



Labor Market Analysis for Program Recommendation Biological/Chemical Technicians Occupations East Bay Subregion

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

Certificate Program

April 2026

Recommendation Based on Labor Market Data: <input type="checkbox"/> Yes <input type="checkbox"/> With Reservations <input checked="" type="checkbox"/> No		
	Earning Wage Meets Living Wage	Meets Demand
Bay Region	Entry Level Hourly Wage- \$27 Mid-Career Hourly Wage- \$35 Mid-Career Hourly Wage at or above the Bay Living Wage (\$27)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Demand: 740 Supply: 874 (118% of Demand is Met) Gap: -134 In-Demand? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
East Bay Subregion	Entry Level Hourly Wage- \$26 Mid-Career Hourly Wage- \$33 Mid-Career Hourly Wage at or above the Subregion Living Wage (\$25)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Demand: 227 Supply: 278 (122% of Demand is Met) Gap: -51 In-Demand? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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

Based on the labor market data, we do not recommend this proposed program. The occupations meet both the Bay Region and East Bay subregion living wage at the entry and mid-career levels. But there is an oversupply of 134

students in the Bay Region and 50 students in the East Bay subregion to complete their program. Lastly, 118% of labor market demand is being met in the Bay Region, and 122% of demand is being met in the East Bay subregion overall.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0401.00 - Biology, General 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 Biological/Chemical Technicians Occupations in the 12 county Bay Region and in the East Bay subregion. The occupations classified as 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.

- 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%
- Chemical Technicians (19-4031):** Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences.
 - Typical Entry-Level Educational: Associate'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 Biological/Chemical Technicians Occupations in the Bay Region

Occupation	2024 Jobs	2029 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Biological Technicians	4,584	4,645	60	1%	2,564	513	\$28	\$37
Chemical Technicians	1,949	1,930	-19	-1%	1,137	227	\$24	\$30
Total	6,533	6,575	42	1%	3,701	740	\$27	\$35

Source: Lightcast 2026.1

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 Biological/Chemical Technicians Occupations in the East Bay Subregion

Occupation	2024 Jobs	2029 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Biological Technicians	1,417	1,421	3	0%	787	157	\$27	\$34

Occupation	2024 Jobs	2029 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Chemical Technicians	606	597	-8	-1%	349	70	\$24	\$29
Total	2,023	2,018	-5	0%	1,136	227	\$26	\$33

Source: Lightcast 2026.1

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	531	135
Chemical Technicians	305	110

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Table 4a. Top Job Titles in Job Postings for Biological/Chemical Technicians Occupations in the Bay Region

Title	Bay	Title	Bay
Research Associates	245	Laboratory Assistants	11
Chemical Technicians	103	Plant Science Research Associates	8
Research Assistants	49	Life Sciences Research Assistants	8
Originators	30	Biological Science Technicians	8
Microbiology Technicians	14	Wildlife Technicians	7
Technicians	14	Laboratory Technicians	7
Research and Development Associates	14	Institutional Research Associates	7
Chemists/Laboratory Technicians	13	Medical Laboratory Technicians	6
Chemical Specialists	13	Chemical Operators	6

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Table 4b. Top Job Titles in Job Posting for Biological/Chemical Technicians Occupations in the East Bay Subregion

Title	East Bay	Title	East Bay
Research Associates	63	Institutional Research Associates	4
Chemical Technicians	33	Biological Science Technicians	4
Microbiology Technicians	12	Research and Development Associates	4
Originators	11	LDAR Technicians	3
Chemists/Laboratory Technicians	9	Medical Laboratory Technicians	3
Research Assistants	8	Laboratory Assistants	3

Title	East Bay	Title	East Bay
Technicians	6	Research Technicians	3
Plant Science Research Associates	5	Research Specialists	2
Analytical Technicians	4	Industrial Technicians	2

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Industry Concentration

Table 5. Industries Hiring for Biological/Chemical Technicians Occupations in the Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2024)	Jobs in Industry (2029)	% Change (2024-29)	% Occupation Group in Industry (2024)
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	1,828	1,849	1%	27%
Research and Development in Biotechnology (except Nanobiotechnology)	1,228	1,357	10%	19%
Testing Laboratories and Services	479	458	-5%	7%
Pharmaceutical Preparation Manufacturing	488	407	-17%	7%
Colleges, Universities, and Professional Schools (State Government)	387	386	0%	6%
Colleges, Universities, and Professional Schools	249	258	4%	4%
Federal Government, Civilian, Excluding Postal Service	136	129	-5%	2%
General Medical and Surgical Hospitals	107	96	-10%	2%
Medicinal and Botanical Manufacturing	100	96	-4%	1%
Local Government, Excluding Education and Hospitals	91	95	5%	1%

Source: Lightcast 2026.1

Table 6. Top Employers Posting Biological/Chemical Technicians Occupations in the Bay Region and the East Bay Subregion

Employer	Bay	Employer	East Bay
University of California-San Francisco	36	Actalent	20
Jcw Group	30	University of California-Berkeley	18
Actalent	27	Jcw Group	11
BEPC	23	University of California	11
University of California-Berkeley	18	Kelly Services	7

Employer	Bay	Employer	East Bay
Ucsf Medical Center	17	BEPC	7

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Educational Supply

There are a twenty-seven (27) community colleges in the Bay Region issuing 874 awards on average annually (last 3 years ending 2023-24) on TOP 0401.00 - Biology, General. In the East Bay subregion, there is a nine (9) community colleges that issued 277 awards on average annually (last 3 years) on this TOP code.

There are no other CTE educational institutions in the Bay Region issuing awards on average annually (last 3 years ending 2022-23) on CIP 41.0101- Biology/Biotechnology Technology/Technician.

Table 7a. Community College Awards on TOP 0401.00 - Biology, General in the Bay Region

College	Subregion	Associate Degree	High unit Certificate	Low unit Certificate	Total
Alameda	East Bay	5	0	0	5
Berkeley City	East Bay	10	0	0	10
Cabrillo	SC-Monterey	37	0	0	37
Canada	Mid-Peninsula	9	0	0	9
Chabot	East Bay	29	0	0	29
Contra Costa	East Bay	16	0	0	16
Deanza	Silicon Valley	36	0	0	36
Diablo Valley	East Bay	96	0	0	96
Evergreen Valley	Silicon Valley	23	0	0	23
Foothill	Silicon Valley	18	0	0	18
Gavilan	Silicon Valley	16	0	0	16
Hartnell	SC-Monterey	22	0	0	22
Laney	East Bay	4	0	0	4
Las Positas	East Bay	57	1	0	58
Los Medanos	East Bay	40	0	0	40
Marin	North Bay	1	0	0	1
Mission	Silicon Valley	87	0	0	87
Monterey	SC-Monterey	21	0	0	21
Napa	North Bay	70	0	0	70
Ohlone	East Bay	10	0	10	20
San Francisco	Mid-Peninsula	90	0	48	138
San Jose City	Silicon Valley	6	0	0	6
San Mateo	Mid-Peninsula	25	0	0	25
Santa Rosa	North Bay	16	0	0	16
Skyline	Mid-Peninsula	21	0	0	21
Solano	North Bay	29	0	0	29
West Valley	Silicon Valley	21	0	0	21
Total	-	815	1	58	874

Source: Data Mart

Note: The annual average for awards is 2021-22 to 2023-24.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay Region with 740 annual openings for the Biological/Chemical Technicians occupational cluster and 874 annual (3-year average) awards for an annual oversupply of 134 students. In the East Bay subregion, there is also a gap with 227 annual openings and 278 annual (3-year average) awards for an annual oversupply of 51 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0401.00 - Biology, General

Metric Outcomes	Bay All CTE Program	State 0401.00	Bay 0401.00	East Bay 0401.00
Students with a Job Closely Related to Their Field of Study	75%	70%	71%	69%
Median Annual Earnings for SWP Exiting Students	\$58,379	\$35,240	\$40,214	\$38,332
Median Change in Earnings for SWP Exiting Students	31%	46%	50%	48%
Exiting Students Who Attained the Living Wage	50%	28%	27%	31%

Source: DataVista Program Median of 2020 to 2022.

Skills, Certifications and Education

Table 9. Top Skills in Job Postings for Biological/Chemical Technicians Occupations in the Bay Region

Skill	Posting	Skill	Posting
Biology	268	Cell Biology	95
Data Analysis	169	Standard Operating Procedure	93
Chemistry	158	Biotechnology	86
Laboratory Equipment	132	Polymerase Chain Reaction	75
Laboratory Experience	126	Laboratory Techniques	68
Cell Cultures	124	Asepsis	66
Biochemical Assays	118	Workflow Management	65
Molecular Biology	110	Automation	63
Biochemistry	107	Lifting Ability	61
Data Collection	101	Inventory Management	60

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Table 10. Certifications in Job Postings for Biological/Chemical Technicians Occupations in the Bay Region

Certification	Posting	Certification	Posting
Advanced Cardiovascular Life Support (ACLS) Certification	9	American Association for Laboratory Animal Science (AALAS) Certification	3
Basic Life Support (BLS) Certification	9	Forklift Certification	3
Neonatal Resuscitation Program Certification (NRP)	9	American Society for Clinical Pathology (ASCP) Certification	2
Automotive Service Excellence (ASE) Certification	5	Cardiopulmonary Resuscitation (CPR) Certification	2

Certification	Posting	Certification	Posting
Animal Euthanasia Certification	3	First Aid Certification	2

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Table 11. Education Requirements for Biological/Chemical Technicians Occupations in the Bay Region

Education Level	Job Postings	% of Total
High school or GED	139	15%
Associate degree	106	12%
Bachelor's degree & higher	672	73%

Source: Lightcast 2026.1; "Job Posting Analytics." Apr. 2025 - Mar. 2026

Note: 23% 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 CCCC Data Mart and CTE Launchboard.

Definitions

Demand refers to average annual openings which includes a combination of both [new jobs and replacement jobs](#) between 2024 to 2029. 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 (2024 to 2029) 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
 CCCC Data Mart

Contacts

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