

Memorandum

To: Jessica Coppola, Professor of Nutrition, Sacramento City College

CC: Dennis Lee, Dean of Behavioral and Social Sciences, Sacramento City College
Gabriel Meehan, Associate Vice President Instructional Services, Sacramento City College

From: Ebony J. Benzing, Research Manager, North/Far North Center of Excellence

Date: Wednesday, May 19, 2021

Re: Request for Labor Market Data to support Los Rios PPC process - Food Science and Technology

Sacramento City College requested labor market information from the North (Greater Sacramento) Center of Excellence (COE) for submission to the Los Rios Community College District Program Placement Council (PPC). Showing demand for jobs through labor market data is now the first step in developing career education programs in the district. This process is intended to encourage investments in programs that lead to gainful employment for our students while placing labor market information at the forefront of the decision-making process.

This memo analyzes occupational demand, wages, and program supply data to assess labor market gaps in the North (Greater Sacramento) subregion. The data provided covers the seven-county North (Greater Sacramento) subregion and comes from EMSI and the National Center for Educational Statistics Integrated Postsecondary Education Data System (NCES IPEDS). Occupations are aligned to career education programs using the Center of Excellence TOP-to-CIP-to-SOC crosswalk and the ONet OnLine education crosswalk.

Findings

What is Food Science?

- Food science is a multi-disciplinary field that utilizes chemistry, biochemistry, nutrition, microbiology, and engineering to solve problems associated with the food system.¹
- Educational programs in food science are intended to prepare students for work in businesses and industries that manufacture, package, store, and distribute food products.

What occupations are aligned to Food Sciences?

- Food science programs align to three occupations: food scientists/technologists, agricultural inspectors, and agricultural/food science technicians. Food scientists/technologists and agricultural inspectors tend to need bachelor's degrees for entry-level work - which would best align with transfer-oriented programs in community colleges. Agricultural/food science technicians require an associate's degree - which is consistent with community college offerings.

What are the hourly wages for the studied occupations?

- Entry-level hourly wages for the studied occupations are above the living wage threshold of \$13.18 for a single adult in the North (Greater Sacramento) subregion (Exhibit 1).² Entry-level wages are highest for food scientists/technologists at \$26 per hour. Agricultural inspectors earn nearly \$15 per hour, while agricultural/food science technicians earn \$18 per hour.

¹ Institute of Food Technologists (IFT), "Learn about Food Science," accessed May 19, 2021, <https://www.ift.org/career-development/learn-about-food-science>

² The Self-Sufficiency Standard for California 2020. Center for Women's Welfare, University of Washington. <http://www.selfsufficiencystandard.org/California>

What is the employment outlook for the studied occupations?

- There are 138 projected annual job openings for food science occupations in the North (Greater Sacramento) subregion over the next five years.
- Projected job openings (2019-2024) are concentrated among agricultural/food science technicians, an occupation that requires an associate's degree for entry-level work. There are 89 annual job openings for agricultural/food science technicians in the North (Greater Sacramento) subregion.
- There are 49 annual job openings projects for North (Greater Sacramento) food science occupations requiring a bachelor's degree.

What does training supply look like for the studied occupations?

- There are currently no community college programs in the North (Greater Sacramento) subregion that offer food science programs. However, two related programs are offered in several North (Greater Sacramento) community colleges that also train for the selected occupations. By TOP title and code, these programs are agricultural sciences and technology (0101.00) and viticulture, enology, and wine business (0104.00).
- University of California, Davis, a bachelor-degree granting institution, offers degrees in two food science programs - food science and technology and food science with a brewing option. UC Davis also offers a bachelor's degree in viticulture and enology. These four-year degree programs allow students to obtain additional training beyond the community college setting while providing access to occupations that require higher levels of education.

Conclusion

- Occupations aligned to food science programs meet the educational requirements needed to consider new training programs in the community college space. Food science occupations require either an associate's degree or a bachelor's degree for entry-level work, suggesting either a two-year terminal degree or a transfer-oriented program could be offered at a community college.
- Entry-level wages for food science occupations exceed the living wage threshold for a single adult in the North (Greater Sacramento) subregion. Community colleges should offer training programs that will enable students/completers to earn a self-sustaining wage, and food science occupations tend to earn
- There seems to be a balance between demand for food science occupations and food science educational supply. However, when examining institutions' food science programs, we see that all awards are exclusively issued in bachelor's degree programs. There are no two-year food science pathways offered in the North (Greater Sacramento) subregion.

Please contact Ebony Benzing, COE Research Manager, for further information at Ebony.Benzing@losrios.edu or 916-563-3215.

Exhibit 1. Occupational demand and educational supply data for Food Science programs in North (Greater Sacramento)

Top6	Top6_Title	SOC Code	SOC Title	Typical Entry-Level Education	Entry-Level Wage (25 th Pct.)
0113.00	Food Processing and Related Technologies	19-1012	Food Scientists and Technologists	Bachelor's Degree	\$26.10
		19-4011	Agricultural and Food Science Technicians	Associate's Degree	\$17.91
		45-2011	Agricultural Inspectors	Bachelor's Degree	\$14.82

Geography - The program identified specifically targets the labor market need for trained workers in...				
Region/Subregion list			County list	
North/Greater Sacramento			El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba	
Demand - the program(s) prepare students to work in the following occupations...			Supply - On average, how many awards (certificates and degrees) are conferred by community colleges and other post-secondary institutions in the region/county identified?	
SOC Code	Occupational Title	2019-2024 Avg. Annual Openings	Institution Type	2016/17 - 2019/20 Avg. Annual Awards
19-1012	Food Scientists and Technologists	24	Community Colleges (Food Science only)	0
19-4011	Agricultural and Food Science Technicians	89	Other Post-secondary Institutions (Food Science only, Bachelor degrees)	147
45-2011	Agricultural Inspectors	25	Summary of Data:	
			Demand	138
			Supply (Food science programs only)	147
			Analysis:	BALANCED

Community colleges with same TOP program:		Other ed programs with corresponding CIP programs:	
TOP6 - Top Title		CIP - Cip Title	
School	2017/18 - 2019/20 Average Annual Awards	School	2016/17 - 2018/19 Average Annual Awards
0113.00 - Food Processing and Related Technologies		01.1002 - Food Technology and Processing	
N/A	0	N/A	0
Community Colleges with Related TOP Programs:		01.1001 - Food Science	
0101.00 - Agriculture Technology and Sciences, General		UC Davis (Bachelor degree)	96

CRC	2	01.1099 - Food Science and Technology, Other	
Sierra	27	UC Davis (Bachelor degree)	51
Woodland	3	01.0309 - Viticulture and Enology	
Yuba	1	UC Davis (Bachelor degree)	--
0104.00 - Viticulture, Enology, and Wine Business			
FLC	--		