

**Labor Market Analysis: 0113.00 – Food Processing and Related Tech.
Food Science and Culinary® – Associate of Science (A.S.) degree**
Los Angeles Center of Excellence, April 2024

Program Endorsement:	Endorsed: All Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some Criteria Met <input type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Living Wage: (Entry-Level, 25th)	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Education:	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Emerging Occupation(s)			
	Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupations¹ or whether a shortage of workers exists. Labor market demand is measured by annual job openings while education supply is measured by the number of awards (degrees and certificates) conferred on average each year.

Based on the available data, there appears to be a supply gap for the one identified middle-skill occupation in the region. Furthermore, entry-level wages exceed the self-sufficiency standard wage in Los Angeles County, and the Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education level.

Recommendation: Due to all three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

Key Findings

Supply Gap

- 109 annual job openings are projected in the region through 2027. This number is greater than the three-year average of 43 awards conferred by educational institutions in the region.

Living Wage

- \$20.91 is the typical entry-level hourly wages for food science technicians, which is higher than Los Angeles County’s self-sufficiency standard hourly (\$18.10/hour).²

¹ Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree. The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor’s degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

² Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

Educational Attainment

- An associate degree is the typical entry-level education for food science technicians according to the Bureau of Labor Statistics (BLS).
- 42% of workers in the field have completed some college or an associate degree, according to national educational attainment data.

Community college supply

- One community college issued awards related to agriculture and food science in the greater LA/OC region.
- 1 award (degrees and certificates) was conferred on average each year between 2019 and 2022.

Other postsecondary supply

- 2 educational institutions in the LA/OC region offer programs related to food science and technology.
- 42 awards were conferred on average each year by other postsecondary institutions throughout the greater LA/OC region.

TARGET OCCUPATIONS

LA COE prepared this report to provide regional labor market and postsecondary supply data related to one middle-skill occupation:

- **Food Science Technicians (19-4013)** Work with food scientists or technologists to perform standardized qualitative and quantitative tests to determine physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods.³

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for food science technicians. In the greater Los Angeles/Orange County region, the number of jobs related to this occupation is projected to increase by 3% through 2027. There will be more than 100 job openings per year through 2027 due to job growth and replacements. The majority of jobs in 2022 for this middle-skill occupation (77%) were located in Los Angeles County.

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁴

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	600	607	8	1%	82
Orange	177	191	14	8%	27
Total	776	798	22	3%	109

³ [Agricultural and Food Science Technicians \(bls.gov\)](https://www.bls.gov/occupations/agricultural-and-food-science-technicians)

⁴ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for the target occupation in Los Angeles County. The percentage of workers aged 55+ and automation index is included in order to visualize upcoming replacement demand for these occupations. The occupation in this report has a lower-than-average risk of automation.

Exhibit 2: Current employment, projected occupational demand, percentage of workers aged 55+, automation index, Los Angeles County⁵

Occupation	2022 Jobs	2027 Jobs	5-Yr % Change	Annual Openings	% Aged 55 and older*	Automation Index**
Food Science Technicians	776	798	3%	109	27%	94.8

*The average percentage of workers aged 55 and older across all occupations in the greater LA/OC region is 27%. This occupation has the same share of older workers.

**The automation index captures an occupation's risk of being affected by automation with a base of 100. An automation index greater than 100 indicates a higher-than average risk of automation; less than 100 indicates a lower-than-average risk.

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for food science technicians in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater Los Angeles/Orange County region.

Los Angeles County

The typical entry-level hourly wages for food science technicians are \$20.91, which is above the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Experienced workers can expect to earn wages of \$29.76.

Exhibit 3: Earnings for occupations in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Food Science Technicians	\$20.91	\$23.32	\$29.76	\$48,500

*Rounded to the nearest \$100

Orange County

The typical entry-level hourly wages for food science technicians are \$20.59, which is slightly below the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn wages of \$29.37, which is higher than the self-sufficiency standard (Exhibit 4).

⁵ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

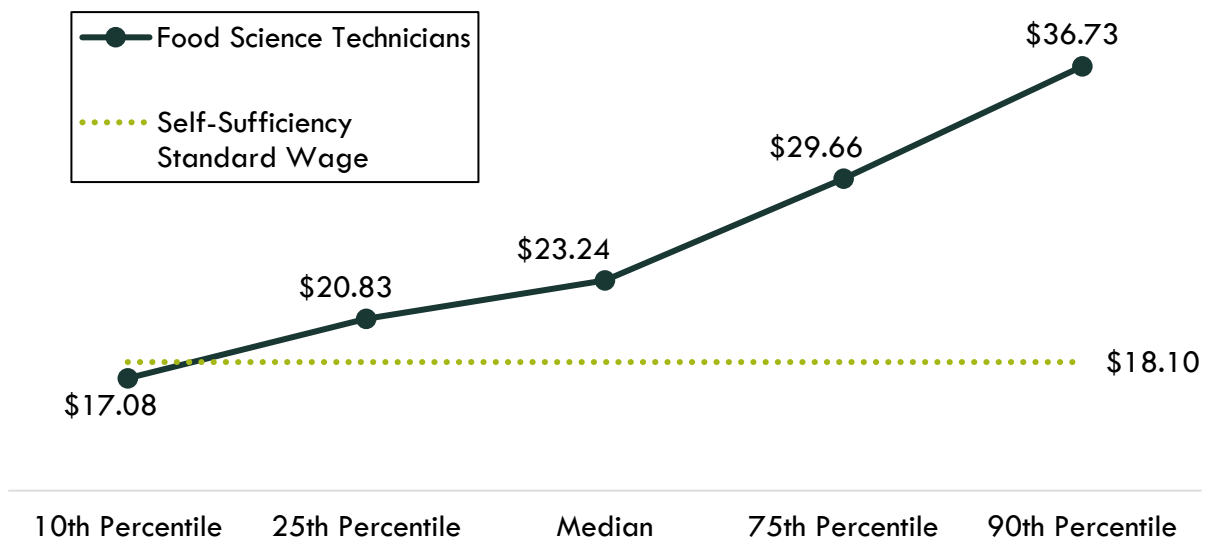
Exhibit 4: Earnings for occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Food Science Technicians	\$20.59	\$22.98	\$29.37	\$47,800

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for the occupations in this report are \$20.83; this is above the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 5 shows the average hourly wage for the occupations in this report, for entry-level to experienced workers.

Exhibit 5: Average hourly earnings for food science technicians, Los Angeles and Orange counties



JOB POSTINGS

There were 50 online job postings related to food science technicians listed in the past 12 months in Los Angeles and Orange counties. Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupations in this report (Exhibit 6).

Exhibit 6: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> • Manufacturing technicians • Food safety technicians • Quality assurance lead technicians 	<ul style="list-style-type: none"> • Food safety and sanitation • Hazard Analysis and Critical Control Points (HAACP) 	<ul style="list-style-type: none"> • Actalent* • ManpowerGroup* • Flying Food Group • King’s Hawaiian • 180 Snacks

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> • Food safety and quality assurance managers • Food technicians • Lead quality control technicians 	<ul style="list-style-type: none"> • Good Manufacturing Practices (GMP) • Auditing • Food manufacturing 	<ul style="list-style-type: none"> • Bakkavor • Felbro Food Products • Santa Monica Seafood

In the greater Los Angeles/Orange County region, 60% of the food science technician job postings listed a minimum educational requirement. The number and percentage of job postings by educational level appear in exhibit 7.

Exhibit 7: Education levels requested in job postings for occupations related to food science technicians, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	8	16%
Associate degree	1	2%
High school diploma or vocational training	21	42%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for food science technicians (Exhibit 8). Furthermore, the national-level data indicates 42% of workers in the field have completed some college or an associate degree as their highest level of educational attainment. The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupation in this report.

Exhibit 8: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
Food science technicians	Associate degree

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 9 shows the annual and three-year average number of awards conferred by community in programs that have historically trained for the occupations of interest. The only college with completions in the region is Mt. San Antonio. Currently, there are no community colleges in the region that have conferred awards in the past three years for Food Processing and Related Technologies (0113.00).

Exhibit 9: Regional community college awards (certificates and degrees), 2019-2022

TOP Code	Program	College	2020-21 Awards	2021-22 Awards	2022-23 Awards	3-Year Average
0101.00	Agriculture Technology and Sciences, General	Mt San Antonio	-	3	-	1
		LA Subtotal	-	3	-	1
Supply Total/Average			-	3	-	1

Other Postsecondary Supply

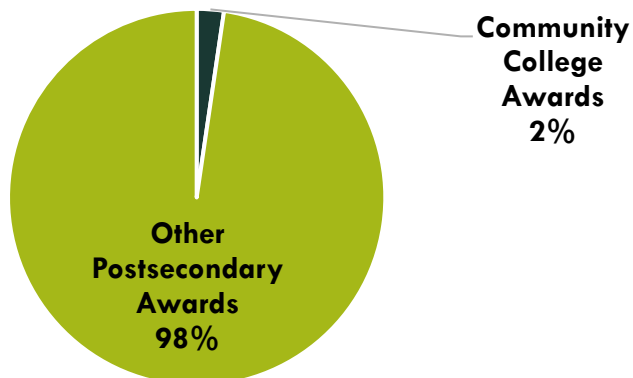
For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for food science occupations. Exhibit 10 shows the number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent data is from 2019 to 2022. Between 2019 and 2022, other postsecondary college institutions in the region conferred an average of 42 bachelor’s degrees. Bachelor’s degrees are included in this report since regional Culinary[®] programs are bachelor’s-level programs.

Exhibit 10: Other regional postsecondary awards, 2019-2022

CIP Code	Program	Postsecondary Institution	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
01.1001	Food Science	Cal Poly Pomona	30	41	24	32
01.1002	Food Technology and Processing	CSU-Los Angeles	15	8	8	10
Supply Total/Average			45	49	32	42

Exhibit 11 shows the proportion of community college awards conferred in the greater Los Angeles/Orange County region compared to the number of other postsecondary awards for the programs in this report. The majority of awards conferred in these programs are awarded by other postsecondary institutions in the greater Los Angeles/Orange County region.

Exhibit 11: Percentage of community college awards compared to other postsecondary institution awards in the Los Angeles/Orange County region



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DATA SOURCES

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

Important Disclaimer: All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon components or recommendations contained in this study.

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