

Labor Market Assessment: Surveying and Mapping Technicians (TOP 2206.10 Geographic Information Systems) (CIP 43.0407 Geospatial Intelligence)

Inland Empire/Desert Center of Excellence, July 2026

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FOR LABOR MARKET RESEARCH

INLAND EMPIRE/DESERT

Summary

Program LMI Endorsement	All LMI Criteria Met	Some LMI Criteria Met (Proceed with Caution)	LMI Criteria NOT Met
	✓	☐	☐

Program LMI Endorsement Criteria		
Supply Gap	Yes ✓	No ☐
	<i>Comments:</i> There are projected to be 61 annual job openings throughout the Inland Empire/Desert region, which is more than the 4 annual average awards conferred by educational institutions over the last 3 years . Supply data includes both community college awards (4) and non-community college awards (0).	
Living Wage	Yes ✓	No ☐
	<i>Comments:</i> This occupation has entry-level hourly wages \$4 above the IE/D living wage of 20.42 .	
Education	Yes ✓	No ☐
	<i>Comments:</i> This occupation does not have some college or postsecondary degree or associate degree as its typical entry-level education level . However, more than 33% of all workers in the field (55%) have completed some college or an associate degree as their highest level of education . See Exhibit 9 for more details.	

The Inland Empire/ Desert (IE/D) Center of Excellence for Labor Market Research (IE/D COE) reviewed the following occupations to prepare this report:

- Below Middle-Skill (typically require training/education at or below a HS diploma)
 - Surveying and Mapping Technicians (17-3031)

Summary of findings

Demand

- The number of jobs related to the assessed occupation is projected to increase 6% through 2029, with 61 annual job openings (new and replacement jobs).
- Hourly entry-level wages for this occupation are above living wage at the 25th percentile, estimated to be \$24.40 in IE/D.
- There were 52 online job postings from 28 employers over the past 12 months with the highest postings for survey technicians and surveyors.
- Most job postings for target occupations require a bachelor's degree (47%), followed by an associate degree (31%), and a high school diploma or equivalent (22%).

Supply

- On average, there were 4 awards conferred by educational institutions over the last 3 years in related fields: 4 from community colleges and 0 from other institutions (e.g., 4-year universities, private schools).
- IE/D community college students that exited these programs in the 2023-24 academic year earned a median annual wage of 52,224 (\$25.11 per hour).
- 58% of students that exited their program in 2023-24 reported that they are now earning a living wage.

Introduction

California Community College Geographic Information Systems (TOP 2206.10) programs prepare students for employment using computer-based tools for acquiring, editing, storing, analyzing, and visualizing geographically referenced information, with applications in research, education, management, and planning. Includes Global Positioning System (GPS) (Taxonomy of Programs, 2023). The knowledge, skills, and abilities trained by Geographic Information Systems programs lead to employment in surveying and mapping technicians.

Job Demand

In 2024, there were 444 jobs in surveying and mapping technicians in the IE/D region. Regional employment for this occupation group is projected to increase by 6% through 2029 with 61 job openings projected annually. Exhibit 1 displays the job count, five-year projected job growth, and job openings in the region.

Exhibit 1. Five-year projections for surveying and mapping technicians, IE/D Region, 2024-2029

Occupation	SOC	2024 Jobs	2029 Jobs	2024 - 2029 % Change	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)
▲ Surveying and Mapping Technicians	17-3031	444	472	6%	305	61

SOURCE: LIGHTCAST 2026.2

Job Postings

The following analysis for surveying and mapping technicians using online job posting data.

Important note: The data produced in this section were generated by leveraging online job posting data sourced from Lightcast, which is the labor market analytics software tool COEs use to produce these briefs. The job posting data is collected from scraping online job boards such as LinkedIn, Indeed, Glassdoor and many others. The process Lightcast uses to assemble this data does have some limitations due to methods that recruitment professionals sometimes use (e.g., posting one job to fill multiple positions). For example, the number of jobs posted is not necessarily the same as the number of job vacancies.¹ While not perfect, Lightcast leverages machine learning and other AI technologies to enrich, de-duplicate and aggregate this information to make it a meaningful dataset.

Exhibit 2 displays the number of job ads posted for surveying and mapping technicians over the last 12 months and the median posting duration. Over the previous 12 months, there were 52 unique job postings for surveying and mapping technicians in the region from 28 employers.

Exhibit 2. Job ads and posting duration, IE/D Region, Jul 2025 – Jun 2026

Job Title	Job Ads ▼	Median Posting Duration
Surveying and Mapping Technicians	52	18 days

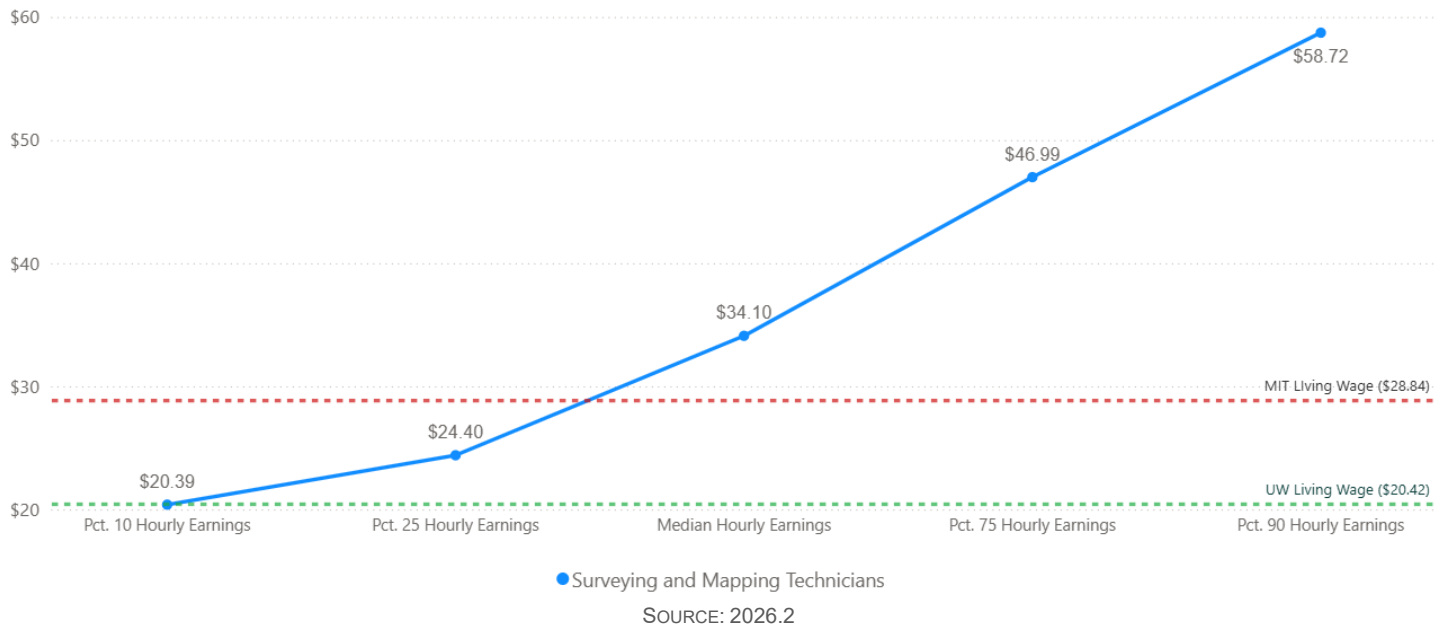
SOURCE: LIGHTCAST 2026.2

¹ "Job Posting Analytics (JPA) Methodology." Lightcast Knowledge Base, <https://kb.lightcast.io/en/articles/6957446-job-posting-analytics-jpa-methodology>

Earnings

Exhibit 3 displays the hourly earnings for surveying and mapping technicians compared to both the UW Self-Sufficiency Standard for the IE/D of \$20.42² and the MIT IE/D living wage of \$28.84.³

Exhibit 3. Projected hourly earnings by percentile, IE/D Region, 2024



The projected entry-level earnings (that is, the earnings of the lowest paid 25% of employees in the IE/D) for this occupation were above the UW Self-Sufficiency Standard for the IE/D (see Exhibit 3). However, this occupation was below the MIT living wage for an adult with no children (\$28.84) in projected entry-level earnings (see Exhibit 3).

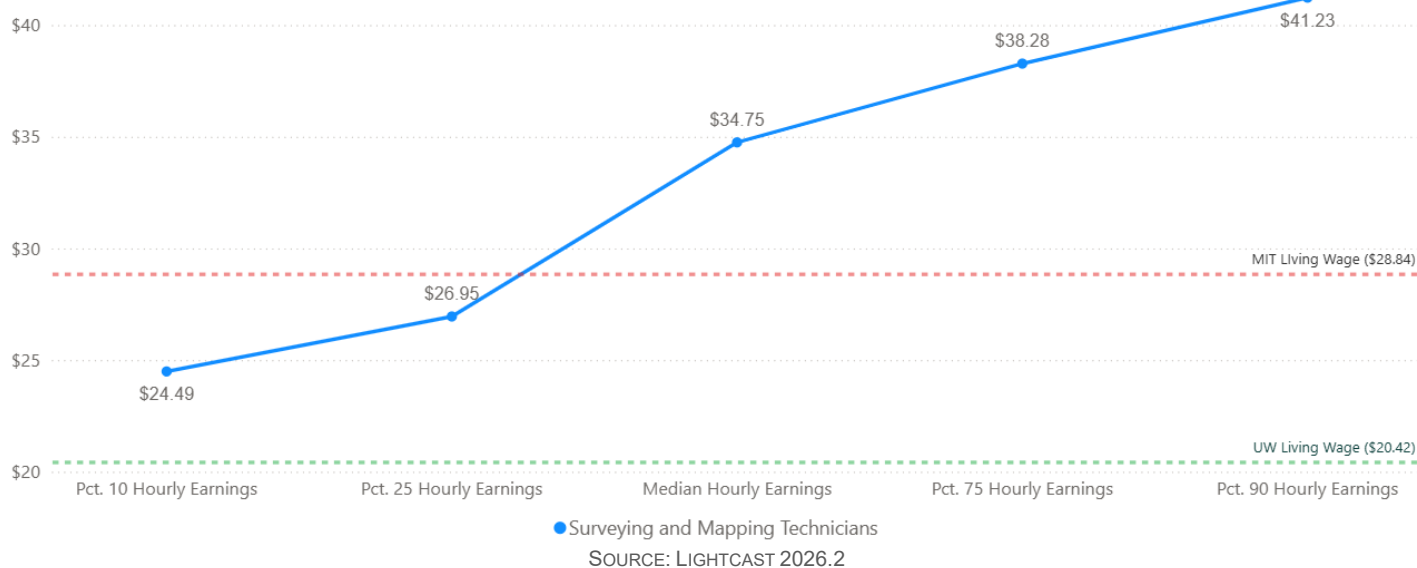
² The [UW self-sufficiency standard](#) is currently used by the CO and other COEs, the self-sufficiency standard was last updated by UW in 2024. To provide an alternative perspective, the COE will provide an alternative living wage calculation from MIT in the analysis below as an additional reference point. MIT estimates, the living wage for an adult with no kids living in 2024 is \$26.30 in Riverside County and \$25.17 in San Bernadino County.

³ *ibid.*

Advertised Salary from Online Job Ads

Exhibit 4 displays the regional online advertised salaries for the surveying and mapping technicians over the last 12 months. The salary information of online job ad data suggests employers advertise entry level hourly wages of \$26.95 (estimated to be equal to an annual salary of \$56,056).

Exhibit 4. Hourly earnings of job postings by percentile, IE/D Region, Jul 2025 – Jun 2026



Online Job Advertisements: top job titles, skills, education & work experience.

Exhibit 5 displays the job titles most frequently used in job postings for the surveying and mapping technicians over the last 12 months. Assessing the top advertised job titles may provide insight into the types of positions sought by employers.

Exhibit 5. Job titles most frequently used in job ads, IE/D Region, Jul 2025 – Jun 2026

Job Title	Unique Postings
Survey Technicians	17
Surveyors	5
CAD Operators	4
Surveying Technicians	4
Cartographic Technicians	3
Mapping Technicians	3
Survey Analysts	3
Survey CAD Technicians	2

SOURCE: LIGHTCAST 2026.2

Exhibit 6 displays the employers posting the most job ads for this occupational group during the last 12 months. Showing employer names can provide insight into where students may find employment after completing a program and may inform job development and other employer engagement targets for faculty and staff involved in related programs. Westland Group and San Bernardino County had the highest unique job posts for this occupational group in the last 12 months. Posting intensity is the ratio of total job posts to unique job posts which are de-duplicated. A higher posting intensity can represent the level of effort and activity the organization is putting into hiring for that position. The following report comes directly from Lightcast's Job Posting Analytics dashboard.

**Exhibit 6. Employers posting the most job ads,
IE/D Region, Jul 2025 – Jun 2026**

Company	Total/Unique (Jul 2025 - Jun 2026)	Posting Intensity	Median Posting Duration
Westland Group	8 / 5	2 : 1 	46 days
San Bernardino County	9 / 4	2 : 1 	57 days
NV5	6 / 3	2 : 1 	20 days
The San Bernardino County, Ca, Chapter Of Concerned Black Men	3 / 3	1 : 1 	8 days
County Of Riverside	6 / 2	3 : 1 	47 days
Crown Innovations	4 / 2	2 : 1 	6 days
Crown Communications	14 / 2	7 : 1 	n/a
Land Surveying Consultants	2 / 2	1 : 1 	14 days
Guida	6 / 2	3 : 1 	12 days
Riverside County Flood Control And Water Conservation District	2 / 2	1 : 1 	14 days

SOURCE: LIGHTCAST 2026.2

Exhibit 7 displays the top common, specialized and computer skills that were included in the job postings over the last 12 months. Today's demand is an important indicator of which skills employers are looking for in the current market. Analyzing skills from a historical perspective as well as projecting the future needs of employers may provide insight into how the job posting skills demand compares to the market as a whole. Rapidly growing skills are those that are increasing in demand at a faster rate than the market as a whole.⁴

**Exhibit 7. Top 10 in-demand skills from employer job ads,
IE/D Region, Jul 2025 – Jun 2026**

Common skills	Total Postings	Skill Growth Relative to Market
Communication	27	Stable
Detail Oriented	24	Stable
Research	13	Growing
Mathematics	11	Rapidly Growing
Quality Control	11	Growing
Coordinating	8	Growing
Management	8	Stable
Organizational Skills	6	Growing
Professionalism	6	Growing
Scheduling	6	Growing
Time Management	6	Growing

⁴ "What are Lightcast Skill Projects", Lightcast Knowledge base, <https://kb.lightcast.io/en/articles/8496296-what-are-lightcast-skill-projections>

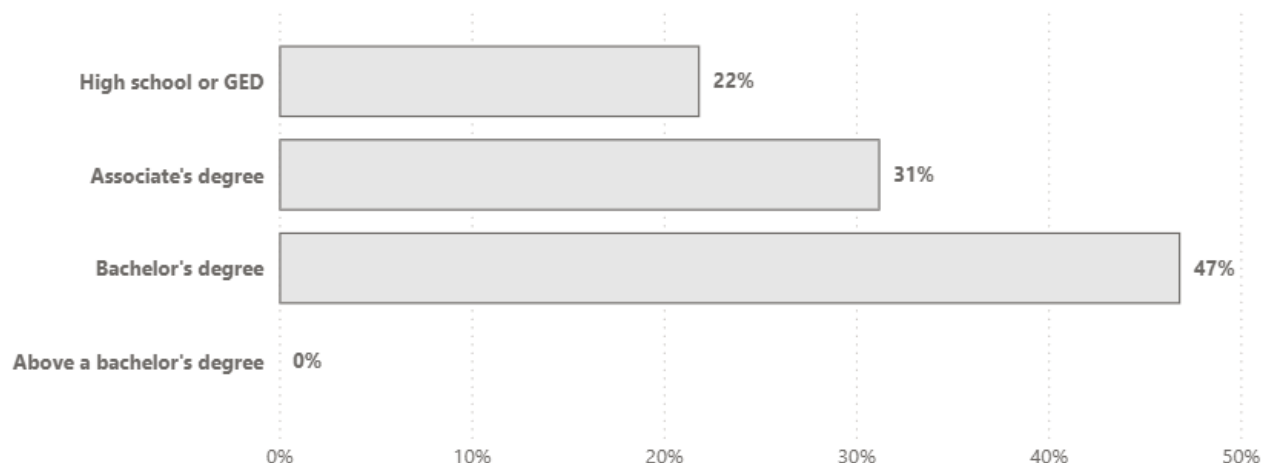
Specialized skills	Total Postings	Skill Growth Relative to Market
Surveying	29	Growing
AutoCAD Civil 3D	19	Growing
Civil Engineering	19	Rapidly Growing
Legal Land Description	18	Stable
AutoCAD	13	Growing
Computer-Aided Design	13	Growing
Construction	13	Growing
Global Positioning Systems	13	Growing
Flood Controls	9	Stable
Geographic Information Systems	9	Growing
Trigonometry	9	Growing

Computer Skills	Total Postings	Skill Growth Relative to Market
AutoCAD Civil 3D	19	Growing
AutoCAD	13	Growing
Geographic Information Systems	9	Growing
ArcGIS (GIS Software)	6	Growing
Firewall	6	Growing
MicroStation (CAD Design Software)	6	Stable
Autodesk	4	Stable
CAD Standards	4	Growing
Google Earth	4	Growing
Google Maps	4	Lagging

SOURCE: LIGHTCAST 2026.2

Exhibit 8 includes the minimum educational requirements from job postings for this occupational group with bachelor's degree (47%) greater than associate degree (31%) or high school diploma or equivalent (22%).

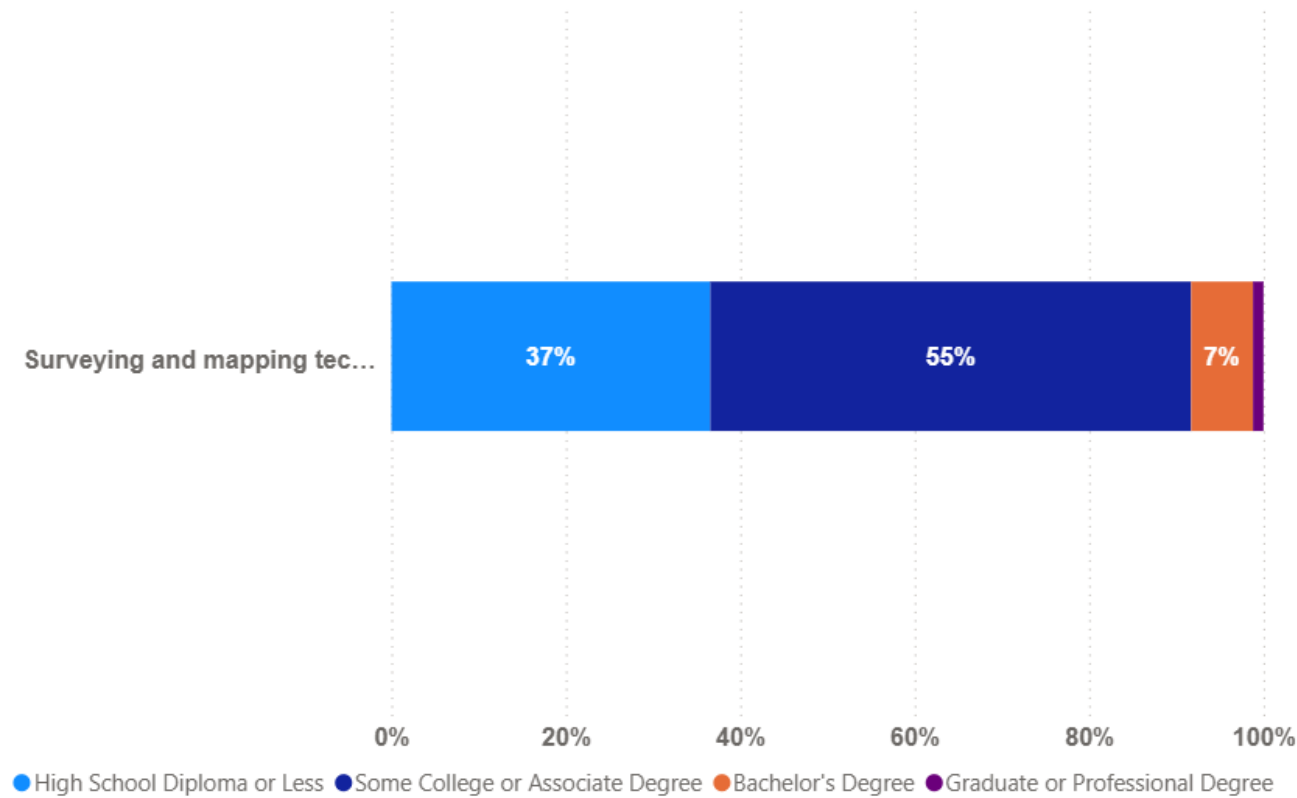
Exhibit 8 Minimum educational requirements in job postings for this occupational group, IE/D Region, Jul 2025 – Jun 2026



SOURCE: LIGHTCAST 2026.2

For the assessed occupations, the Bureau of Labor Statistics (BLS) education attainment data in Exhibit 9 for current professionals in the occupations of interest indicates that 55% of workers have completed some college or an associate degree as their highest level of education.

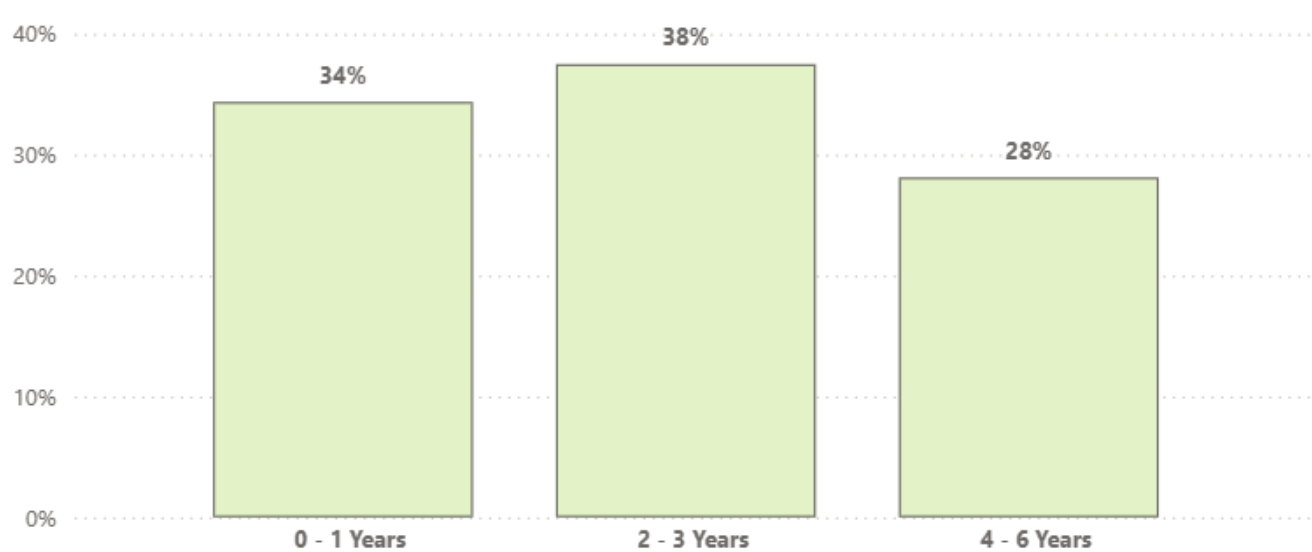
Exhibit 9 National-level Education Attainment for the Occupational Group



SOURCE: BLS 2021

Exhibit 10 displays the work experience typically required from employer job ads for this occupational group. The majority (72%) of employers listing minimum experience requirements sought candidates with 0-3 years of previous work experience.

Exhibit 10 Work experience requirements, IE/D Region, Jul 2025 – Jun 2026



SOURCE: LIGHTCAST 2026.2

Student Completions and Program Outcomes

Exhibit 11 displays student completions for the Geographic Information Systems (TOP 2206.10) programs over the last three academic years (2022-2025). In the previous three academic years, two regional community colleges issued an average of 4 awards in relevant programs.

Exhibit 11 Annual average community college awards for Geographic Information Systems (TOP 2206.10), IE/D, 2022-2025

Top Code	Program	College	2022-2023 Awards	2023-2024 Awards	2024-2025 Awards	3-Year Award Average
2206.10	Geographic Information Systems	Mt. San Jacinto	1	1	0	1
2206.10	Geographic Information Systems	San Bernardino	0	2	7	3
Total			1	3	7	4

SOURCE: MIS DATA MART

Non-Community College Supply

However, student award completion data was not found in the IE/D for other related non-community college programs: Geographic Information Science and Cartography (CIP 45.0702), Geospatial Intelligence (CIP 43.0407).

Strong Workforce Program Outcomes

California SWP program outcome data may provide useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP code and region is provided in Exhibit 12.

Exhibit 12 Geographic Information Systems strong workforce program outcomes, IE/D & California, AY 2023-24

Program Metric Title	Inland Empire	Statewide
Students	252	2,605
Earned 9+ Career Education Units	19%	25%
Completed Noncredit Workforce Preparation Milestone	-	30%
Earned an Award: Degree or Cert or Attained Appren. Journey Level Status	-	5%
Transferred to a Four-Year Institution: Four-Year Postsecondary Institution	6%	12%
Median Annual Earnings	\$52,224	\$58,802
Median Change in Earnings	20%	23%
Attained Living Wage	58%	60%

SOURCE: DATAVISTA

Appendix: Methodology

Exhibit 11 displays the average annual California Community College (CCC) awards conferred during the three academic years between 2022 and 2025 from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Awards are the combined total during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variations that might be present in a single year.

Community college student outcome information is from DataVista and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for DataVista's Strong Workforce Program Metrics Data Element Dictionary in the Resources section (DataVista, 2025).

Appendix: References

Type of Data	Source
Occupational Projections, Wages, and Job Postings	Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment. https://lightcast.io/
Living Wage (UW)	Center for Women's Welfare, University of Washington. (2024). The self-sufficiency standard for California 2024. http://www.selfsufficiencystandard.org/California . The COE refers to the Self-Sufficiency Wage as a "living wage." This calculation measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, childcare, health care, transportation, and taxes. The living wage for one adult in San Bernardino County is \$20.07 per hour (\$57,408 annually). The living wage for one adult in Riverside County is \$20.76 per hour (\$43,854 annually). The average of the two, \$20.42 per hour (\$42,474 annually), is used to represent the Inland Empire/Desert living wage.
Living Wage (MIT)	<i>Living wage data sourced from the Living Wage Institute via</i> https://livingwage.mit.edu/counties/06065 ; https://livingwage.mit.edu/counties/06071 , Accessed on June 6, 2026. The living wage is derived from MIT's Living Wage Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, childcare, health care, transportation, and taxes. For more information, see: https://livingwage.mit.edu/pages/methodology . The living wage for one adult in San Bernardino County is \$27.60 per hour (\$52,353.60 annually). The living wage for one adult in Riverside County is \$28.84 per hour (\$59,987 annually). The higher of the two, \$28.84 per hour (\$59,987 annually), is used to represent the Inland Empire/Desert living wage.
Typical Education and Training Requirements, and Educational Attainment	The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm

Educational Supply	The CCCC Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions
Student Metrics and Demographics	DataVista aims to provide up-to-date and useful information on students within the California Community Colleges and its Adult Education partners. DataVista is a modernization of the supporting architecture and visualization of metrics previously available on the LaunchBoard. DataVista is a collaboration between the California Community Colleges Chancellor's Office and WestEd, see: https://datavista.cccco.edu/data_views/swp_report