**March 2022**

# Labor Market Analysis

## Culinary Arts

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Prepared by the Central Valley/Mother Lode Center of Excellence

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> **COVID-19 Statement:** This report includes employment projection data by Emsi. Emsi's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

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# Summary

**Please note the COVID-19 statement on page 2 when considering this report's findings.**

This study conducted by the Central Valley/Mother Lode Center of Excellence examines labor market demand, wages, skills, and postsecondary supply for culinary arts. Four occupations related to culinary arts were identified for Bakersfield College:
- 35-1011, Chefs and Head Cooks
- 35-1012, First-Line Supervisors of Food Preparation and Serving Workers
- 35-2014, Cooks, Restaurant
- 35-2019, Cooks, All Other

**Key findings**:
- **Occupational demand —** Nearly 11,250 workers were employed in jobs related to culinary arts in 2020 in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. The largest occupation is cooks, restaurant with 5,504 workers in 2020, a projected growth rate of 16% over the next five years, and 1,018 annual openings.

- **Wages —** First-line supervisors of food preparation and serving workers earn the highest entry-level wage, $14.89/hour in the subregion. Chefs and head cooks earn the highest median wage, $21.08/hour in the subregion.

- **Employers —** Employers with the most job postings in the subregion are Starbucks Coffee Company, Raising Cane's, and Taco Bell.

- **Occupational titles —** The most common occupational title in job postings in the subregion is first-line supervisors of food preparation and serving workers. The most common job title is cook.

- **Skills and certifications —** The top baseline skill is communication skills, the top specialized skill is cooking, and the top software skill is Microsoft Excel. The most in-demand certification is a ServSafe.

- **Education —** No formal educational credential is typically required for cooks, restaurant and cooks, all other. A high school diploma or equivalent is typically required for the remaining two occupations.

- **Supply —** Analysis of postsecondary completions shows that on average 224 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an undersupply of 2,043 trained workers in the subregion and 3,098 workers in the region. The Center of Excellence recommends that Bakersfield College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of culinary arts workers in the region.

# Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Bakersfield College to provide labor market information for culinary arts. 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. The average living wage for a single adult in the SCV/SML subregion is $13.67/hour.[1] Analysis of the program and occupational data related to culinary arts resulted in the identification of applicable occupations. The Standard Occupational Classification (SOC) System codes and titles used in this report are:

- 35-1011, Chefs and Head Cooks
- 35-1012, First-Line Supervisors of Food Preparation and Serving Workers
- 35-2014, Cooks, Restaurant
- 35-2019, Cooks, All Other

The occupational titles, job descriptions, sample job titles, and knowledge and skills from the Bureau of Labor Statistics and O*NET OnLine are shown below. There was no O*NET data available for Cooks, All Other.

## Chefs and Head Cooks

**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

**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, Restaurant

**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

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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/.

# Occupational Demand

The SCV/SML subregion employed 11,237 workers in culinary arts occupations in 2020 (Exhibit 1). The largest occupation is cooks, restaurant with 5,504 workers in 2020. This occupation is projected to grow by 16% over the next five years and has the greatest number of projected annual openings, 1,018.
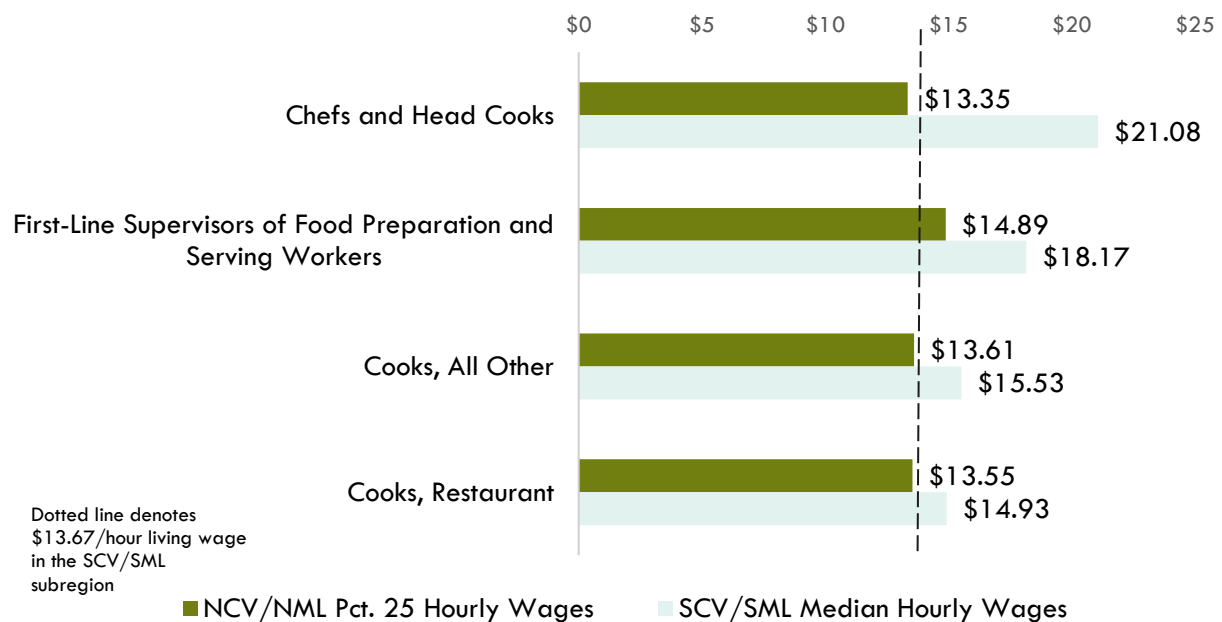
**Exhibit 1. Culinary arts employment and occupational projections in the SCV/SML subregion**

| Occupation | 2020 Jobs | 2025 Jobs | 5-Year Change | 5-Year % Change | Annual Openings |
|---|---|---|---|---|---|
| Cooks, Restaurant | 5,504 | 6,358 | 854 | 16% | 1,018 |
| First-Line Supervisors of Food Preparation and Serving Workers | 4,805 | 5,621 | 816 | 17% | 920 |
| Chefs and Head Cooks | 842 | 899 | 57 | 7% | 122 |
| Cooks, All Other | 85 | 93 | 8 | 10% | 14 |
| **TOTAL** | **11,237** | **12,971** | **1,735** | **15%** | **2,075** |

# Wages

Exhibit 2 shows the entry-level hourly wages of the culinary arts occupations. First-line supervisors of food preparation and serving workers earn the highest entry-level wage, $14.89/hour in the subregion. Chefs and head cooks earn the highest median wage, $21.08/hour in the subregion. Entry-level wages are derived from the 25th percentile.

**Exhibit 2. Culinary arts entry-level wages in the SCV/SML subregion**



Chefs and Head Cooks — $13.35 / $21.08
First-Line Supervisors of Food Preparation and Serving Workers — $14.89 / $18.17
Cooks, All Other — $13.61 / $15.53
Cooks, Restaurant — $13.55 / $14.93

Dotted line denotes $13.67/hour living wage in the SCV/SML subregion

■ NCV/NML Pct. 25 Hourly Wages    ▪ SCV/SML Median Hourly Wages

# Job Postings

There were 1,602 job postings for the four occupations in the SCV/SML subregion from September 2021 to February 2022.[2] The employers with the most job postings are listed in Exhibit 3.

**Exhibit 3. Top employers of culinary arts by number of job postings**

| Employer | Job Postings | % Job Postings |
|---|---|---|
| Starbucks Coffee Company | 195 | 14% |
| Raising Cane's | 43 | 3% |
| Taco Bell | 43 | 3% |
| Target | 30 | 2% |
| Panda Express | 28 | 2% |
| Chukchansi Gold Resort & Casino | 25 | 2% |
| Rubio's Restaurants | 25 | 2% |
| Red Robin | 24 | 2% |
| Jack in the Box | 22 | 2% |
| Compass Group North America | 21 | 2% |

Exhibit 4 shows how job postings for the targeted occupations in the SCV/SML subregion are distributed across three O*NET OnLine occupations. The occupational title first-line supervisors of food preparation and serving workers is listed in 934 job postings. Note how this occupational title dominates the job posting results. Common job titles in postings include Cook in 155 job postings, Shift Leader in 123 job postings, and Team Leader in 78 job postings.

**Exhibit 4. Top occupational titles in job postings for culinary arts**

| Occupational Title | Job Postings | % of Job Postings |
|---|---|---|
| First-Line Supervisors of Food Preparation and Serving Workers | 934 | 58% |
| Cooks, Restaurant | 560 | 35% |
| Chefs and Head Cooks | 108 | 7% |

**Salaries**

Exhibit 5 shows the "Market Salaries" for culinary arts occupations that are calculated by Burning Glass which uses a machine learning model built off of millions of job postings every year, and accounts for adjustments based on locations, industry, skills, experience, education requirements, among other variables.

**Exhibit 5. Salaries for culinary arts occupations**

| Market Salary Percentile | Salary Amount |
|---|---|
| 10th Percentile | $22,863 |
| 25th Percentile | $24,216 |
| 50th Percentile | $27,321 |
| 75th Percentile | $31,856 |
| 90th Percentile | $44,946 |

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[2] Other than occupation 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.

**Education**

Of the 1,602 job postings, 441 listed an education level preferred for the positions being filled. Among those, 85% requested high school or vocational training, 15% requested a bachelor's degree and 13% requested an associate degree (Exhibit 6). A job posting can indicate more than one education level. Hence, the percentages shown in the chart below may total more than 100%.
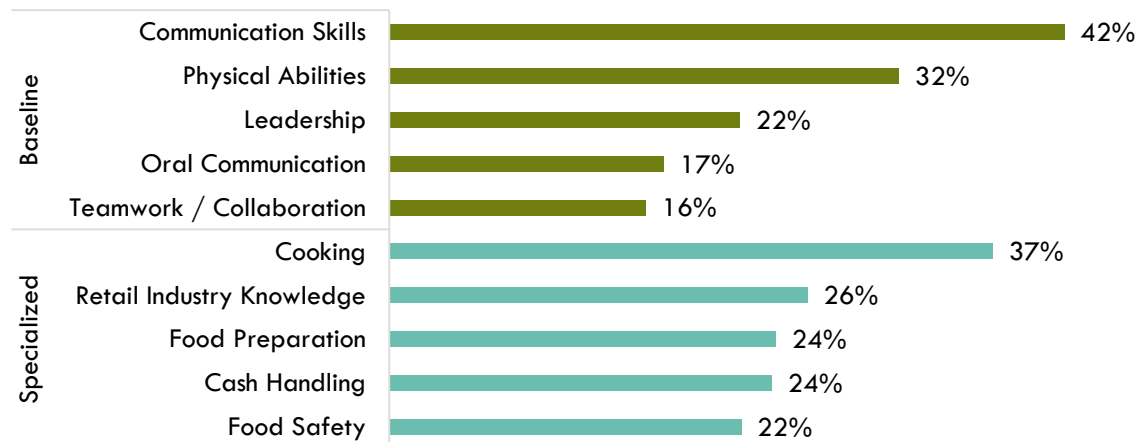
**Exhibit 6. Education levels requested in job postings for culinary arts**

| Education Level | Job Postings | % of Job Postings |
| --- | --- | --- |
| High school or vocational training | 374 | 85% |
| Bachelor's degree | 67 | 15% |
| Associate's degree | 57 | 13% |
| Master's degree | 12 | 3% |
| Doctoral degree | 1 | 0% |

**Baseline and Specialized Skills**

Exhibit 7 depicts the top baseline and specialized skills for the targeted occupations. The three most important baseline skills are communication skills, 42% of job postings, physical abilities, 32%, and leadership, 22%. The top three specialized skills are cooking, 37% of job postings, retail industry knowledge, 26%, and food preparation, 24%.

**Exhibit 7. In-demand culinary arts baseline and specialized skills**

Baseline
- Communication Skills — 42%
- Physical Abilities — 32%
- Leadership — 22%
- Oral Communication — 17%
- Teamwork / Collaboration — 16%

Specialized
- Cooking — 37%
- Retail Industry Knowledge — 26%
- Food Preparation — 24%
- Cash Handling — 24%
- Food Safety — 22%

**Software Skills**

Analysis also included the software skills most in demand by employers. Microsoft Excel and Office were the top two software skills identified in job postings (Exhibit 8).

**Exhibit 8. In-demand culinary arts software skills**

- Microsoft Excel — 4%
- Microsoft Office — 3%
- Microsoft Word — 2%
- Microsoft Powerpoint — 2%
- Microsoft Outlook — 1%
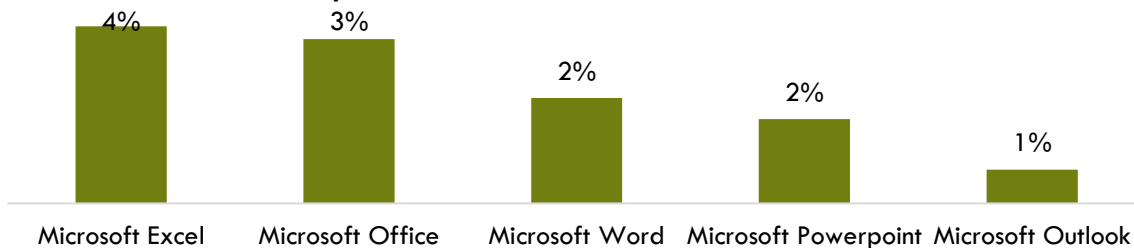
**Certifications**

Of the 1,602 job postings, 334 contained certification data. Among those, 53% indicated a need for a ServSafe. The next top certifications are a driver's license and AWS D1.1 (Exhibit 9).

**Exhibit 9. Top culinary arts certifications requested in job postings**
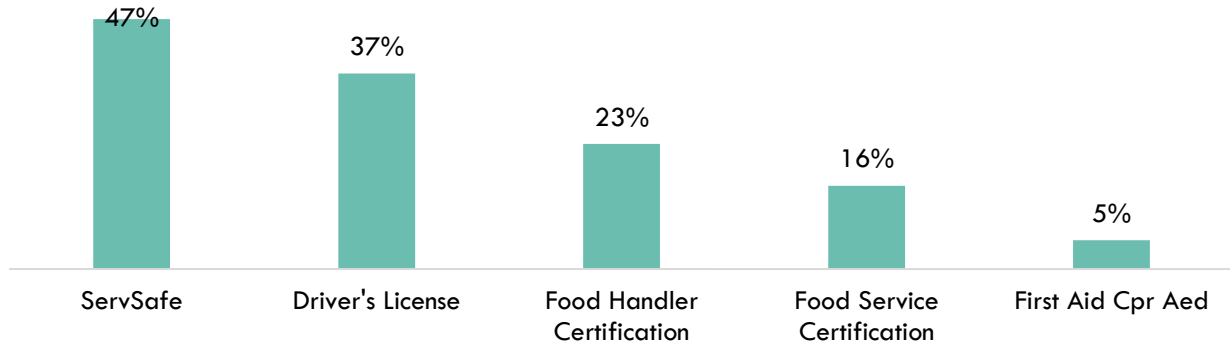


# Education, Work Experience & Training

No formal educational credential is typically required for cooks, restaurant and cooks, all other. A high school diploma or equivalent is typically required for the remaining two occupations (Exhibit 10).

**Exhibit 10. Education, work experience, training, and Current Population Survey results for culinary arts occupations[3]**

| Occupation | Typical Entry-level Education | Work Experience Required | Typical On-The-Job Training | CPS |
|---|---|---|---|---|
| Cooks, Restaurant | No formal educational credential | Less than 5 years | Moderate-term | 24.3% |
| First-Line Supervisors of Food Preparation and Serving Workers | High school diploma or equivalent | Less than 5 years | None | 36.7% |
| Chefs and Head Cooks | High school diploma or equivalent | 5 years or more | None | 35.8% |
| Cooks, All Other | No formal educational credential | None | Moderate-term | 24.3% |

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

# Supply

Analysis of program data from the California Community Colleges Chancellor's Office Data Mart included the TOP and CIP codes and titles: 12.0501 - Baking and Pastry Arts/Baker/Pastry Chef, 12.0503 - Culinary Arts/Chef Training, and 130630 - Culinary Arts. Analysis of the last three years of data shows that, on average, 224 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 11).

**Exhibit 11. Postsecondary supply for culinary arts occupations in the region**

| TOP/CIP Code-Title | College | Associate Degree | Award < 1 Academic Year | Award 1 < 2 Academic Years | Certificate 16 < 30 Semester Units | Certificate 18 < 30 Semester Units | Certificate 30 < 60 Semester Units | Certificate 6 < 18 Semester Units | Subtotal |
|---|---|---|---|---|---|---|---|---|---|
| **12.0501 - Baking and Pastry Arts/Baker/Pastry Chef** | Institute of Technology | | | 43 | | | | | 43 |
| **12.0503 - Culinary Arts/Chef Training** | Institute of Technology | 49 | 13 | 9 | | | | | 71 |
| **130630 - Culinary Arts** | Bakersfield | 17 | | | | | 7 | | 24 |
| | Columbia | 6 | | | 1 | 3 | 5 | 0 | 15 |
| | Merced | 5 | | | 2 | 4 | | | 11 |
| | Modesto | 1 | | | | | | | 1 |
| | San Joaquin Delta | 26 | | | | 17 | 9 | | 51 |
| | Sequoias | | | | 1 | 2 | | 5 | 7 |
| **TOTAL** | | **104** | **13** | **52** | **4** | **25** | **21** | **5** | **224** |

There is an undersupply of 2,043 culinary arts workers in the SCV/SML subregion and 3,098 workers in the region (Exhibit 12).

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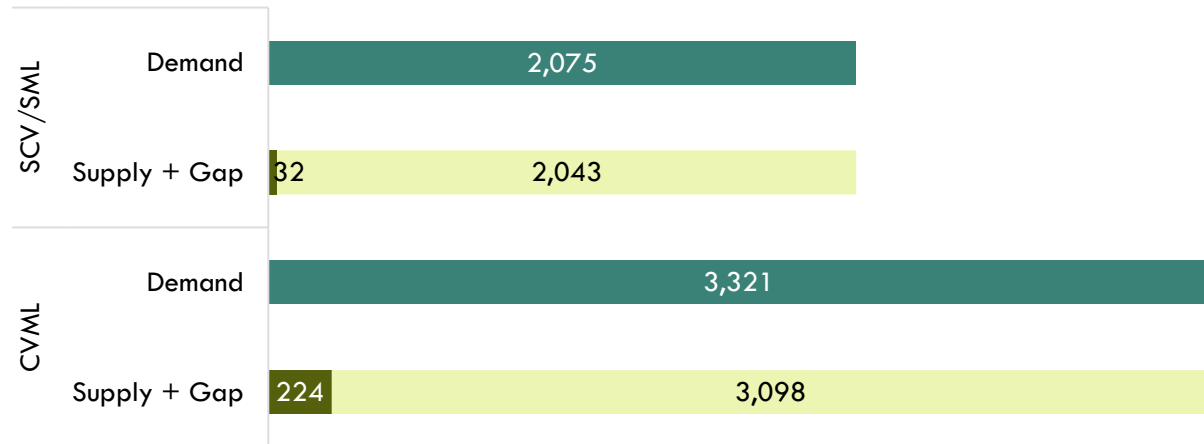


# Student Outcomes

Exhibit 13 summarizes employment and wage outcomes from the California Community College Chancellor's Cal-PASS Plus LaunchBoard for the TOP code related to culinary arts. Of note, 15 culinary arts students received a degree or certificate or attained apprenticeship journey status; 12 students transferred; 67% of students obtained a job closely related to their field of study; 49% had a median change in earnings; and 51% of students attained a living wage.

**Exhibit 13. Subregional metrics for the TOP code related to culinary arts**

| Metric | Culinary Arts 130630 |
|---|---|
| Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status | 15 |
| Number of Students Who Transferred | 12 |
| Job Closely Related to Field of Study | 67% |
| Median Change in Earnings | 49% |
| Attained a Living Wage | 51% |
| * denotes data not available. | |

# Conclusion

The entry-level wages of the four occupations exceed the SCV/SML subregion's average living wage. There were 1,602 job postings in the past six months for occupations related to culinary arts in the subregion. Analysis of skills and certification requirements in job postings indicates:

- The top baseline skill is communication skills, and the top specialized skill is cooking.
- The top software skill is Microsoft Excel.
- The top certification is a ServSafe.

There is an undersupply of trained workers, a shortage of 2,043 in the SCV/SML subregion and 3,098 in the region.

# Recommendation

Based on these findings, it is recommended that Bakersfield College work with the regional directors, the college's advisory board, and local industry in the expansion of programs to address the shortage of culinary arts workers in the region.

# Appendix A: 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. (EMSI). EMSI occupational employment data are based on final EMSI industry data and final EMSI 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 EMSI 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. |
| Labor Force, Employment and Unemployment Estimates | California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov. |
| Job Posting and Skills Data | Burning Glass: burning-glass.com/. |
| Additional Education Requirements/ Employer Preferences | The O*NET Job Zone database includes over 900 occupations 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. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

**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.