

Biotechnology Occupations

Labor Market Analysis: San Diego County

September 2026

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL(S) OF EDUCATION
 Proceed with Caution	 	 	☐ Doctorate Degree ☐ Master's Degree ☒ Bachelor's Degree ☒ Associate degree ☐ Some College or Certificate ☒ HS Diploma or Equivalent ☐ Less Than a HS Diploma ☐ Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	MEDIUM  	HIGH  	

The San Diego & Imperial Center of Excellence (COE) developed this brief to assist the region's community colleges with strategic planning and program development. *Biotechnology Occupations* include "Biological Technicians," "Clinical Laboratory Technologists and Technicians," "Inspectors, Testers, Sorters, Samplers, and Weighers," and "Life, Physical, and Social Science Technicians, All Other." According to available data, *Biotechnology Occupations* in San Diego County have a labor market demand of 1,396 annual job openings (while average demand for a single occupation in San Diego County is 289 annual job openings), and six institutions supply an estimated 254 awards for these occupations. On average, entry-level wages are below the living wage. This brief recommends proceeding with caution when developing a new program and supports a program modification because 1) there is a supply gap; and 2) a high number of annual job openings exists for these occupations. However, average entry-level wages are below the living wage, and typical entry-level education ranges from a high school diploma to a bachelor's degree.

Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)¹ system:

- **Biological Technicians** (SOC 19-4021): Assist biological and medical scientists in laboratories by setting up, operating, and maintaining instruments and equipment; monitoring experiments; collecting data and samples; and recording results.
- **Clinical Laboratory Technologists and Technicians** (SOC 29-2018): Perform medical laboratory tests for the diagnosis, treatment, and prevention of disease. The Lightcast source reports the two requested clinical laboratory occupations—Medical and Clinical Laboratory Technologists (SOC 29-2011) and Medical and Clinical Laboratory Technicians (SOC 29-2012)—under this combined occupation.
- **Inspectors, Testers, Sorters, Samplers, and Weighers** (SOC 51-9061): Inspect, test, sort, sample, or weigh nonagricultural raw materials and manufactured parts for defects, wear, or deviations from specifications.
- **Life, Physical, and Social Science Technicians, All Other** (SOC 19-4099): Perform technical work in the life, physical, and social sciences that is not classified in another detailed technician occupation.

For the purpose of this report, these occupations are referred to as Biotechnology Occupations.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for collecting, calculating, and disseminating data. [bls.gov/soc](https://www.bls.gov/soc)

Projected Occupational Demand

Between 2025 and 2030, businesses in San Diego County will need to hire 1,396 employees annually to fill new jobs and backfill positions made vacant through turnover and retirement (Exhibit 1). Inspectors, Testers, Sorters, Samplers, and Weighers account for the largest share of demand, with 731 annual openings. Overall employment is projected to increase by 65 jobs, or zero percent, during the five-year period.

Exhibit 1: Employment Change and Occupational Demand for Biotechnology Occupations in San Diego County (2025-2030)²

Occupational Title	2025 Jobs	2030 Jobs	2025-2030 Net Jobs Change	2025-2030 % Jobs Change	Annual Job Openings (Demand)
Inspectors, Testers, Sorters, Samplers, and Weighers	6,267	6,199	-68	-1%	731
Life, Physical, and Social Science Technicians, All Other	2,045	2,061	16	1%	254
Clinical Laboratory Technologists and Technicians	3,083	3,221	139	4%	223
Biological Technicians	1,811	1,789	-22	-1%	188
Total	13,206	13,270	65	0%	1,396

² Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

Earnings

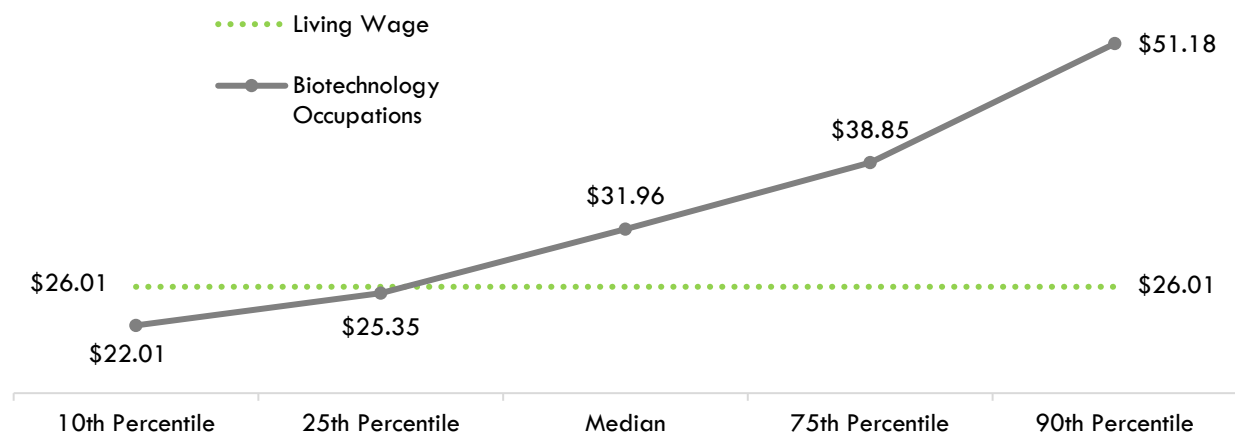
According to traditional³ labor market information (LMI), entry-level hourly earnings for *Biotechnology Occupations* range from \$22.43 to \$28.27 (Exhibit 2).

Exhibit 2: Hourly Earnings for Biotechnology Occupations in San Diego County⁴

Occupational Title	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Biological Technicians	\$28.27	\$32.24	\$37.85
Life, Physical, and Social Science Technicians, All Other	\$26.40	\$36.45	\$41.47
Clinical Laboratory Technologists and Technicians	\$24.31	\$30.64	\$38.85
Inspectors, Testers, Sorters, Samplers, and Weighers	\$22.43	\$28.53	\$37.25

On average, entry-level hourly earnings for *Biotechnology Occupations* are \$25.35—or approximately \$52,728 annually⁵. This is below the living wage of \$26.01 per hour for a single adult in San Diego County (Exhibit 3).⁶

Exhibit 3: Average Hourly Earnings⁷ for Biotechnology Occupations in San Diego County⁸



³ Traditional LMI is generally historical data captured by the U.S. Bureau of Labor Statistics (BLS) or the California Employment Development Department (EDD). It does not account for recent technological, economic, or legislative changes that may affect labor market demand and wages.

⁴ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

⁵ Annualized salaries assume a full-time position with 2,080 work hours. Multiplying the hourly wage by 2,080 yields the annual salary.

⁶ Center for Women's Welfare, University of Washington. The Self-Sufficiency Standard for California 2024.

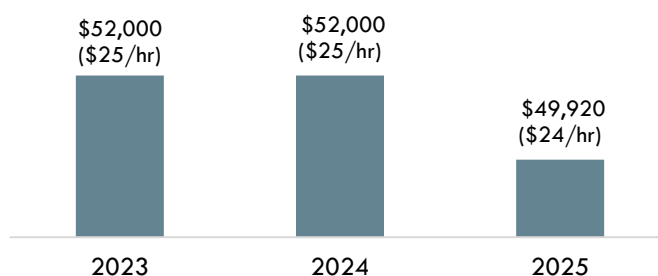
selfsufficiencystandard.org/california

⁷ The 10th and 25th percentiles may be considered entry-level wages; the 75th and 90th percentiles may be considered experienced wages.

⁸ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

In online job postings, employers also advertised between \$24 and \$25 per hour between January 1, 2023 and December 31, 2025 for *Biotechnology Occupations* in San Diego County (Exhibit 4).⁹ This suggests that employer-advertised wages in online job postings were within the range of entry-level wages reported in traditional labor market information and fluctuated over the period analyzed.

Exhibit 4: Entry-Level Advertised Salaries in Online Job Postings for Biotechnology Occupations in San Diego County (2023-2025)



Expected Level of Education

According to traditional LMI reported to the California Employment Development Department and U.S. Bureau of Labor Statistics, *Biotechnology Occupations* typically require a [high school diploma or equivalent](#), an [associate degree](#), or a [bachelor's degree](#) for entry-level employment (Exhibit 5).¹⁰

Exhibit 5: National Educational Attainment for Biotechnology Occupations¹¹

Occupational Title	Typical Entry-Level Education
Biological Technicians	Bachelor's degree
Clinical Laboratory Technologists and Technicians	Bachelor's degree
Life, Physical, and Social Science Technicians, All Other	Associate degree
Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent

⁹ Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.

¹⁰ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

¹¹ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

Similarly, a [high school diploma or General Educational Development \(GED\) credential](#) was the most requested minimum educational requirement in online job postings for *Biotechnology Occupations* in San Diego County between January 1, 2023 and December 31, 2025. Employers also expected the following certifications (Exhibit 6).¹²

**Exhibit 6: Top Certifications for Biotechnology Occupations in San Diego County in
Online Job Postings (2023-2025)¹³**

- | | |
|---|---|
| 1. Basic Life Support (BLS) Certification | 6. Security Clearance |
| 2. American Society for Clinical Pathology (ASCP) Certification | 7. Secret Clearance |
| 3. Advanced Cardiovascular Life Support (ACLS) Certification | 8. American Medical Technologists (AMT) Certification |
| 4. Neonatal Resuscitation Program Certification (NRP) | 9. American Society for Quality (ASQ) Certified |
| 5. Clinical Laboratory Scientist License (CLS) | 10. Certified Lodging Security Supervisor |

¹² Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.

¹³ Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. There are **three** TOP codes and **six** CIP codes related to *Biotechnology Occupations* (Exhibit 7).

Exhibit 7: Related TOP and CIP Codes for Biotechnology Occupations¹⁴

TOP or CIP Code	TOP or CIP Program Title
TOP 0430.00	Biotechnology and Biomedical Technology
TOP 0956.80	Industrial Quality Control
TOP 1205.00	Medical Laboratory Technology
CIP 15.0401	Biomedical Technology/Technician
CIP 15.0702	Quality Control Technology/Technician
CIP 26.1201	Biotechnology
CIP 41.0101	Biology/Biotechnology Technology/Technician
CIP 51.1004	Clinical/Medical Laboratory Technician
CIP 51.1005	Clinical Laboratory Science/Medical Technology/Technologist

¹⁴ This brief uses a conservative estimate of program supply based on the three TOP and six CIP codes listed in Exhibit 7.

According to TOP data, **four** community colleges supply the region with awards for these occupations: **MiraCosta College**, **Palomar College**, **San Diego Miramar College**, and **Southwestern College**. According to CIP data, **two** non-community-college institutions supply the region with awards: **California State University-San Marcos** and **National University**. Combined, the **six** institutions confer an average of **254** awards annually (Exhibit 8).

Exhibit 8: Number of Awards Conferred by Postsecondary Institutions (Three-Year Annual Averages)¹⁵¹⁶

TOP or CIP Code	TOP or CIP Program Title	3-Yr Annual Average CC Awards	Other Institutions 3-Yr Annual Average Awards	Total Average Supply
0430.00	Biotechnology and Biomedical Technology	156	0	156
	MiraCosta	87	0	
	• Bachelor's degree	19	0	
	• Associate degree	13	0	
	• Certificate 30 < 60 units	25	0	
	• Certificate 8 < 16 units	29	0	
	• Certificate 6 < 18 units	1	0	
	San Diego Miramar	69	0	
	• Associate degree	48	0	
	• Certificate 8 < 16 units	21	0	
0956.80	Industrial Quality Control	1	0	1
	Palomar	1	0	
	• Certificate 8 < 16 units	1	0	
1205.00	Medical Laboratory Technology	35	0	35
	San Diego Miramar	24	0	
	• Associate degree	12	0	
	• Certificate 16 < 30 units	12	0	
	Southwestern	11	0	
	• Associate degree	11	0	
26.1201	Biotechnology	0	27	27
	California State University-San Marcos	0	27	
	• Bachelor's degree	0	27	

¹⁵ California Community Colleges Chancellor's Office Data Mart, program years 2022-23 through 2024-25.

¹⁶ National Center for Education Statistics, Integrated Postsecondary Education Data System completions, academic years 2021-22 through 2023-24.

TOP or CIP Code	TOP or CIP Program Title	3-Yr Annual Average CC Awards	Other Institutions 3-Yr Annual Average Awards	Total Average Supply
51.1005	Clinical Laboratory Science/Medical Technology/Technologist	0	35	35
	National University	0	35	
	• Bachelor's degree	0	35	
Total		192	62	254

Demand vs. Supply

Comparing labor demand with labor supply suggests that there is a **supply gap** for these occupations in San Diego County, with **1,396** annual openings and **254** average annual awards. Comparatively, there are **12,389** annual openings in California and **1,113** annual awards, suggesting a statewide **supply gap** (Exhibit 9).^{17 18}

Exhibit 9: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	Demand (Annual Openings)	Supply (Average Annual Awards)	Supply Gap or Oversupply
San Diego	1,396	254	1,142
California	12,389	1,113	11,276

Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

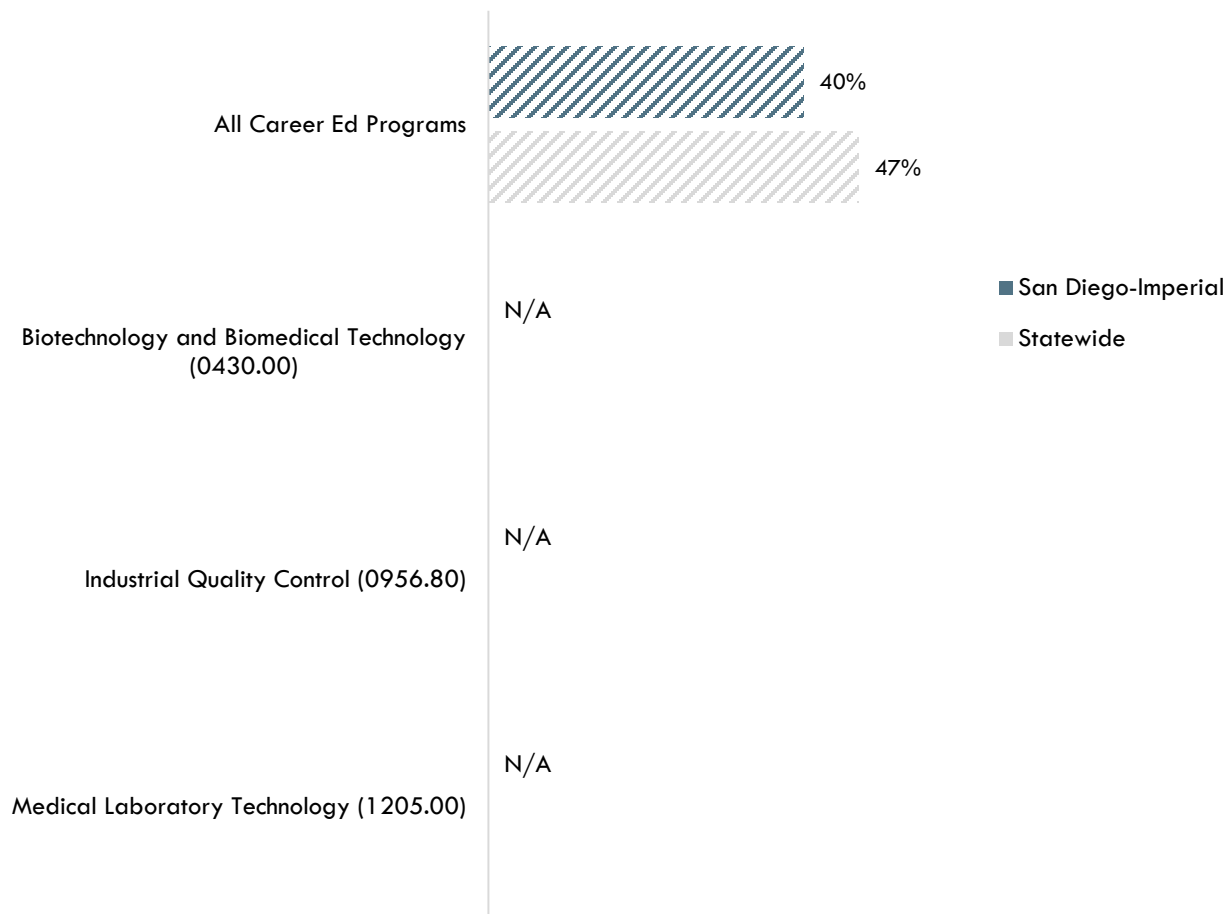
¹⁷ Labor supply can be found from two different sources: Lightcast or the California Community Colleges Chancellor's Office MIS Data Mart. Lightcast uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

¹⁸ "Supply and Demand," Centers of Excellence Student Outcomes, coecc.net/our-resources.

Student Outcomes and Regional Comparisons

Program-specific DataVista outcomes were unavailable for the three related programs. For all Career Education programs, 40% of students in the San Diego-Imperial region and 47% statewide earned a living wage (Exhibit 10).¹⁹

Exhibit 10: Percentage of Students Who Earned a Living Wage by Program, PY2023-24²⁰



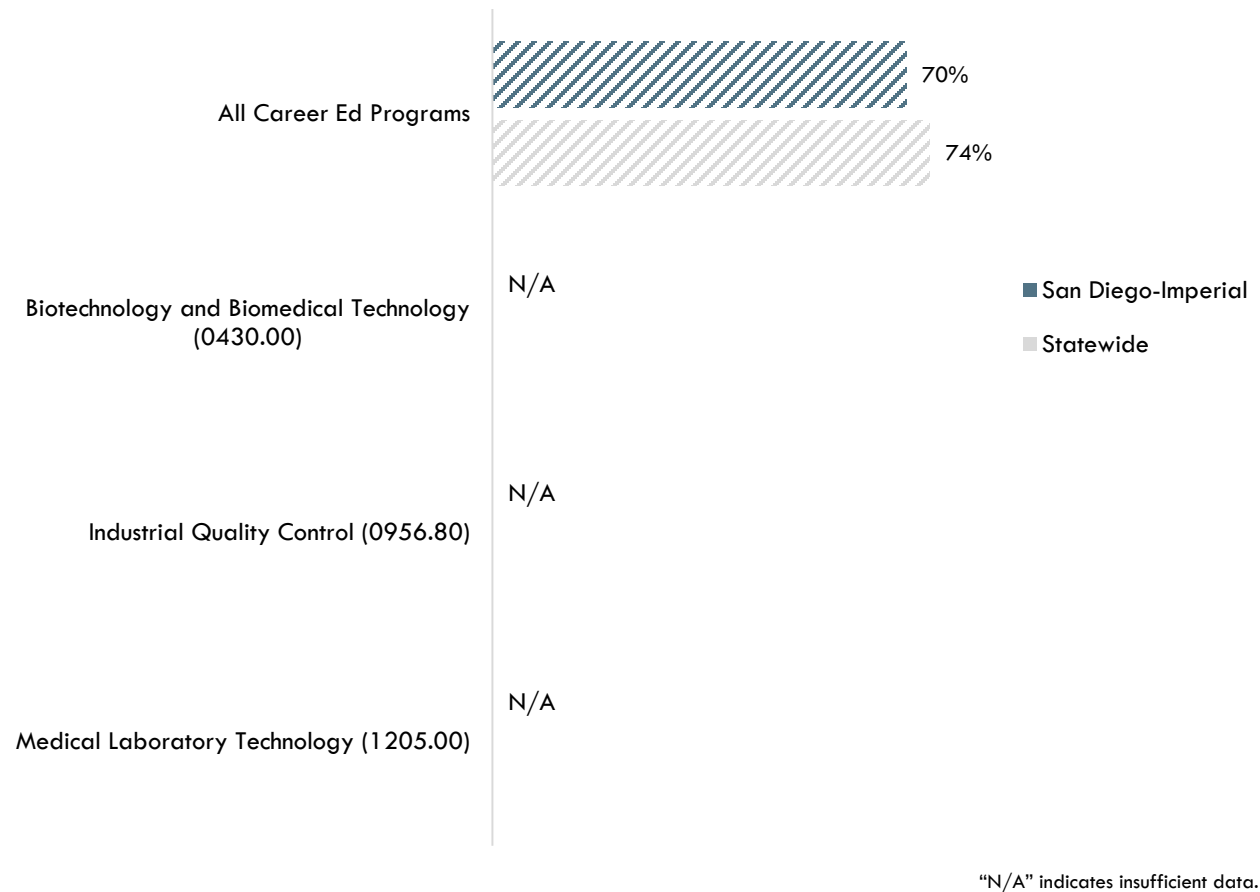
"N/A" indicates insufficient data.

¹⁹ California Community Colleges DataVista. datavista.cccco.edu

²⁰ Most recent year with available data is Program Year 2023–24. The measure reports the percentage of completers and skills builders who exited and attained a living wage.

Program-specific DataVista outcomes for employment in a closely related field were unavailable for the three related programs. For all Career Education programs, 70% of students in the San Diego-Imperial region and 74% statewide were employed in a closely related field (Exhibit 11).²¹

Exhibit 11: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2022-23²²



²¹ California Community Colleges DataVista. datavista.cccco.edu

²² Most recent year with available data is Program Year 2022-23. The measure reports the percentage of CTE Outcomes Survey respondents employed in the same or a similar field as their program of study.

Employers

Between January 1, 2023 and December 31, 2025, the top employers in San Diego County for *Biotechnology Occupations* included [University of California San Diego](#), [Labcorp](#), [The Salk Institute for Biological Studies](#), [Rady Children’s Hospital](#), and [Sharp HealthCare](#), based on online job postings (Exhibit 12).

Exhibit 12: Top Employers for Biotechnology Occupations in San Diego County²³

Top Employers	
• University of California San Diego • Labcorp • The Salk Institute for Biological Studies • Rady Children’s Hospital • Sharp HealthCare	• The Scripps Research Institute • Scripps Health • Kaiser Permanente • General Atomics • Millennium Health

Skills

Exhibit 13 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2023 and December 31, 2025.

Exhibit 13: Top Skills for Biotechnology Occupations in San Diego County²⁴

Specialized Skills	Soft Skills	Software Skills
• Biology • Laboratory Equipment • Chemistry • Medical Laboratory • Auditing • Standard Operating Procedure • Laboratory Experience • Good Manufacturing Practices • Data Entry • Quality Management Systems	• Communication • Quality Control • Detail Oriented • Research • Quality Assurance • Management • Troubleshooting • Operations • Problem Solving • Organizational Skills	• Microsoft Excel • Microsoft Office

²³ Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.
²⁴ Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025. Skills must populate in at least 10% of job postings to be listed.

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Important Disclaimers

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. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the California Community Colleges Centers of Excellence (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.