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# Labor Market Analysis

## Culinary Arts



**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 Columbia 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 *Culinary Arts*:

- Chefs and Head Cooks (SOC 35-1011)
- First-Line Supervisors of Food Preparation and Serving Workers (SOC 35-1012)
- Cooks, Institution and Cafeteria (SOC 35-2012)
- Cooks, Restaurant (SOC 35-2014)
- Food Preparation Workers (SOC 35-2021)

## Key Findings

- **Occupational Demand** — Occupations related to *Culinary Arts* have a labor market demand of 3,134 annual job openings in the North Central Valley/Northern Mother Lode (NCV/NML) subregion. Between 2022 and 2027, *First-Line Supervisors of Food Preparation and Serving Workers* are projected to have the most demand with 1,078 annual job openings (growth of 20%).
- **Wages** — Collectively, the five occupations studied in this report have an average entry-level hourly wage of \$16.26/hour, which is above the living wage in the NCV/NML subregion – \$12.65/hour for a single adult.<sup>1</sup> *Chefs and Head Cooks* earn the highest entry-level wage, \$17.28/hour.
- **Employers and Job Titles** — Employers in the NCV/NML subregion include Starbucks and Aramark. The most common job title is Cook.
- **Skills and Certifications** — The most common baseline skill is customer service; the most common specialized skill is restaurant operation; and the most common software skill is Microsoft Office. The most in-demand certification is a Food Handler's Card/License.
- **Education** — A high school diploma/equivalent is typically required for two occupations in this report. No formal education is typically required for the other three occupations.
- **Supply and Demand Analysis** — Based on 3,134 annual openings (i.e., demand) and an average of 87 postsecondary degrees awarded (i.e., supply), an analysis of supply and demand suggests there is an undersupply of 3,047 workers in the NCV/NML subregion. In the CVML region, 186 awards were conferred suggesting an undersupply of 8,127 workers (based on 8,313 annual openings in the CVML region).

## Recommendation

Based on a comparison of supply and demand, there is an undersupply of trained workers in the NCV/NML subregion and the CVML region. The Center of Excellence recommends that Columbia College work with the regional directors, the college's advisory board, and local industry in the development of programs to address the shortage of *Culinary Arts* workers.

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<sup>1</sup> 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 Columbia College with labor market information for *Culinary Arts*. The geographical focus for this report is the North Central Valley/Northern Mother Lode (NCV/NML) subregion, but regional supply and demand data has been included for broader applicability and use. Analysis of the program and occupational data related to *Culinary Arts* 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.

## **Chefs and Head Cooks (SOC 35-1011)**

- **Job Description:** Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.
- **Knowledge:** Food Production, Customer and Personal Service, Administration and Management, Production and Processing, Personnel and Human Resources
- **Skills:** Coordination, Monitoring, Speaking, Time Management, Active Listening

## **First-Line Supervisors of Food Preparation and Serving Workers (SOC 35-1012)**

- **Job Description:** Directly supervise and coordinate activities of workers engaged in preparing and serving food.
- **Knowledge:** Customer and Personal Service, Food Production, Production and Processing, Administration and Management, English Language
- **Skills:** Coordination, Monitoring, Speaking, Active Listening, Service Orientation

## **Cooks, Institution and Cafeteria (SOC 35-2012)**

- **Job Description:** Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.
- **Knowledge:** English Language, Food Production, Customer and Personal Service, Mathematics, Administration and Management
- **Skills:** Judgment and Decision Making, Monitoring, Operations Monitoring, Quality Control Analysis, Service Orientation

**Cooks, Restaurant (SOC 35-2014)**

- **Job Description:** Prepare, season, and cook dishes such as soups, meats, vegetables, or desserts in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.
- **Knowledge:** Food Production, Customer and Personal Service, English Language, Production and Processing
- **Skills:** Monitoring, Active Listening, Coordination, Critical Thinking, Speaking

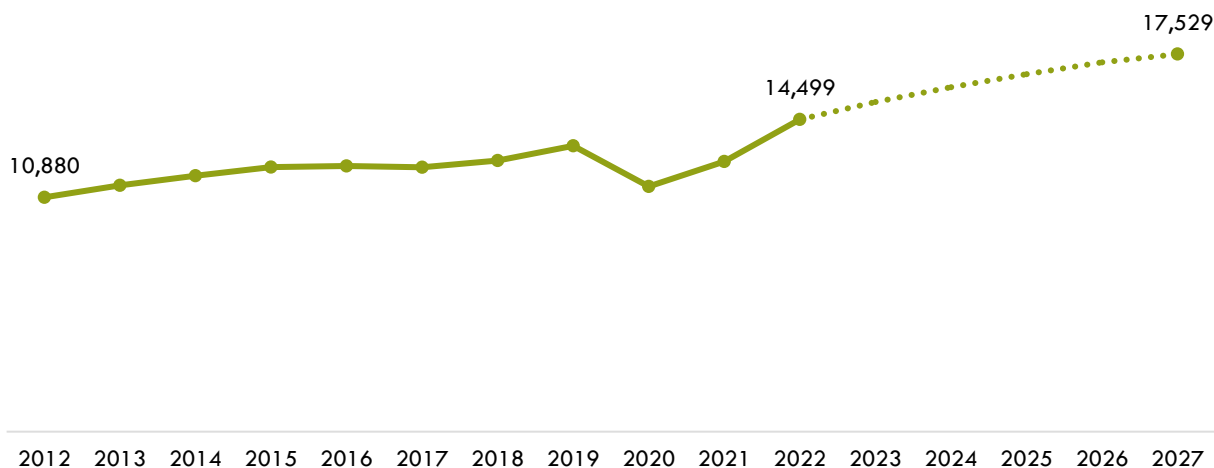
**Food Preparation Workers (SOC 35-2021)**

- **Job Description:** Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.
- **Knowledge:** Customer and Personal Service, Administration and Management, Public Safety and Security
- **Skills:** Active Listening, Coordination, Service Orientation, Social Perceptiveness, Speaking

# Employment

Exhibit 1a shows employment trends for *Culinary Arts* in the NCV/NML subregion. Between 2022 to 2027, the number of jobs for occupations related to *Culinary Arts* is projected to increase by 3,030 (growth of 21%).

**Exhibit 1a. Historical employment and projected occupational demand for occupations related to *Culinary Arts* in the NCV/NML subregion, 2012-2027**



Occupations related to *Culinary Arts* in the NCV/NML subregion employed 14,499 workers in 2022 (Exhibit 1b). Of the five occupations, *First-Line Supervisors of Food Preparation and Serving Workers* are projected to have the most annual openings (1,078).

**Exhibit 1b. Current employment and projected occupational demand for occupations related to *Culinary Arts* in the NCV/NML subregion, 2022-2027**

Occupation	2022 Jobs	2027 Jobs	5-Year Change	5-Year % Change	Annual Openings
Chefs and Head Cooks	643	749	106	16%	113
First-Line Supervisors of Food Preparation and Serving Workers	5,132	6,142	1,010	20%	1,078
Cooks, Institution and Cafeteria	942	1,115	173	18%	191
Cooks, Restaurant	3,920	5,118	1,198	31%	923
Food Preparation Workers	3,861	4,404	544	14%	829
<b>TOTAL</b>	<b>14,499</b>	<b>17,529</b>	<b>3,030</b>	<b>21%</b>	<b>3,134</b>

# Wages

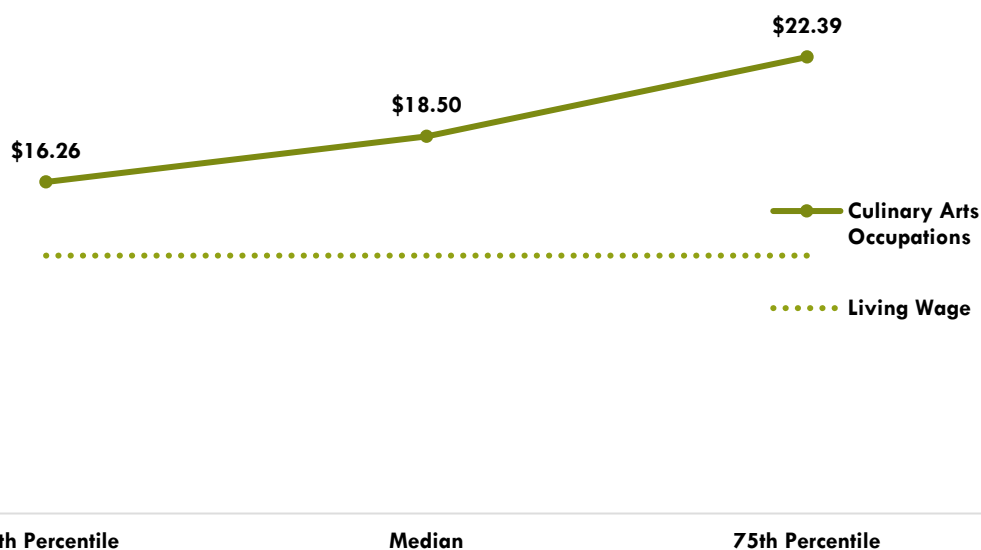
The average living wage for a single adult in the NCV/NML subregion is \$12.65/hour.<sup>2</sup> Exhibit 2a shows the hourly wages for the five occupations of interest. Of the five occupations studied in this report, *Chefs and Head Cooks* has the highest entry-level wage, \$17.28/hour.<sup>3</sup>

**Exhibit 2a. Hourly wages for occupations related to *Culinary Arts* in the NCV/NML subregion**

Occupation	25 <sup>th</sup> Percentile Hourly Earnings	Median Hourly Earnings	75 <sup>th</sup> Percentile Hourly Earnings
Chefs and Head Cooks	\$17.28	\$23.96	\$34.49
First-Line Supervisors of Food Preparation and Serving Workers	\$16.66	\$17.72	\$21.06
Cooks, Institution and Cafeteria	\$16.66	\$17.85	\$21.54
Cooks, Restaurant	\$16.10	\$17.23	\$18.01
Food Preparation Workers	\$14.60	\$15.73	\$16.87

Exhibit 2b shows the average hourly wages for *Culinary Arts* occupations; all three average hourly wages are above the living wage for the NCV/NML subregion.

**Exhibit 2b. Average hourly wages for occupations related to *Culinary Arts* in the NCV/NML subregion**



<sup>2</sup> 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://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.  
<sup>3</sup> Note: 10<sup>th</sup> and 25<sup>th</sup> percentiles are considered entry-level wages while 75<sup>th</sup> and 90<sup>th</sup> are considered experienced wages, which may be obtained through long-term employment or extra training, etc.

# Job Postings

There were 2,201 unique job postings for occupations related to *Culinary Arts* in the NCV/NML subregion from January 2023 to December 2023.<sup>4</sup>

## Top Employers

The employers with the most job postings are listed in Exhibit 3. The top employers in online job postings were Taco Bell, Starbucks, and Aramark.

### Exhibit 3. Top employers of *Culinary Arts* jobs

Employer
Starbucks
Aramark
Compass Group
Target
Silver Legacy Resort Casino
Tenaya Lodge at Yosemite
Great Wolf Resorts
State of California
Panera Bread
University of California

## Top Job Titles

Exhibit 4 shows the top job titles for occupations related to *Culinary Arts* in the NCV/NML subregion.

### Exhibit 4. Top job titles for *Culinary Arts*

Job Title
Cook
Restaurant / Food Service Supervisor
Kitchen Staff
Retail Store Manager
Chef
Retail Sales Associate
Busser / Banquet Worker / Cafeteria Attendant
Hotel Manager
Fast Food / Counter Worker

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<sup>4</sup> 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 *Culinary Arts*. 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 *Culinary Arts***

Market Salary	Job Postings
\$28,000.00-\$31,999.00	14
\$32,000.00-\$35,999.00	506
\$36,000.00-\$39,999.00	329
\$40,000.00-\$43,999.00	141
\$44,000.00-\$47,999.00	128
\$48,000.00-\$51,999.00	24
\$52,000.00-\$55,999.00	41
\$56,000.00-\$59,999.00	9
\$60,000.00-\$334,999.00	158

## Education

Of the 2,201 unique job postings, 789 listed a preferred or minimum educational requirement for the position being filled. Among those, 78% requested a high school or GED, 12% requested an associate degree, and 10% requested a bachelor’s degree (Exhibit 6).

**Exhibit 6. Education levels requested in job postings for *Culinary Arts***

Education Level	Job Postings	% of Job Postings
High school or GED	619	78%
Associate degree	92	12%
Bachelor’s degree	78	10%

## Baseline, Specialized, and Software Skills

Exhibit 7 shows the top baseline, specialized, and software skills in job postings. The most common baseline skill is customer service. The most common specialized skill is restaurant operation. The most common software skill is Microsoft Office.

**Exhibit 7. In-demand baseline, specialized, and software skills for *Culinary Arts***

Baseline Skills	Specialized Skills	Software Skills
Customer Service	Restaurant Operation	Microsoft Office
Communication	Cooking	Property Management
Leadership	Food Safety and Sanitation	Swivel
Operations	Food Preparation	Warehouse Management
Sanitation	Food Services	Expo

## Certifications

Of the job postings listing a desired certification, 31% indicated a need for a Food Handler’s Card, followed by ServSafe Certification (27%) (Exhibit 8).

**Exhibit 8. Top certifications requested in job postings for Culinary Arts**

Certifications	% of Job Postings
Food Handler’s Card	31%
ServSafe Certification	27%
Valid Driver’s License	17%
Food Safety Certification	4%
American Culinary Federation Certification	2%

## Education, Work Experience, & Training

A high school diploma or equivalent is typically required for *Chefs and Head Cooks* and *First-Line Supervisors of Food Preparation and Serving Workers* (Exhibit 9). No formal education is typically required for *Cooks, Institutional and Cafeteria*; *Cooks, Restaurant*; and *Food Preparation Workers*.

**Exhibit 9. Education, work experience, training, and Current Population Survey results for occupations related to Culinary Arts<sup>5</sup>**

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Chefs and Head Cooks	High school diploma or equivalent	5 years or more	None	38%
First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None	37%
Cooks, Institution and Cafeteria	No Formal Educational Credential	None	Short-term on-the-job training	24%
Cooks, Restaurant	No Formal Educational Credential	Less than 5 years	Moderate-term on-the-job training	24%
Food Preparation Workers	No Formal Educational Credential	None	Short-term on-the-job training	26%

<sup>5</sup> “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 California Community Colleges Chancellor's Office Datamart and the Integrated Postsecondary Education Data System (IPEDS) shows that, on average, 87 awards were conferred in the NCV/NML subregion (Exhibits 10 and 11).

## Exhibit 10. Programs relevant to Culinary Arts

TOP Titles	CIP Titles
1306.00 – Nutrition, Foods, and Culinary Arts	12.0500 – Cooking and Related Culinary Arts, General (No Completion Data Available)
1306.20 – Dietetic Services and Management	
1306.30 – Culinary Arts	12.0501 – Baking and Pastry Arts/Baker/Pastry Chef
1307.10 – Restaurant and Food Services and Management	

## Exhibit 11. Postsecondary supply data related to Culinary Arts

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
1306.00	Nutrition, Foods, and Culinary Arts	Columbia	-	1	-	0
		Merced	3	6	5	5
		<b>NCV/NML Subtotal</b>	<b>3</b>	<b>7</b>	<b>5</b>	<b>5</b>
		Bakersfield	6	2	3	4
		Fresno City	7	6	6	6
		Sequoias	-	1	1	1
		<b>SCV/SML Subtotal</b>	<b>13</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Supply Subtotal/Average</b>			<b>16</b>	<b>16</b>	<b>15</b>	<b>16</b>
1306.20	Dietetic Services and Management	Merced	6	6	9	7
		<b>NCV/NML Subtotal</b>	<b>6</b>	<b>6</b>	<b>9</b>	<b>7</b>
		Bakersfield	5	2	6	4
		Fresno City	-	1	1	1
		<b>SCV/SML Subtotal</b>	<b>5</b>	<b>3</b>	<b>7</b>	<b>5</b>
<b>Supply Subtotal/Average</b>			<b>11</b>	<b>9</b>	<b>16</b>	<b>12</b>
1306.30	Culinary Arts	Columbia	25	20	11	19
		Merced	10	2	8	7
		Modesto	1	-	-	0
		San Joaquin Delta	54	33	28	38
		<b>NCV/NML Subtotal</b>	<b>90</b>	<b>55</b>	<b>47</b>	<b>64</b>
		Bakersfield	17	9	32	19
		Sequoias	4	4	3	4
		<b>SCV/SML Subtotal</b>	<b>21</b>	<b>13</b>	<b>35</b>	<b>23</b>
<b>Supply Subtotal/Average</b>			<b>111</b>	<b>68</b>	<b>82</b>	<b>87</b>

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
1307.10	Restaurant and Food Services and Management	Columbia	9	18	6	11
		<b>NCV/NML Subtotal</b>	<b>9</b>	<b>18</b>	<b>6</b>	<b>11</b>
		Fresno City	4	8	5	6
		West Hills Lemoore	28	32	23	28
		<b>SCV/SML Subtotal</b>	<b>32</b>	<b>40</b>	<b>28</b>	<b>33</b>
<b>Supply Subtotal/Average</b>			<b>41</b>	<b>58</b>	<b>34</b>	<b>44</b>
<b>Supply Total/Average</b>			<b>179</b>	<b>151</b>	<b>147</b>	<b>159</b>

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for the five occupations. Exhibit 12 shows the annual and two-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code:

- Baking and Pastry Arts/Baker/Pastry Chef (12.0501)

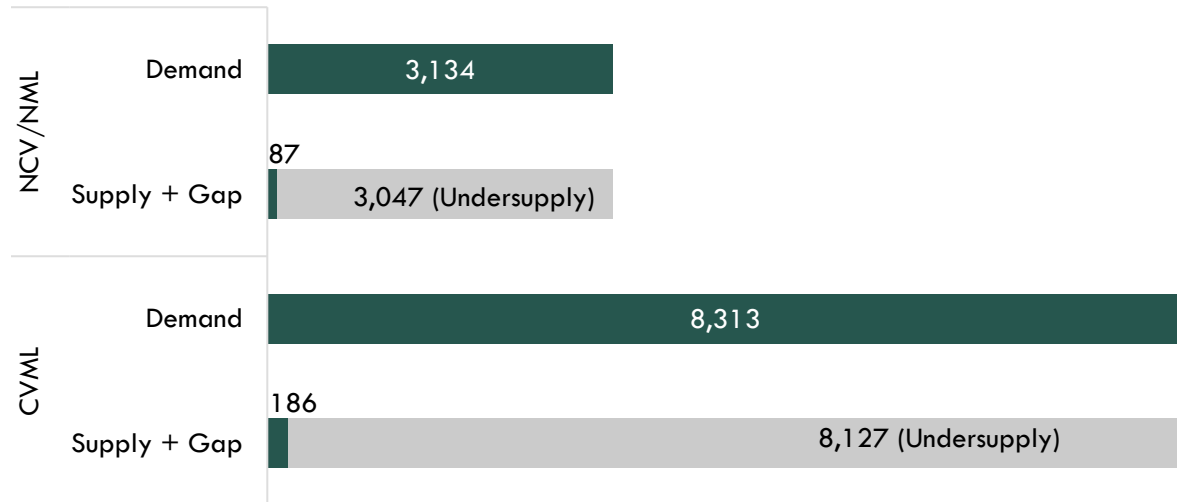
Due to different data collection periods, the most recent two-year period of available data is from 2019 to 2021. Between 2019 and 2021, non-community colleges in the region conferred an average of 27 awards annually in a related training program.

#### Exhibit 12. Non-Community College Awards in the CVML region

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
12.0501	Baking and Pastry Arts/Baker/Pastry Chef	Institute of Technology	28	26	27
<b>Supply Total/Average</b>			<b>28</b>	<b>26</b>	<b>27</b>

There is an undersupply of 3,047 workers in the NCV/NML subregion and an undersupply of 8,127 workers in the CVML region (Exhibit 13).

**Exhibit 13. Workforce demand (annual job openings), postsecondary awards (supply), and additional students needed to fill gap in the NCV/NML subregion and CVML region**



## Recommendation

This report suggests there is a shortage of 3,047 workers in the NCV/NML subregion and a shortage of 8,127 workers in the CVML region for *Culinary Arts* workers. Based on these findings, it is recommended that Columbia College work with the regional directors, the college’s advisory board, and local industry in the development of programs to address the shortage of *Culinary Arts* 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: <a href="https://www.bls.gov/emp/tables/educational-attainment.htm">https://www.bls.gov/emp/tables/educational-attainment.htm</a> .
LaunchBoard	Chancellor’s LaunchBoard. <a href="https://www.calpassplus.org/LaunchBoard/SWP.aspx">https://www.calpassplus.org/LaunchBoard/SWP.aspx</a>
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: <a href="http://labormarketinfo.edd.ca.gov">labormarketinfo.edd.ca.gov</a> .
Job Posting and Skills Data	Burning Glass: <a href="http://burning-glass.com/">burning-glass.com/</a> .
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: <a href="http://onetonline.org">onetonline.org</a> .

## 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.