May 2020

Labor Market

Analysis

Culinary Arts

California Community Colleges

C·O·E
CENTERS OF EXCELLENCE
Inform Connect Advance

Prepared by the Central Valley/Mother Lode Center of Excellence

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. Seven occupations related to culinary arts were identified for West Hills College Lemoore:

- 35-2014, Cooks, Restaurant
- 35-1012, First-Line Supervisors of Food Preparation and Serving Workers
- 35-2012, Cooks, Institution and Cafeteria
- 11-9051, Food Service Managers
- 35-1011, Chefs and Head Cooks
- 35-2019, Cooks, All Other
- 35-2013, Cooks, Private Household

Key findings:

- **Occupational demand —** Nearly 17,300 workers were employed in jobs related to culinary arts in 2019 in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. The largest occupation is cooks (restaurant) with 6,406 workers in 2019, a projected growth rate of 14% over the next five years, and 1,133 annual openings.

- **Wages —** Cooks (restaurant) earn the highest entry-level wages of $14.89/hour in the subregion and $14.99/hour in the region.

- **Employers —** Employers with the most job postings in the subregion are Starbucks Coffee Company, Pilot Flying J, and McDonald's.

- **Occupational titles —** The most common occupational title in job postings in the subregion is food service managers. The most common job title is cook.

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

- **Education —** A postsecondary nondegree award is typically required for cooks (private household). The remaining occupations typically require a high school diploma or no formal educational credential.

- **Supply —** Analysis of postsecondary completions in the region shows that on average 260 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 2,742 trained workers in the subregion and 4,463 workers in the region. The Center of Excellence recommends that West Hills College Lemoore work with the Retail, Hospitality, Tourism and Entertainment Regional Director, 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 West Hills College Lemoore to provide labor market information for culinary arts. Review of the Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP) found the following programs are appropriate for this analysis:

- CIP 12.0501 - Baking and Pastry Arts/Baker/Pastry Chef
- CIP 12.0503 - Culinary Arts/Chef Training
- TOP 130600 - Nutrition, Foods, and Culinary Arts
- TOP 130630 - 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 South Central Valley/Southern Mother Lode (SCV/SML) subregion is $10.30/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:

- 35-2014, Cooks, Restaurant
- 35-1012, First-Line Supervisors of Food Preparation and Serving Workers
- 35-2012, Cooks, Institution and Cafeteria
- 11-9051, Food Service Managers
- 35-1011, Chefs and Head Cooks
- 35-2019, Cooks, All Other
- 35-2013, Cooks, Private Household

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. O*NET data was not available for Cooks, All Other.

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

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, Administration and Management, Food Production, Production and Processing, English Language
Skills: Active Listening, Monitoring, Service Orientation, Speaking, Coordination

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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/.

Cooks, Institution and Cafeteria
Job Description: Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.
Knowledge: Customer and Personal Service
Skills: Operation Monitoring, Monitoring, Judgement and Decision Making, Quality Control Analysis, Time Management

Food Service Managers
Job Description: Plan, direct, or coordinate activities of an organization or department that serves food and beverages.
Knowledge: Administration and Management, Customer and Personal Service, Personnel and Human Resources, English Language, Education and Training
Skills: Active Listening, Service Orientation, Management of Personnel Resources, Monitoring, Speaking

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, Production and Processing, Administration and Management, Education and Training
Skills: Monitoring, Management of Personnel Resources, Speaking, Coordination, Social Perceptiveness

Cooks, Private Household
Job Description: Prepare meals in private homes. Includes personal chefs.
Knowledge: Sales and Marketing
Skills: Service Orientation, Critical Thinking, Management of Material Resources, Active Listening, Active Learning

Occupational Demand

The South Central Valley/Southern Mother Lode subregion employed 17,267 workers in culinary arts occupations in 2019 (Exhibit 1). The largest occupation is cooks (restaurant) with 6,406 workers in 2019. This occupation is projected to grow by 14% over the next five years and has the greatest number of projected annual openings, 1,133.
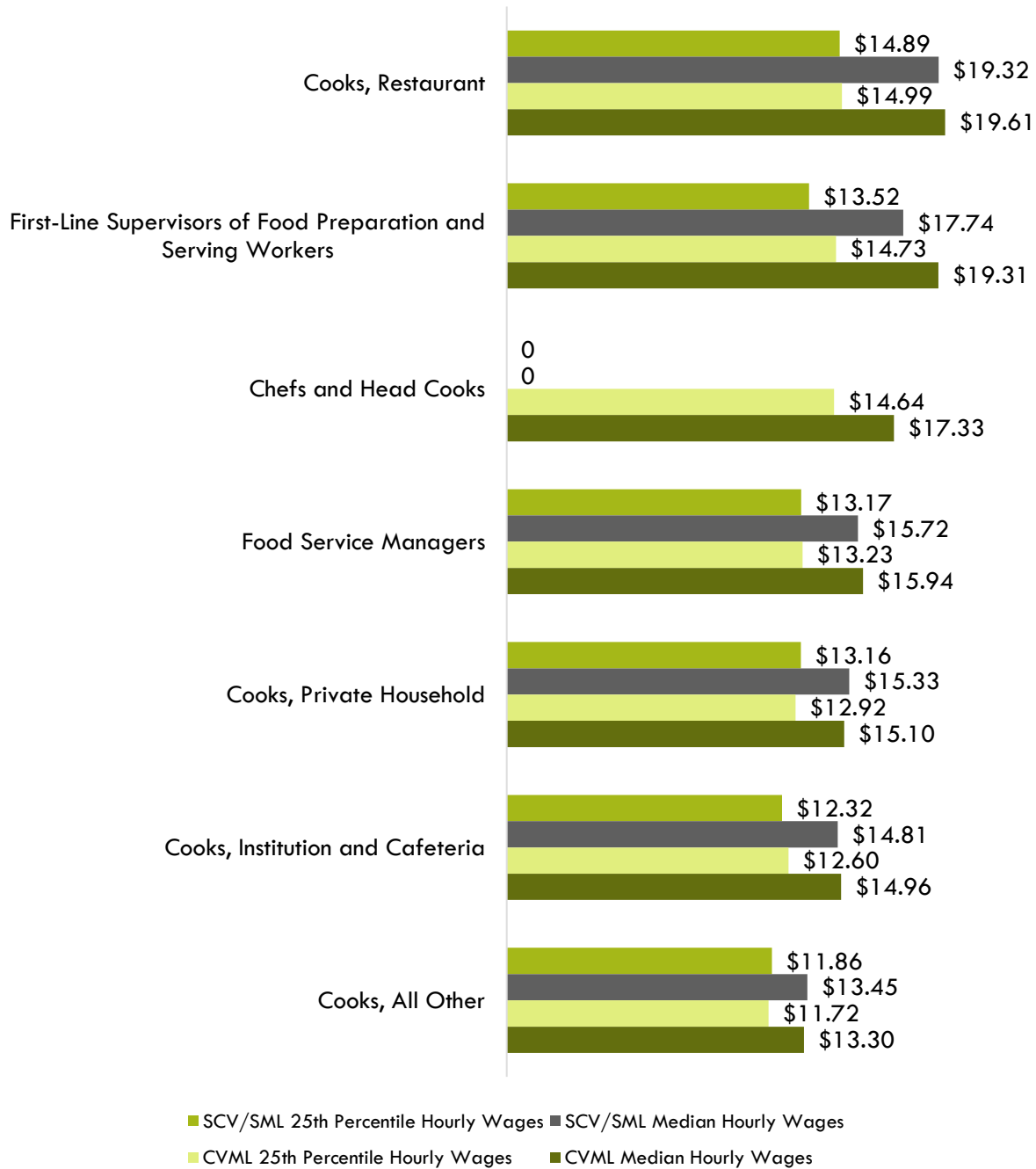
Exhibit 1. Culinary arts employment and occupational projections in the SCV/SML subregion

Occupation	2019 Jobs	2024 Jobs	5-Year Change	5-Year % Change	Annual Openings
Cooks, Restaurant	6,406	7,271	865	14%	1,133
First-Line Supervisors of Food Preparation and Serving Workers	5,118	5,775	657	13%	964
Cooks, Institution and Cafeteria	2,452	2,664	212	9%	403
Food Service Managers	2,476	2,617	141	6%	327
Chefs and Head Cooks	697	752	55	8%	106
Cooks, All Other	110	117	7	6%	17
Cooks, Private Household	<10	<10	Insf. Data	Insf. Data	Insf. Data
Total	**17,267**	**19,202**	**1,935**	**11%**	**2,951**

Wages

Exhibit 2 compares the entry-level and experienced wages of the culinary arts occupations. Cooks (restaurant) earn the highest entry-level wages of $14.89/hour in the subregion and $14.99/hour in the region. Please note there was insufficient data for chefs and head cooks in the SCV/SML subregion.

Exhibit 2. Entry-level and experienced wage comparison in the SCV/SML subregion and region

Occupation	SCV/SML 25th Percentile	SCV/SML Median	CVML 25th Percentile	CVML Median
Cooks, Restaurant	$14.89	$19.32	$14.99	$19.61
First-Line Supervisors of Food Preparation and Serving Workers	$13.52	$17.74	$14.73	$19.31
Chefs and Head Cooks	0	0	$14.64	$17.33
Food Service Managers	$13.17	$15.72	$13.23	$15.94
Cooks, Private Household	$13.16	$15.33	$12.92	$15.10
Cooks, Institution and Cafeteria	$12.32	$14.81	$12.60	$14.96
Cooks, All Other	$11.86	$13.45	$11.72	$13.30

Legend:
- SCV/SML 25th Percentile Hourly Wages
- SCV/SML Median Hourly Wages
- CVML 25th Percentile Hourly Wages
- CVML Median Hourly Wages

Job Postings

There were 2,258 job postings for the seven occupations in the SCV/SML subregion from October 2019 to March 2020. The employers with the most job postings are listed in Exhibit 3.

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

Employer	Job Postings	% of Job Postings
Starbucks Coffee Company	205	10%
Pilot Flying J	52	3%
McDonald's	50	2%
Domino's Pizza	42	2%
Taco Bell	39	2%
Burger King	38	2%
H&R Block	38	2%
Bjs Restaurants Incorporated	33	2%
Panda Express	30	1%
Buffalo Wild Wings	27	1%

Exhibit 4 shows how job postings for the targeted occupations in the SCV/SML subregion are distributed across five O*NET OnLine occupations. The occupational title food service managers is listed in 839 job postings, followed by first-line supervisors of food preparation and serving workers, 705. Common job titles in postings include cook, 313, assistant manager, 187, and store supervisor, 182.

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

Occupational Title	Job Postings	% of Job Postings
Food Service Managers	839	37%
First-Line Supervisors of Food Preparation and Serving Workers	705	31%
Cooks, Restaurant	615	27%
Chefs and Head Cooks	95	4%
Cooks, Institution and Cafeteria	4	0%

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

Market Salary Percentile	Salary Amount
10th Percentile	$23,019
25th Percentile	$25,149
50th Percentile	$28,589
75th Percentile	$36,295
90th Percentile	$46,134

Education

Of the 2,258 job postings, 870 listed an education level preferred for the positions being filled. Among those, 80% requested high school or vocational training, 24% requested a bachelor's degree, and 15% requested an associate degree (Exhibit 6).
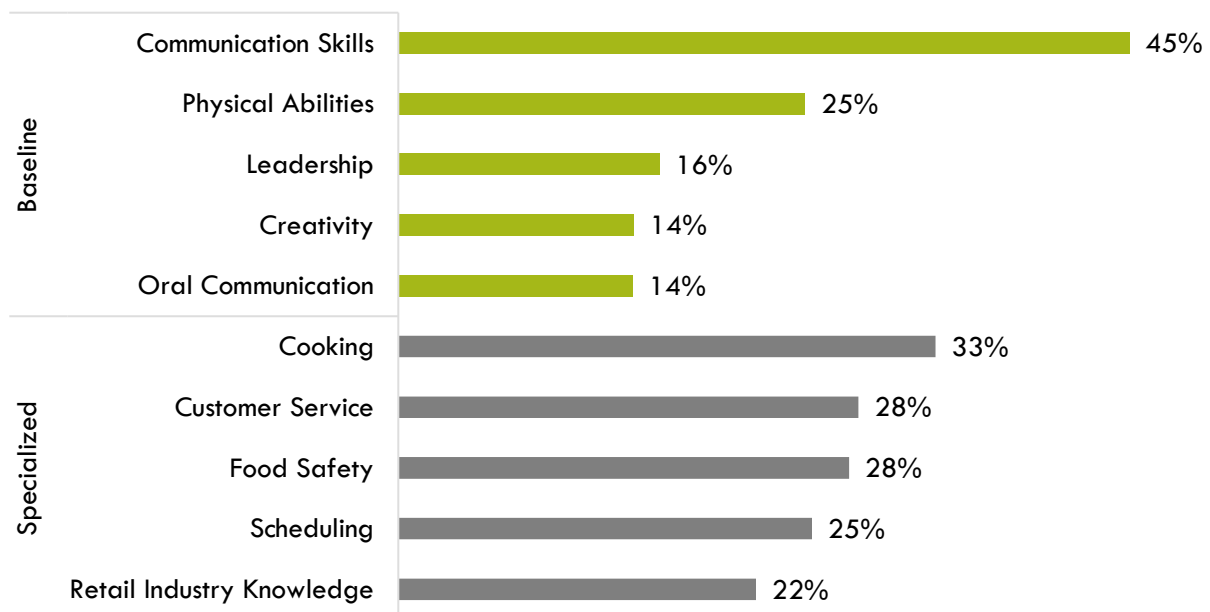
Exhibit 6. Education levels requested in job postings for culinary arts

Education level	% of Job Postings
High school or vocational training	80%
Bachelor's degree	24%
Associate degree	15%
Master's degree	3%

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, 45% of job postings, physical abilities, 25%, and leadership, 16%. The top three specialized skills are cooking, 33% of job postings, customer service, 28%, and food safety, 28%.

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

Baseline:
- Communication Skills — 45%
- Physical Abilities — 25%
- Leadership — 16%
- Creativity — 14%
- Oral Communication — 14%

Specialized:
- Cooking — 33%
- Customer Service — 28%
- Food Safety — 28%
- Scheduling — 25%
- Retail Industry Knowledge — 22%

Software Skills

Analysis also included the software skills most in demand by employers. Microsoft Excel and Microsoft Office rank first and second (Exhibit 8).

Exhibit 8. In-demand culinary arts software skills
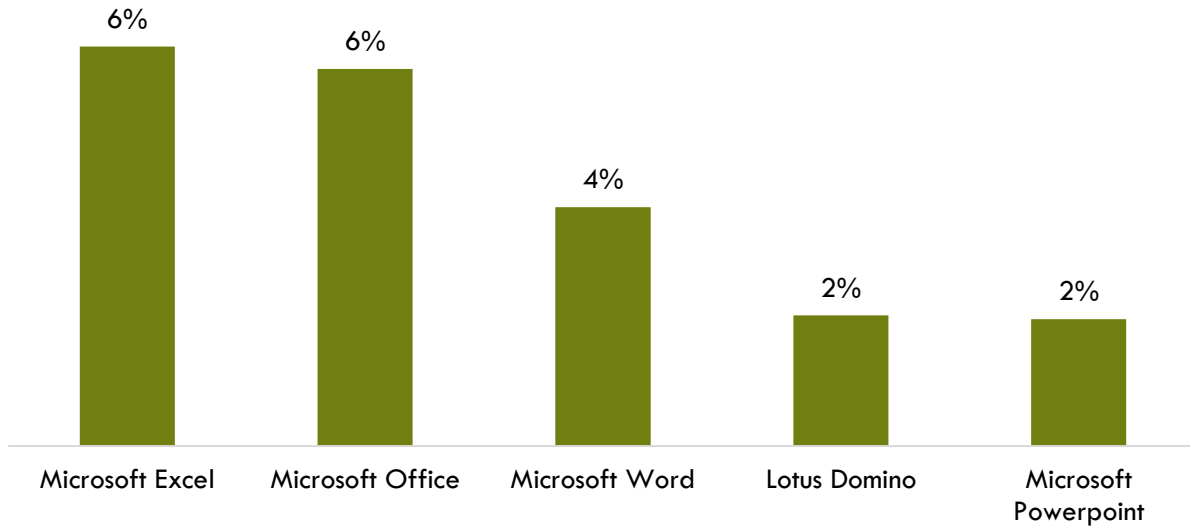
Certifications

Of the 2,258 job postings, 724 contained certification data. Among those, 46% indicated a need for a driver's license. The next top certifications are ServSaf and Food Handler Certification (Exhibit 9). (Due to the low number of job postings with certifications listed, the chart below may not be representative of the full sample.)

Exhibit 9. Top culinary arts certifications requested in job postings
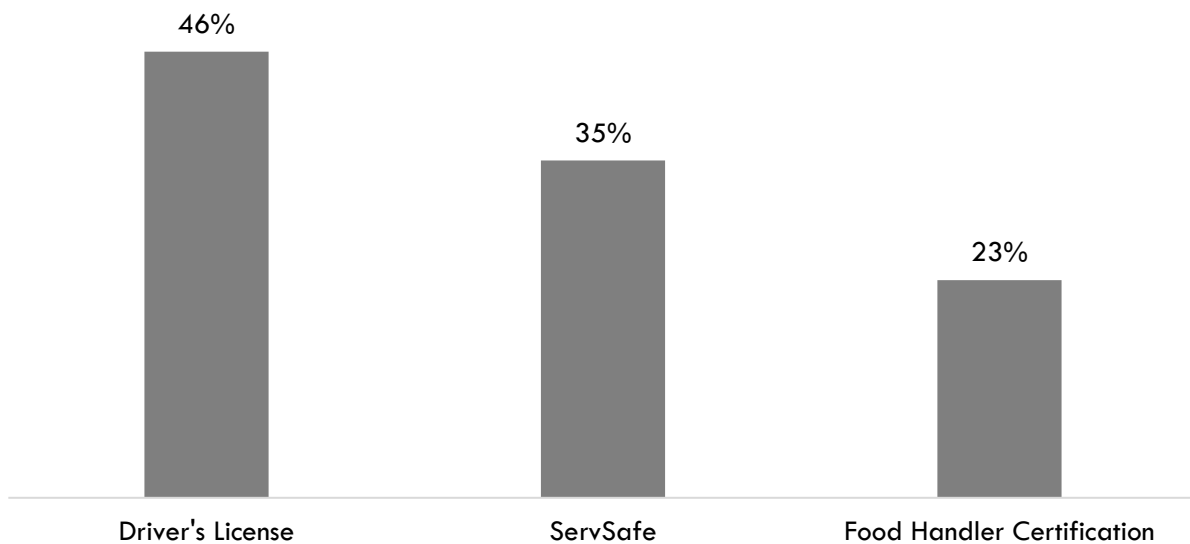
Education, Work Experience & Training

A postsecondary nondegree award is typically required for cooks (private household) (Exhibit 10). The remaining occupations typically require a high school diploma or no formal educational credential.

Exhibit 10. Education, work experience, training and Current Population Survey results for culinary arts occupations[2]

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Food Service Managers	High school diploma or equivalent	Less than 5 years	None	36.9%
Chefs and Head Cooks	High school diploma or equivalent	5 years or more	None	39.6%
First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None	39.8%
Cooks, Institution and Cafeteria	No formal educational credential	None	Short-term	24.6%
Cooks, Private Household	Postsecondary nondegree award	Less than 5 years	None	24.6%
Cooks, Restaurant	No formal educational credential	Less than 5 years	Moderate-term	24.6%
Cooks, All Other	No formal educational credential	None	Moderate-term	24.6%

Supply

Analysis of program data from the California Community Colleges Chancellor's Office Data Mart included the TOP and CIP codes: CIP 12.0501 - Baking and Pastry Arts/Baker/Pastry Chef; CIP 12.0503 - Culinary Arts/Chef Training; TOP 130600 - Nutrition, Foods, and Culinary Arts; and TOP 130630 - Culinary Arts. Analysis of the last three years of TOP code data shows that, on average, 260 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 or CIP Code-Title	College	2014-15	2015-16	2016-17	2017-18	Latest 3-year Average
12.0501 - Baking and Pastry Arts/Baker/Pastry Chef	Institute of Technology	62	52	42		52
12.0503 - Culinary Arts/Chef Training	Institute of Technology	165	121	81		122
130600 - Nutrition, Foods, and Culinary Arts	Fresno City		1	2	4	2

TOP or CIP Code-Title	College	2014-15	2015-16	2016-17	2017-18	Latest 3-year Average
130630 - Culinary Arts	Bakersfield		20	24	26	23
	Columbia		14	7	6	9
	Merced		6	8	11	8
	San Joaquin Delta		46	37	46	43
Total		**227**	**260**	**201**	**93**	**260**

Gap Analysis

There is an undersupply of 2,742 culinary arts workers in the SCV/SML subregion and 4,463 workers in the region (Exhibit 12).

Exhibit 12. Culinary arts workforce annual demand and supply in the SCV/SML subregion and region
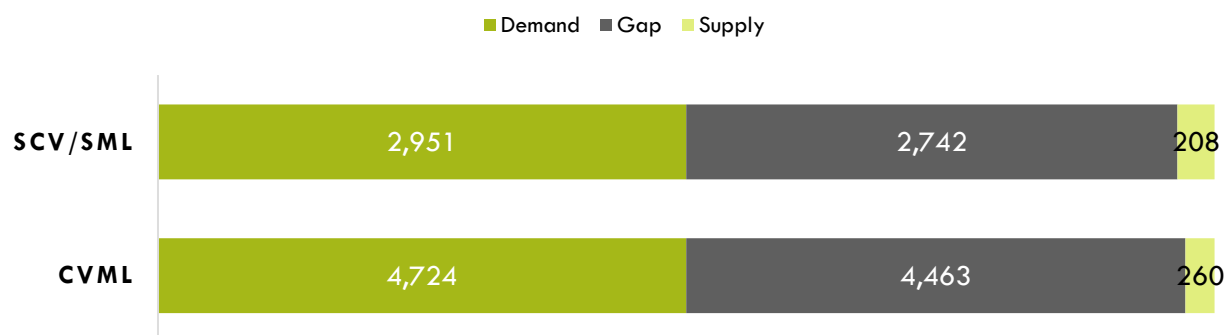
Student Outcomes

Exhibit 13 summarizes employment and wage outcomes from the California Community College Chancellor's Cal-PASS Plus LaunchBoard for the TOP codes related to culinary arts. Across the region, 50 culinary arts students received a degree/certificate or attained apprenticeship journey status, and 254 nutrition, food, and culinary arts students transferred.

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

Metric	Nutrition, Food & Culinary Arts 130600	Culinary Arts 130630
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	15	50
Number of Students Who Transferred	254	14
Job Closely Related to Field of Study	50%	80%
Median Change in Earnings	36%	40%
Attained a Living Wage	51%	49%
* denotes data not available.		

Conclusion

The entry-level wages of the seven occupations exceed the SCV/SML subregion's average living wage. There were 2,258 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, and the top specialized skill is cooking.
- The top software skill is Microsoft Excel.
- The top certification is a driver's license.

There is an undersupply of trained workers, a shortage of 2,742 in the SCV/SML subregion and 4,463 in the region.

Recommendation

Based on these findings, it is recommended that West Hills College Lemoore work with the Retail, Hospitality, Tourism and Entertainment Regional Director, the college's advisory board, and local industry in the expansion of programs to address the shortage of culinary arts 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.