September 2023

Labor Market Analysis

Computer Application Specialist

Prepared by Central Valley/Mother Lode Center of Excellence

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Summary

The Central Valley/Mother Lode Center of Excellence developed this report for Cerro Coso College to determine whether there is demand in the local labor market that is not being met by the supply from postsecondary programs. This report summarizes labor market demand, wages, skills, and postsecondary supply for the following two occupations:

- Executive Secretaries and Executive Administrative Assistants (SOC 43-6011)
- Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (SOC 43-6014)

Key Findings

- **Occupational Demand —** Occupations related to *Computer Application Specialist* have a labor market demand of 1,600 annual job openings in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. Between 2021 and 2026, *secretaries and administrative assistants, except legal, medical, and executive* are projected to have the most demand with 1,349 annual job openings (growth of 5%).

- **Wages —** The collective average entry-level wage for the occupations of interest is $22.41/hour, which is above the living wage in the SCV/SML subregion – $11.91/hour for a single adult.[1] *Executive secretaries and executive administrative assistants* earn the highest entry-level wage, $27.01/hour.

- **Employers and Job Titles —** Employers in the SCV/SML subregion include Robert Half, Aston Carter, and AppleOne. The most common job title is administrative assistant.

- **Skills and Certifications —** The top baseline skill is communication; the top specialized skill is administrative support; and the top software skill is Microsoft Office. The most in-demand certification is a typing certification.

- **Education —** A high school diploma or equivalent is typically required for the two occupations studied in this report.

- **Supply and Demand Analysis —** Based on 1,600 annual openings (i.e., demand) and 127 postsecondary degrees awarded (i.e., supply), an analysis of supply and demand suggests there is an undersupply of 1,473 workers in the SCV/SML subregion. In the CVML region, 289 awards were conferred suggesting an undersupply of 2,302 workers (based on 2,591 annual openings in the CVML region).

Recommendation

Based on a comparison of demand and supply, there is an undersupply of trained workers in the SCV/SML subregion and the CVML region. The Center of Excellence recommends that Cerro Coso College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of *Computer Application Specialist* workers.

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[1] The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: https://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california/.

Introduction

The Central Valley/Mother Lode Center of Excellence developed this report to provide Cerro Coso College with labor market information for *Computer Application Specialist*. The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand and supply data has been included for broader applicability and use. Analysis of the program and occupational data related to *Computer Application Specialist* is included in the report. The Standard Occupational Classification (SOC) System codes and occupational titles used in this report are from the Bureau of Labor Statistics and O*NET OnLine:

Executive Secretaries and Executive Administrative Assistants (SOC 43-6011)

- **Job Description:** Provide high-level administrative support by conducting research, preparing statistical reports, and handling information requests, as well as performing routine administrative functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff.
- **Knowledge:** Administrative, English Language, Customer and Personal Service, Computers and Electronics, Administration and Management
- **Skills:** Active Listening, Reading Comprehension, Speaking, Service Orientation, Writing
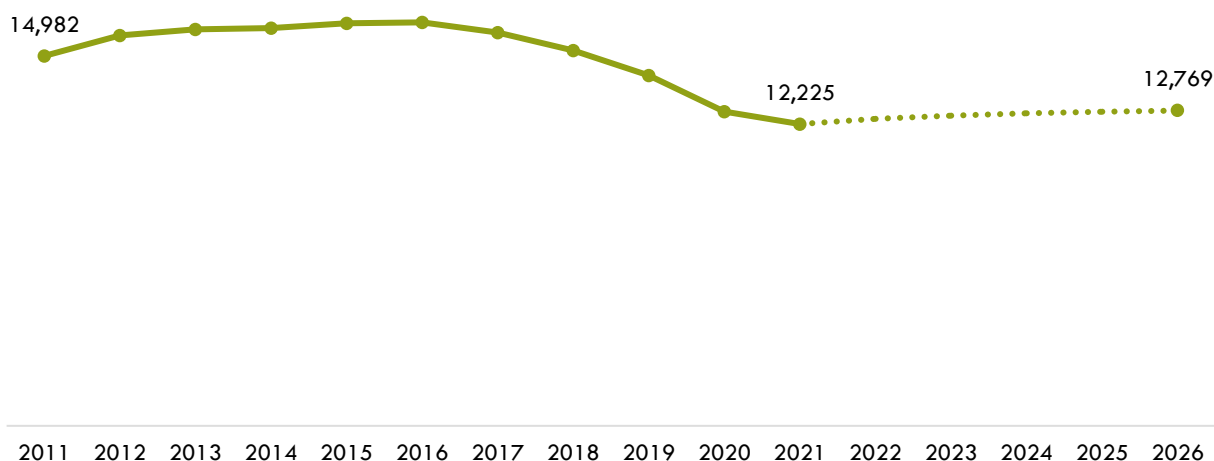
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (SOC 43-6014)

- **Job Description:** Perform routine administrative functions such as drafting correspondence, scheduling appointments, organizing, and maintaining paper and electronic files, or providing information to callers.
- **Knowledge:** Administrative, English Language, Computers and Electronics, Customer and Personal Service, Administration and Management
- **Skills:** Active Listening, Speaking, Reading Comprehension, Writing, Service Orientation

Employment

Exhibit 1a shows employment trends for *Computer Application Specialist* in the SCV/SML subregion. Between 2021 to 2026, the number of jobs for occupations related to *Computer Application Specialist* is projected to increase by 544, growing by 4%.

Exhibit 1a. Historical employment and projected occupational demand for occupations related to *Computer Application Specialist* in the SCV/SML subregion, 2011-2026

Occupations related to *Computer Application Specialist* in the SCV/SML subregion employed 12,225 workers in 2021 (Exhibit 1b). Of the two occupations, *secretaries and administrative assistants, except legal, medical, and executive* are projected to have the most annual openings, 1,349 (5% growth).

Exhibit 1b. Current employment and projected occupational demand for occupations related to *Computer Application Specialist* in the SCV/SML subregion, 2021-2026

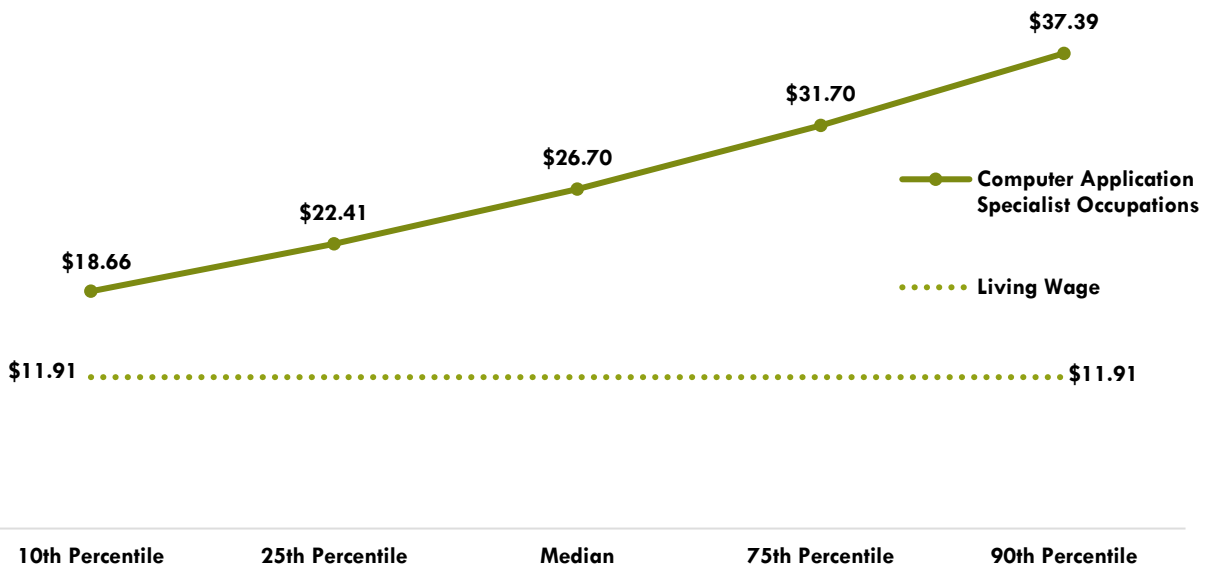| Occupation	2021 Jobs	2026 Jobs	5-Year Change	5-Year % Change	Annual Openings
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	10,279	10,762	483	5%	1,349
Executive Secretaries and Executive Administrative Assistants	1,946	2,007	61	3%	251
TOTAL	**12,225**	**12,769**	**544**	**4%**	**1,600**

Wages

The average living wage for a single adult in the SCV/SML subregion is $11.91/hour.[2] Exhibit 2a shows the hourly wages for both occupations studied in this report. Of the two occupations, *executive secretaries and executive administrative assistants* pays the highest entry-level wage, $27.01/hour.[3]

Exhibit 2a. Hourly wages for occupations related to *Computer Application Specialist* in the SCV/SML subregion

Occupation	25th Percentile Hourly Earnings	Median Hourly Earnings	75th Percentile Hourly Earnings
Executive Secretaries and Executive Administrative Assistants	$27.01	$31.71	$38.12
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	$17.80	$21.69	$25.29

Exhibit 2b shows the average hourly wages for both *Computer Application Specialist* occupations; each of the five average wages are higher than the living wage for the SCV/SML subregion.

Exhibit 2b. Average hourly wages for occupations related to *Computer Application Specialist* in the SCV/SML subregion

	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile
Computer Application Specialist Occupations	$18.66	$22.41	$26.70	$31.70	$37.39
Living Wage	$11.91				$11.91

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[2] The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: https://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california/.
[3] Note: 10th and 25th percentiles are considered entry-level wages while 75th and 90th are considered experienced wages, which may be obtained through long-term employment or extra training, etc.

Job Postings

There were 1,588 unique job postings for occupations related to *Computer Application Specialist* in the SCV/SML subregion from March 2023 to August 2023.[4]

Top Employers

The employers with the most job postings are listed in Exhibit 3. The top employers in online job postings were Robert Half, Aston Carter, and AppleOne.

Exhibit 3. Top employers of *Computer Application Specialist*

Employer
Robert Half
Aston Carter
AppleOne
Mid-Cal Labor Solutions
Randstad
Stardom Accounting Services
Highlands Energy
Clovis Unified School District
Spherion Staffing
PrideStaff

Top Job Titles

Exhibit 4 shows the most common job titles for *Computer Application Specialist* in the SCV/SML subregion.

Exhibit 4. Top job titles in job postings for *Computer Application Specialist*

Job Title
Administrative Assistant
Executive Assistant
Secretary
Office Assistant
Administrative Secretary

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[4] Other than occupational titles and job titles, the categories below can be counted one or multiple times per job posting, and across several areas in a single posting. For example, a skill can be counted in two different skill types, and an employer can indicate more than one education level.

Salaries

Exhibit 5 shows the "Market Salaries" for *Computer Application Specialist*. These are calculated by Lightcast using a machine learning model built from millions of job postings every year. This accounts for adjustments based on location, industry, skills, experience, education, among other variables.

Exhibit 5. Market salaries for *Computer Application Specialist*

Market Salary	Job Postings
$35,000-$39,999	304
$40,000-$44,999	255
$45,000-$49,999	164
$50,000-$54,999	141
$30,000-$34,999	107

Education

Of the 1,588 unique job postings, 1,221 listed a preferred or minimum educational requirement for the position being filled. Among those, 62% requested a high school diploma or GED, 19% requested a bachelor's degree, and 17% requested an associate degree (Exhibit 6).

Exhibit 6. Education levels requested in job postings for *Computer Application Specialist*

Education Level	Job Postings	% of Job Postings
High school or GED	753	62%
Bachelor's degree	236	19%
Associate degree	205	17%
Master's degree	23	2%
Ph.D. or professional degree	4	0%

Baseline, Specialized, and Software Skills

Exhibit 7 depicts the top baseline, specialized, and software skills in job postings. The most requested baseline skill is communication. The most requested specialized skill is administrative support. The most requested software skill is Microsoft Office.

Exhibit 7. In-demand baseline, specialized, and software skills for *Computer Application Specialist*

Baseline Skills	Specialized Skills	Software Skills
Communication	Administrative Support	Microsoft Office
Clerical Works	Data Entry	Spreadsheets
Filing	Office Equipment	QuickBooks (Accounting Software)
Customer Service	Office Supply Management	Google Workspace
Management	Punctuation and Capitalization	Presentation Software

Certifications

Of the job postings that listed a certification, 10% indicated a need for a typing certification, followed by a Cardiopulmonary Resuscitation (CPR) Certification (Exhibit 8).

Exhibit 8. Top *Computer Application Specialist* certifications requested in job postings

Certifications	% of Job Postings
Typing Certification	10%
Cardiopulmonary Resuscitation (CPR) Certification	5%
First Aid Certification	3%
Professional in Human Resources	1%

Education, Work Experience, & Training

A high school diploma or equivalent is typically required for the two occupations studied in this report (Exhibit 9).

Exhibit 9. Education, work experience, training, and Current Population Survey results for occupations related to *Computer Application Specialist*[5]

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	High school diploma or equivalent	None	Short-term	46%
Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	Less than 5 years	None	42%

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[5] "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, https://www.bls.gov/cps/.

Supply

An analysis of program data from the Integrated Postsecondary Education Data System (IPEDS) for the last three program years shows that, on average, 127 awards were conferred in the SCV/SML subregion (Exhibits 10 and 11).

Exhibit 10. TOP and CIP codes related to *Computer Application Specialist*

| TOP Titles	CIP Titles
0514.00 - Office Technology/Office Computer Applications	52.0401 - Administrative Assistant and Secretarial Science, General 52.0407 - Business/Office Automation/Technology/Data Entry 52.0408 - General Office Occupations and Clerical Services

Exhibit 11. Postsecondary supply for Office Technology/Office Computer Applications, Program Years 2019-20 through 2021-22

TOP/CIP Code- Title	College	Associate Degree	Noncredit Award < 48 Hours	Certificate 30 < 60 Semester Units	Certificate 16 < 30 Semester Units	Certificate 8 < 16 Semester Units	Certificate 6 < 18 Semester Units	Noncredit Award 480 < 960 Hours	Total
0514.00 - Office Technology/Office Computer Applications	Bakersfield		1	3			2		6*
	Cerro Coso	4		11	13				28*
	Columbia	1					1		2
	Fresno City	9		4	8			1	22*
	Merced	30		46			39		115
	Modesto Junior	8		2	4	15			29
	Reedley College	9			30	20			59*
	San Joaquin Delta			13	3				16
	Sequoias								0*
	Taft	5				1			6*
	West Hills Coalinga	3			2				5*
	West Hills Lemoore	1							1*
SCV/SML TOTAL		**31**	**1**	**18**	**53**	**21**	**2**	**1**	**127**
CVML TOTAL		**70**	**1**	**79**	**60**	**36**	**42**	**1**	**289**

*SCV/SML awards

There is an undersupply of 1,473 *Computer Application Specialist* workers in the SCV/SML subregion and an undersupply of 2,302 workers in the region (Exhibit 12).

Exhibit 12. *Computer Application Specialist* **workforce demand (annual job openings), postsecondary awards (supply), and additional students needed to fill gap in the SCV/SML subregion and the CVML region**
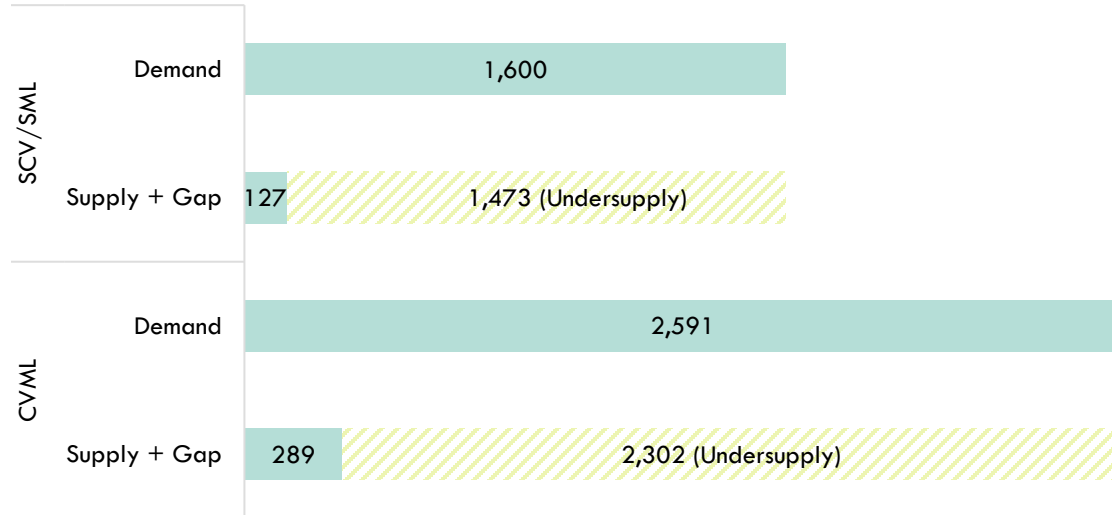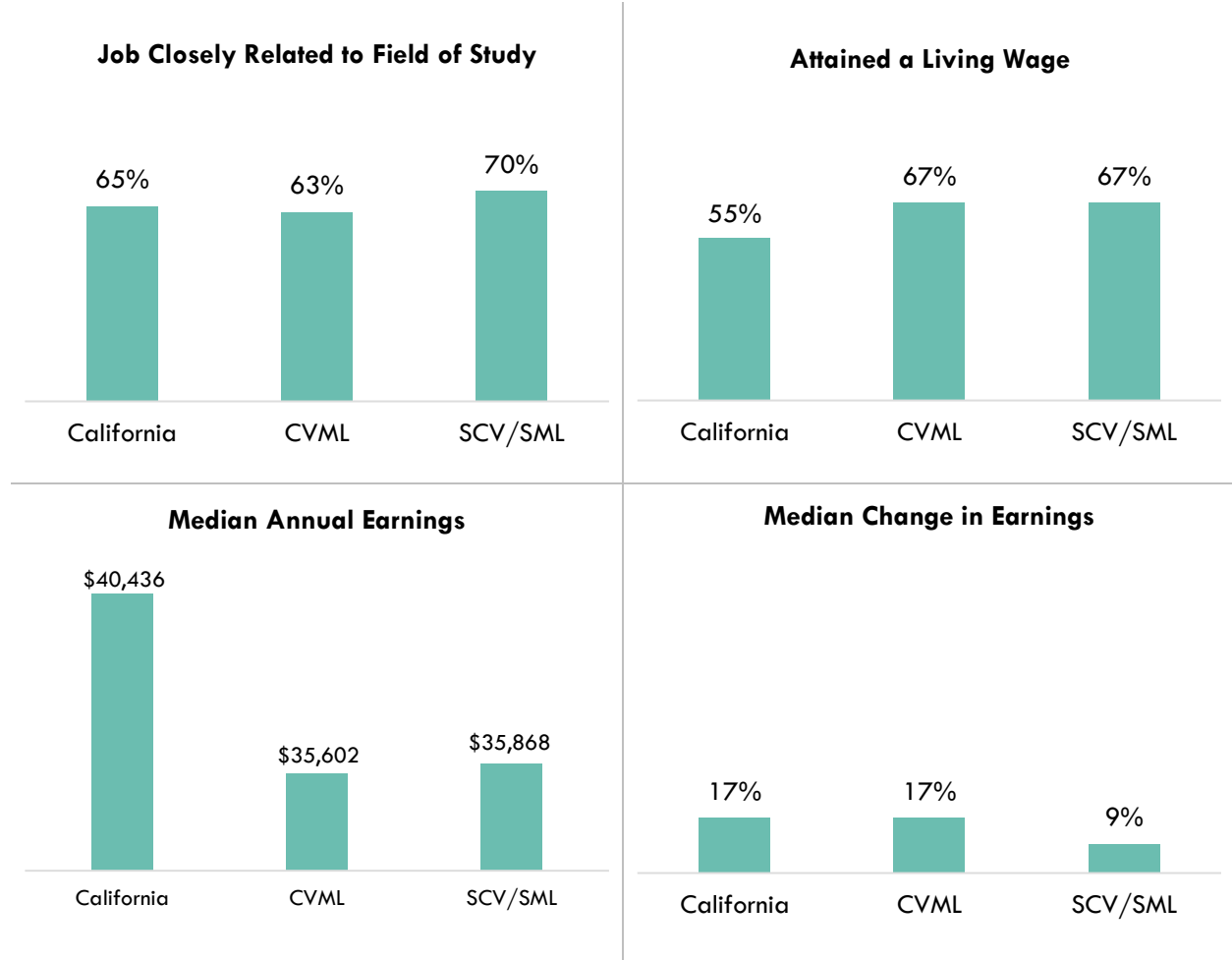

Student Outcomes

Exhibits 13a-13b summarize outcomes from California Community College Chancellor's LaunchBoard for TOP 0514.00 – Office Technology/Office Computer Applications.

Exhibit 13a. LaunchBoard Metrics for TOP: 0514.00 - Office Technology/Office Computer Applications in the SCV/SML subregion

Metric	
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	55

Exhibit 13b. LaunchBoard Metrics for TOP Code: 0514.00 - Office Technology/Office Computer Applications in California, CVML region, and SCV/SML subregion

Job Closely Related to Field of Study

California	CVML	SCV/SML
65%	63%	70%

Attained a Living Wage

California	CVML	SCV/SML
55%	67%	67%

Median Annual Earnings

California	CVML	SCV/SML
$40,436	$35,602	$35,868

Median Change in Earnings

California	CVML	SCV/SML
17%	17%	9%

Recommendation

This report suggests there is a shortage of 1,473 workers in the SCV/SML subregion and a shortage of 2,302 workers in the CVML region for *Computer Application Specialist*. Based on these findings, it is recommended that Cerro Coso College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of *Computer Application Specialist* workers in the region.

Appendix: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor's Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (Lightcast). Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Lightcast earnings by industry: economicmodeling.com.
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: https://www.bls.gov/emp/tables/educational-attainment.htm.
LaunchBoard	Chancellor's LaunchBoard. https://www.calpassplus.org/LaunchBoard/SWP.aspx
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov.
Job Posting and Skills Data	Lightcast: https://lightcast.io/.
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: onetonline.org.

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (LIGHTCAST) formula that includes historical employment and economic indicators along with national, state and local trends.

LaunchBoard (Attained the Living Wage): Among SWP students who exited college and did not transfer to any postsecondary institution, the proportion who attained the district county living wage for a single adult measured immediately following academic year of exit.

LaunchBoard (Median Annual Earnings): Among SWP students who exited the community college system and who did not transfer to any postsecondary institution, median earnings following the academic year of exit.

LaunchBoard (Median Change in Earnings): Among SWP students who exited and who did not transfer to any postsecondary institution, median change in earnings between the second quarter prior to the beginning of the academic year of entry and the second quarter after the end of the academic year of exit from the last college attended.

LaunchBoard (Job Closely Related to Field of Study): Among SWP students who responded to the CTE Outcomes Survey and did not transfer to any postsecondary institution, the proportion who reported that they are working in a job very closely or closely related to their field of study.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.