



Labor Market Analysis for Program Recommendation

Biotechnology Occupations

East Bay Subregion

Prepared by the Bay Region Center of Excellence for Labor Market Research

Certificate Program

September 2026

Recommendation Based on Labor Market Data: ☒ Yes ☐ With Reservations ☐ No		
	Earning Wage Meets Living Wage	Meets Demand
Bay Region	Entry Level Hourly Wage- \$30 Mid-Career Hourly Wage- \$41 Mid-Career Hourly Wage at or above the Bay Living Wage (\$27)? ☒ Yes ☐ No	Demand: 445 Supply: 206 (46% of Demand is Met) Gap: 239 In-Demand? ☒ Yes ☐ No
East Bay Subregion	Entry Level Hourly Wage- \$29 Mid-Career Hourly Wage- \$41 Mid-Career Hourly Wage at or above the Subregion Living Wage (\$25)? ☒ Yes ☐ No	Demand: 124 Supply: 84 (68% of Demand is Met) Gap: 40 In-Demand? ☒ Yes ☐ No

Note: An occupation is considered to provide a living wage if the mid-career wage is at or above the amount required for a single adult to be economically self-sufficient within a specified region. As a rule of thumb, an occupation will be considered **in-demand** when the supply is less than 75% of the demand **and** the labor market gap exceeds 40 openings (a reasonable regional threshold for starting a new program), but this approach may not apply in all cases. For definitions of demand, supply, and living wage, please scroll to the bottom of the report under **Definitions**.

Recommendation

The labor market data supports this proposed program. The occupations meet both the Bay Region and East Bay subregion living wage at the entry and mid-career levels. An additional 239 students are needed in the Bay Region and 40 students in the East Bay subregion to complete their program. Lastly, only 46% of labor market demand is being met in the Bay Region, and 68% of demand is being met in the East Bay subregion overall.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0430.00 - Biotechnology and Biomedical Technology programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at subregion in the state and region.

This report profiles Biotechnology Occupations in the 12 county Bay Region and in the East Bay subregion. This report includes occupations with three different skill levels. The occupations classified as below middle-skill typically require a high school diploma or equivalent. Middle-skill occupations require a certificate, or an associate degree, or it may require a bachelor's degree, but 33% or fewer of current workers in these roles hold one. In contrast, above middle-skill occupations require a bachelor's degree or higher.

- **Biological Technicians (19-4021):** Assist biological and medical scientists. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, collect data and samples, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs.
Typical Entry-Level Educational: Bachelor's degree
Skill Level: Middle-Skill
Work Experience Required: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 33%

Occupational Demand

Table 1. Employment Outlook for Biotechnology Occupations in the Bay Region

Occupation	2025 Jobs	2030 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Biological Technicians	3,850	4,012	161	4%	2,224	445	\$30	\$41
Total	3,850	4,012	162	4%	2,224	445	\$30	\$41

Source: Lightcast 2026.3

The Bay Region includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Biotechnology Occupations in the East Bay Subregion

Occupation	2025 Jobs	2030 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Biological Technicians	1,079	1,125	45	4%	621	124	\$29	\$41
Total	1,079	1,125	46	4%	621	124	\$29	\$41

Source: Lightcast 2026.3

East Bay Subregion includes: Alameda, Contra Costa Counties

Job Postings in the Bay Region and East Bay Subregion

Table 3. Number of Job Postings by Occupation for the latest 12 months

Occupation	Bay Region	East Bay
Biological Technicians	126	126
Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026		

Table 4a. Top Job Titles in Job Postings for Biotechnology Occupations in the Bay Region

Title	Bay	Title	Bay
Research Associates	62	Environmental Policy Analysts	2
Research Specialists	11	Research Technicians	2
Microbiology Technicians	8	Biology Research Assistants	2
Research Assistants	7	Manufacturing Associates	2
Plant Science Research Associates	4	Neuroscience Research Assistants	1
Institutional Research Associates	4	Student Research Associates	1
Research and Development Associates	4	Data Technicians	1
Grant Research Assistants	3	Research Data Associates	1
Natural Resources Managers	2	Environmental Monitoring Technicians	1
Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026			

Table 4b. Top Job Titles in Job Posting for Biotechnology Occupations in the East Bay Subregion

Title	East Bay	Title	East Bay
Research Associates	62	Environmental Policy Analysts	2
Research Specialists	11	Research Technicians	2
Microbiology Technicians	8	Biology Research Assistants	2
Research Assistants	7	Manufacturing Associates	2
Plant Science Research Associates	4	Neuroscience Research Assistants	1
Institutional Research Associates	4	Student Research Associates	1
Research and Development Associates	4	Data Technicians	1
Grant Research Assistants	3	Research Data Associates	1
Natural Resources Managers	2	Environmental Monitoring Technicians	1
Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026			

Industry Concentration

Table 5. Industries Hiring for Biotechnology Occupations in the Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2025)	Jobs in Industry (2030)	% Change (2025-30)	% Occupation Group in Industry (2025)
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	1,298	1,373	6%	34%
Research and Development in Biotechnology (except Nanobiotechnology)	903	1,011	12%	23%
Colleges, Universities, and Professional Schools (State Government)	292	298	2%	8%
Pharmaceutical Preparation Manufacturing	258	217	-16%	7%
Colleges, Universities, and Professional Schools	245	253	3%	6%
Testing Laboratories and Services	112	107	-5%	3%
Federal Government, Civilian, Excluding Postal Service	102	96	-5%	3%
General Medical and Surgical Hospitals	76	71	-7%	2%
Medicinal and Botanical Manufacturing	50	52	3%	1%
Colleges, Universities, and Professional Schools (Local Government)	44	43	-1%	1%

Source: Lightcast 2026.3

Table 6. Top Employers Posting Biotechnology Occupations in the Bay Region and the East Bay Subregion

Employer	Bay	Employer	East Bay
University of California-Berkeley	22	University of California-Berkeley	22
Kaiser Permanente	10	Kaiser Permanente	10
Actalent	9	Actalent	9
Convergent Research	4	Convergent Research	4
Frontage Laboratories	4	Frontage Laboratories	4
University of California	4	University of California	4

Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026

Educational Supply

There are eleven community colleges in the Bay Region issuing 206 awards on average annually (last 3 years ending 2024-25) on TOP 0430.00 - Biotechnology and Biomedical Technology. In the East Bay subregion, there are six community colleges that issued 84 awards on average annually (last 3 years) on this TOP code.

There is no other CTE educational institutions in the Bay Region issuing awards on average annually (last 3 years ending 2023-24) on CIP 41.0101- Biology/Biotechnology Technology/Technician.

Table 7. Community College Awards on TOP 0430.00 - Biotechnology and Biomedical Technology in the Bay Region

College	Subregion	Associate Degree	Bachelor's Degree	Low unit Certificate	Total
Berkeley City	East Bay	6	0	11	17
Cabrillo	SC-Monterey	0	0	5	5
Contra Costa	East Bay	1	0	2	3
Laney	East Bay	4	0	18	22
Las Positas	East Bay	3	0	3	6
Merritt	East Bay	0	0	26	26
Ohlone	East Bay	2	0	8	10
San Francisco	Mid-Peninsula	6	0	17	23
San Mateo	Mid-Peninsula	0	0	5	5
Skyline	Mid-Peninsula	2	0	0	2
Solano	North Bay	28	21	38	87
Total	-	52	21	133	206

Source: Data Mart

Note: The annual average for awards is 2022-23 to 2025-25.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay Region with 445 annual openings for the Biotechnology occupational cluster and 206 annual (3-year average) awards for an annual undersupply of 239 students. In the East Bay subregion, there is also a gap with 124 annual openings and 84 annual (3-year average) awards for an annual undersupply of 40 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0430.00 - Biotechnology and Biomedical Technology

Metric Outcomes	Bay All CTE Program	State 0430.00	Bay 0430.00	East Bay 0430.00
Students with a Job Closely Related to Their Field of Study	75%	79%	85%	NA
Median Annual Earnings for SWP Exiting Students	\$58,379	\$50,875	\$58,932	\$55,346
Median Change in Earnings for SWP Exiting Students	31%	34%	22%	14%
Exiting Students Who Attained the Living Wage	50%	45%	53%	52%

Source: DataVista Program Median of 2020 to 2022.

Skills, Certifications and Education

Table 9. Top Skills in Job Postings for Biotechnology Occupations in the Bay Region

Skill	Posting	Skill	Posting
Biology	73	Cell Cultures	21
Data Collection	47	Workflow Management	20

Skill	Posting	Skill	Posting
Standard Operating Procedure	36	Chemistry	19
Biochemical Assays	30	Clinical Study Design	18
Laboratory Equipment	28	Experimentation	18
Data Analysis	27	Good Laboratory Practice (GLP)	18
Laboratory Experience	26	Animal Handling	17
Biochemistry	22	Biotechnology	16
Laboratory Techniques	22	Asepsis	15
Research Support	22	Institutional Review Board (IRB)	15

Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026

Table 10. Certifications in Job Postings for Biotechnology Occupations in the Bay Region

Certification	Posting	Certification	Posting
American Association For Laboratory Animal Science (AALAS) Certification	1	Basic Life Support (BLS) Certification	1

Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026

Table 11. Education Requirements for Biotechnology Occupations in the Bay Region

Education Level	Job Postings	% of Total
High school or GED	13	9%
Associate degree	11	7%
Bachelor's degree & higher	127	84%

Source: Lightcast 2026.3; "Job Posting Analytics." Aug. 2025 - Jul. 2026

Note: 14% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Methodology

Occupations for this report were identified by use of job descriptions and skills listed in O*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCCCO Data Mart and CTE Launchboard.

Definitions

Demand refers to average annual openings which includes a combination of both [new jobs and replacement jobs](#) between 2025 to 2030. New jobs represent the total number of additional workers required in an occupation, calculated as the difference between the current number of workers and the projected number of unfilled positions. Replacements are jobs that will need to be filled by [new hires](#) due to existing workers leaving the occupation. The average annual openings figure is derived by dividing total openings (2025 to 2030) by five years.

Supply refers to the average number of [graduates](#) between academic years 2021–2022 and 2023–2024. Graduates include students from community colleges, other two-year private and public institutions, as well as four-year institutions.

Living wage refers to the amount of income required for working families to meet basic needs at a minimally adequate level, considering family composition, ages of children, and geographic differences in costs based on the Self-Sufficiency Standard methodology.

Entry-level wages are the hourly earnings paid to workers who are newly entering an occupation.

Mid-career wages are the hourly earnings paid to workers who have accumulated several years of experience in an occupation, reflecting increased productivity, skill proficiency, and responsibility beyond entry-level roles but short of late-career or senior positions.

Sources

O*Net Online

Lightcast

CTE LaunchBoard www.calpassplus.org

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

CCCCO Data Mart

Contacts

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