



# Labor Market Analysis for Program Recommendation

## Genomics Occupations

### Merritt College

Prepared by the San Francisco Bay Center of Excellence for Labor Market Research

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#### Recommendation

Based on all available data, there appears to be an “undersupply” of Genomics workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda, Contra Costa counties). There is a projected annual gap of about 608 students in the Bay region and 137 students in the East Bay Sub-Region.

#### 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 colleges in the state and region, as well as to outcomes across all CTE programs at Merritt College and in the region.

This report profiles Genomics Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Merritt College.

Labor market information (LMI) is not available at the eight-digit SOC Code level for Bioinformatics Technicians (15-2099.01), therefore, the data shown in Tables 1 and 2 is for Mathematical Science Occupations, All Other (at the six digit SOC level) and likely overstates demand for Bioinformatics Technicians. Also, labor market information (LMI) is not available at the eight-digit SOC Code level for Cytogenetic Technologists (29-2011.01), therefore, the data shown in Tables 1 and 2 is for Clinical Laboratory Technologists and Technicians (at the six digit SOC level) and likely overstates demand for Cytogenetic Technologists.

- **Mathematical Science Occupations, All Other (15-2099):** All mathematical scientists not listed separately.  
Entry-Level Educational Requirement: NA  
Training Requirement: NA  
Percentage of Community College Award Holders or Some Postsecondary Coursework: NA%
- **Clinical Laboratory Technologists and Technicians (29-2018):** Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.  
Entry-Level Educational Requirement: NA  
Training Requirement: NA  
Percentage of Community College Award Holders or Some Postsecondary Coursework: NA%

## Occupational Demand

**Table 1. Employment Outlook for Genomics Occupations in Bay Region**

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Mathematical Science Occupations, All Other	143	161	19	13%	72	14	\$32	\$33
Clinical Laboratory Technologists and Technicians	7,185	8,281	1,096	15%	3,783	757	\$25	\$33
<b>Total</b>	<b>7,328</b>	<b>8,443</b>	<b>1,115</b>	<b>15%</b>	<b>3,856</b>	<b>771</b>		

Source: Lightcast 2022.3

**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 Genomics Occupations in East Bay Sub-region**

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Mathematical Science Occupations, All Other	41	44	3	8%	18	4	\$27	\$32
Clinical Laboratory Technologists and Technicians	2,188	2,371	182	8%	965	193	\$24	\$33
<b>Total</b>	<b>2,230</b>	<b>2,415</b>	<b>185</b>	<b>8%</b>	<b>983</b>	<b>197</b>		

Source: Lightcast 2022.3

**East Bay Sub-Region includes:** Alameda, Contra Costa Counties

## Job Postings in Bay Region and East Bay Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Apr. 2022 - Mar. 2023)**

Occupation	Bay Region	East Bay
Clinical Laboratory Technologists and Technicians	1,595	501
Mathematical Science Occupations, All Other	5	0

Source: Lightcast

**Table 4a. Top Job Titles for Genomics Occupations for latest 12 months (Apr. 2022 - Mar. 2023) - Bay Region**

Title	Bay	Title	Bay
Laboratory Technicians	378	Clinical Laboratory Technicians	17
Laboratory Assistants	124	Cytotechnologists	17
Medical Laboratory Technicians	65	Laboratory Analysts	17
Travel Cath Lab Technologists	50	Travel Medical Laboratory Technicians	17
Histology Technicians	28	Travel Medical Technologists	17
Medical Technologists	26	Pathologist Assistants	16
Histotechnologists	23	Laboratory Specialists	15

Title	Bay	Title	Bay
Medical Technologists/Medical Laboratory Technicians	21	Clinical Laboratory Assistants	14
Lead Histotechnologists	19	Clinical Laboratory Scientists	14

Source: Lightcast

**Table 4b. Top Job Titles for Genomics Occupations for latest 12 months (Apr. 2022 - Mar. 2023)  
East Bay Sub-Region**

Title	East Bay	Title	East Bay
Laboratory Technicians	125	Clinical Laboratory Technicians	7
Laboratory Assistants	43	Complaint Investigators	7
Medical Laboratory Technicians	18	Dental Laboratory Technicians	7
Travel Cath Lab Technologists	16	Lead Histotechnologists	7
Infusion Pharmacy Technicians	10	Clinical Laboratory Scientists	6
Travel Medical Technologists	10	Clinical Laboratory Technologists	6
Cytotechnologists	9	Travel Medical Laboratory Technicians	6
Laboratory Analysts	9	IT Laboratory Assistants	5
Quality Control Laboratory Technicians	8	Pathologist Assistants	5

Source: Lightcast

## Industry Concentration

**Table 5. Industries hiring Genomics Workers in Bay Region**

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2021)	Jobs in Industry (2026)	% Change (2021-26)	% Occupation Group in Industry (2022)
Medical Laboratories	1,629	2,147	32%	23%
General Medical and Surgical Hospitals	1,671	1,679	1%	22%
Hospitals (Local Government)	615	756	23%	9%
HMO Medical Centers	533	625	17%	7%
Offices of Physicians (except Mental Health Specialists)	401	410	2%	5%
Diagnostic Imaging Centers	384	346	-10%	4%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	314	389	24%	4%
Research and Development in Biotechnology (except Nanobiotechnology)	216	295	37%	3%
Hospitals (State Government)	179	240	34%	3%

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2021)	Jobs in Industry (2026)	% Change (2021-26)	% Occupation Group in Industry (2022)
Colleges, Universities, and Professional Schools	167	185	11%	2%

Source: Lightcast 2022.3

**Table 6. Top Employers Posting Genomics Occupations in Bay Region and East Bay Sub-Region (Apr. 2022 - Mar. 2023)**

Employer	Bay	Employer	East Bay
University of California	78	Healthcare Employment Network	30
Sutter Health	70	Sutter Health	30
Healthcare Employment Network	60	University of California	27
Actalent	59	Actalent	20
Stanford Health Care	37	Kaiser Permanente	13
Kaiser Permanente	31	Pacer Staffing	12
K&A Recruiting	24	Intellectt	10

Source: Lightcast

## Educational Supply

There are 10 community colleges in the Bay Region issuing 163 awards on average annually (last 3 years ending 2019-20) on TOP 0430.00 - Biotechnology and Biomedical Technology. In the East Bay Sub-Region, there are five (5) community colleges that issued 60 awards on average annually (last 3 years) on this TOP code.

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

College	Subregion	Associate Degree	Bachelor's Degree	Low unit Certificate	Total
Berkeley City	East Bay	3	0	1	4
Cabrillo	SC-Monterey	0	0	1	1
Contra Costa	East Bay	1	0	2	3
Laney	East Bay	6	0	20	26
Merritt	East Bay	0	0	10	10
Ohlone	East Bay	5	0	12	17
San Francisco	Mid-Peninsula	6	0	32	38
San Mateo	Mid-Peninsula	1	0	7	8
Skyline	Mid-Peninsula	2	0	1	3
Solano	North Bay	21	14	18	53
<b>Total</b>		<b>45</b>	<b>14</b>	<b>104</b>	<b>163</b>

Source: Data Mart

Note: The annual average for awards is 2017-18 to 2019-20.

## Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 771 annual openings for the Genomics occupational cluster and 163 annual (3-year average) awards for an annual undersupply of 608 students. In the East Bay Sub-Region, there is also a gap with 197 annual openings and 60 annual (3-year average) awards for an annual undersupply of 137 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 Programs	Merritt All CTE Programs	State 0430.00	Bay 0430.00	East Bay 0430.00	Merritt 0430.00
Students with a Job Closely Related to Their Field of Study	74%	71%	70%	70%	82%	80%
Median Annual Earnings for SWP Exiting Students	\$48,926	\$41,988	\$41,717	\$48,510	\$47,926	\$57,627
Median Change in Earnings for SWP Exiting Students	23%	9%	25%	28%	17%	12%
Exiting Students Who Attained the Living Wage	50%	47%	50%	52%	57%	66%

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

## Skills, Certifications and Education

**Table 9. Top Skills for Genomics Occupations in Bay Region (Apr. 2022 - Mar. 2023)**

Skill	Posting	Skill	Posting
Laboratory Equipment	373	Workflow Management	142
Medical Laboratory	308	Histology	117
Biology	298	Standard Operating Procedure	115
Chemistry	235	Laboratory Procedures	102
Laboratory Experience	235	Molecular Biology	86
Specimen Processing	201	Pathology	86
Data Entry	185	Biochemistry	82
Microbiology	182	Clinical Laboratory Science	81
Laboratory Testing	171	Asepsis	79
Phlebotomy	143	Nursing	78

Source: Lightcast

**Table 10. Certifications for Genomics Occupations in Bay Region (Apr. 2022 - Mar. 2023)**

Certification	Posting	Certification	Posting
Basic Life Support (BLS) Certification	100	Phlebotomy Certification	18
American Society For Clinical Pathology (ASCP) Certification	93	American Medical Technologists (AMT) Certification	17
Valid Driver's License	64	Neonatal Resuscitation Program Certification (NRP)	17

Certification	Posting	Certification	Posting
Basic Cardiac Life Support	59	Cardiopulmonary Resuscitation (CPR) Certification	16
Advanced Cardiovascular Life Support (ACLS) Certification	52	Certified Medical Technologist	13
Certified Phlebotomy Technician	50	Certified Nursing Assistant (CNA)	12
Registered Nurse (RN)	47	Certified Patient Care Technician (CPCT)	11
Clinical Laboratory Scientist License (CLS)	30	Certified Histotechnician (HT-ASCP)	10
American Registry Of Radiologic Technologists (ARRT) Certified	25	Certified Pharmacy Technician	10
Certified Histotechnologist (HTL-ASCP)	18	Security Clearance	10

Source: Lightcast

**Table 11. Education Requirements for Genomics Occupations in Bay Region**

Education Level	Job Postings	% of Total
High school or GED	397	29%
Associate degree	314	23%
Bachelor's degree & higher	657	48%

Source: Lightcast

Note: 38% 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 CCCCO Data Mart and CTE Launchboard.

## Sources

O\*Net Online

Lightcast

CTE LaunchBoard [www.calpassplus.org](http://www.calpassplus.org)

Launchboard

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor's Office MIS system

## Contacts

For more information, please contact:

- Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (COE), [leila@baccc.net](mailto:leila@baccc.net)
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, [jcarrese@ccsf.edu](mailto:jcarrese@ccsf.edu) or (415) 267-6544