	% Age 55 and older*	Typical Entry-Level Education
Cardiovascular Technologists and Technicians (29-2031)	1,998	2,126	128	6%	159	21%	Associate degree

*The average percentage of workers aged 55 and older across all occupations in the greater LA/OC region is 27%. This occupation has a smaller share of older workers, which typically indicates fewer replacements needs to offset the amount of impending retirements.

Appendix B: 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)

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