

# Labor Market Analysis for Program Modification: 0430.00/Biotechnology and Biomedical Technology (Biotechnology)

Orange County Center of Excellence, May 2023



## Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input type="checkbox"/>	Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
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### Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	<i>Comments:</i> there is projected to be <b>4,486 annual job openings</b> throughout Los Angeles and Orange counties for these biotechnology occupations, which is <b>more than the 178 awards conferred by educational institutions.</b>	
Living Wage: (Entry-Level, 25 <sup>th</sup> )	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> <b>The majority (75%) of annual job openings</b> for these biotechnology occupations <b>have entry-level hourly wages significantly below the OC living wage of \$20.63.</b> However, 25% of the annual job openings have entry-level hourly wages significantly above the living wage.	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> Two of these biotechnology occupations typically require a bachelor's degree and one typically requires a high school diploma or equivalent. However, <b>over one-third of workers in the field have completed some college or an associate degree as their highest level of education.</b>	

### Emerging Occupation(s)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<i>Comments:</i> N/A	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to three middle-skill occupations:

- Biological Technicians (19-4021)
- Clinical Laboratory Technologists and Technicians (29-2018)
- Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)

Based on the available data there appears to be a supply gap for these biotechnology occupations and typical education requirements align with a community college education. However, the majority of annual job openings have entry-level wages below the living wage. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

## Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Typical Entry- Level Education	Community College Educational Attainment
Biological Technicians (19-4021)	LA: 195	LA: 73	OC: \$18.18	Bachelor's degree	37%
	OC: 68	OC: 58			
	TTL: 264	TTL: 131			
Clinical Laboratory Technologists and Technicians (29-2018)	LA: 673	LA: 19	OC: \$23.25	Bachelor's degree	40%
	OC: 360	OC: 24			
	TTL: 1,033	TTL: 43			
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	LA: 2,158	LA: 4	OC: \$16.90	High school diploma or equivalent	37%
	OC: 1,031	OC: 0			
	TTL: 3,190	TTL: 4			
<b>LA/OC Total</b>	<b>4,486</b>	<b>178</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

### Demand:

- The number of jobs related to these biotechnology occupations is projected to increase 4% through 2026, equating to 4,486 annual job openings.
- Hourly entry-level wages for these biotechnology occupations range from \$16.90 to \$23.25 in Orange County; the majority of annual job openings have entry-level wages significantly below the living wage.
- There were 16,058 online job postings for these biotechnology occupations over the past 12 months. The highest number of postings were for laboratory technicians, quality control inspectors, and quality inspectors.
- The typical entry-level education for these biotechnology occupations ranges from a high school diploma or equivalent to a bachelor's degree.
- Between 37% and 40% of workers in the field have completed some college or an associate degree as their highest level of education.

### Supply:

- There was an average of 175 awards conferred by 11 community colleges in Los Angeles and Orange Counties from 2018 to 2021.
- Non-community college institutions conferred 3 related awards from 2017 to 2020.
- Orange County community college students that exited biotechnology and biomedical technology programs in the 2019-2020 academic year had a median annual wage of \$33,882 after exiting the program and 34% attained the regional living wage.
- There was insufficient data to determine the percentage of exiting students employed in their field of study in Orange County.

## Demand

### Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for these biotechnology occupations from 2016 through 2026. Employment in these biotechnology occupations declined 4% from 2019 to 2020 in Orange County due to the COVID-19 pandemic, which is similar to the 6% decline across all occupations during the same period. These biotechnology occupations are projected to grow at a similar rate for all occupations through 2026.

**Exhibit 2: Annual Percent Change in Jobs for Biotechnology Occupations, 2016-2026**

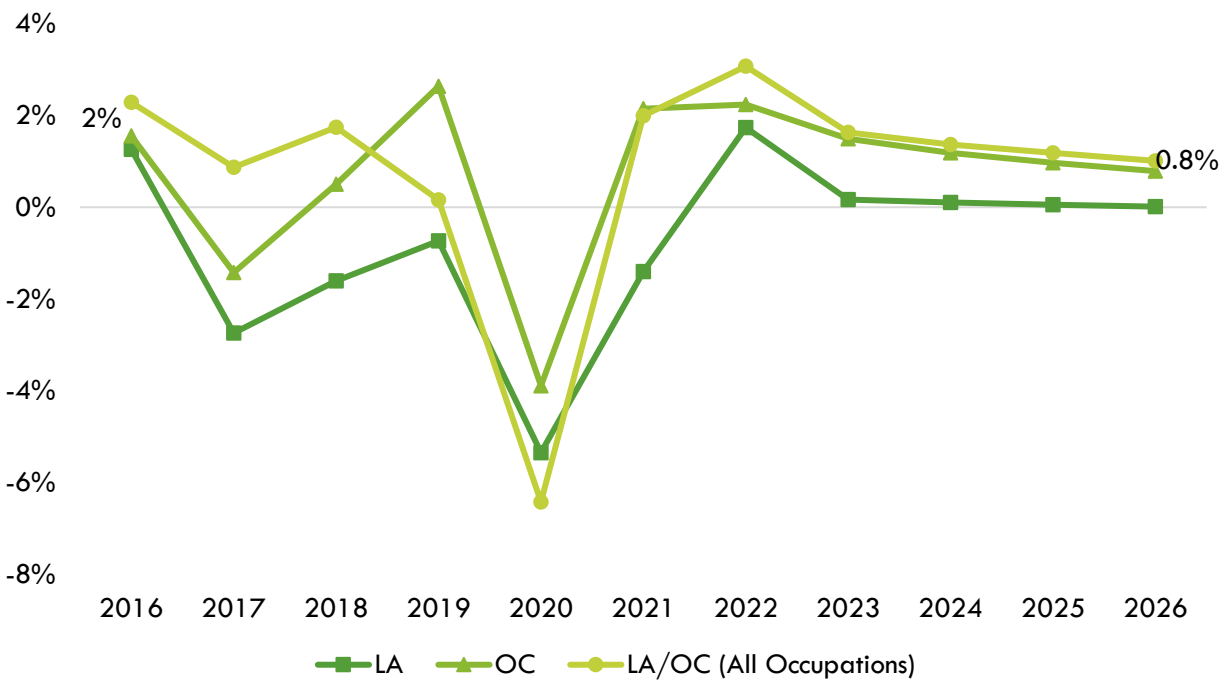


Exhibit 3 shows the five-year occupational demand projections for these biotechnology occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2026. There is projected to be 1,094 jobs available annually.

**Exhibit 3: Occupational Demand in Los Angeles and Orange Counties<sup>1</sup>**

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	25,716	26,253	537	2%	3,027
Orange	11,614	12,408	794	7%	1,460
<b>Total</b>	<b>37,330</b>	<b>38,661</b>	<b>1,331</b>	<b>4%</b>	<b>4,486</b>

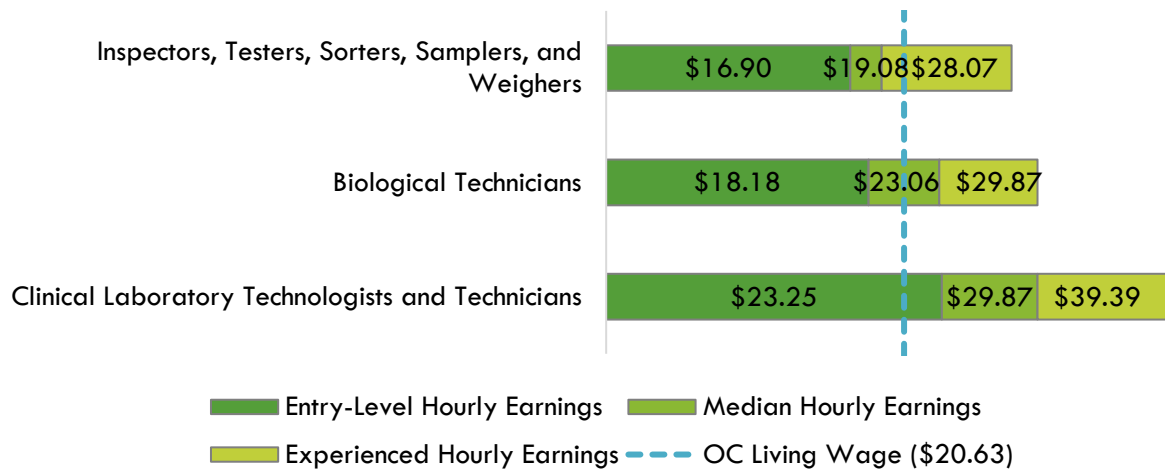
<sup>1</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

## Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these biotechnology occupations in Orange County as they relate to the county's living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region.

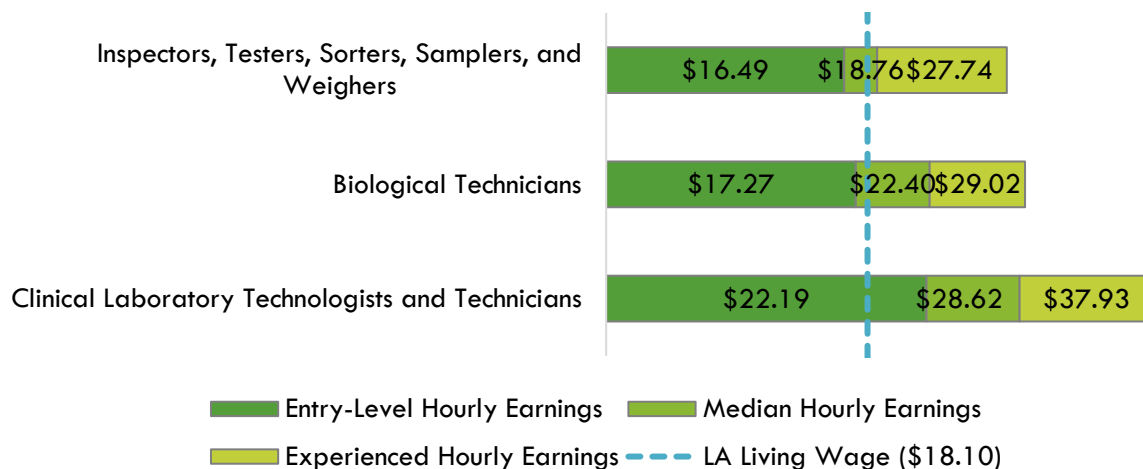
The majority (75%) of annual openings for these biotechnology occupations have entry-level wages below the living wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages range between \$16.90 and \$23.25. Orange County's average wages are lower than the average statewide wage of \$25.76 for these occupations. Exhibit 4 shows the wage range for each of these biotechnology occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

### Exhibit 4: Wages by Occupation in Orange County



The majority (78%) of annual openings for these biotechnology occupations have entry-level wages below the living wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$16.49 and \$22.19. Los Angeles County's average wages are lower than the average statewide wage of \$26.15 for these occupations. Exhibit 5 shows the wage range for each of these biotechnology occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

### Exhibit 5: Wages by Occupation in Los Angeles County



## Job Postings:

**Important Online Job Postings Data Note:** Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more. Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.<sup>2</sup> For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Additionally, there are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

There were 16,058 online job postings related to these biotechnology occupations listed in the past 12 months. Of those, 56% (1,737) were for *clinical laboratory technologists and technicians*.

**Exhibit 6: Number of Job Postings by Occupation (n=16,058)**

Occupation	Job Postings	Percentage of Job Postings
Clinical Laboratory Technologists and Technicians	8,936	56%
Inspectors, Testers, Sorters, Samplers, and Weighers	6,690	42%
Biological Technicians	432	3%
<b>Total Postings</b>	<b>16,058</b>	<b>100%</b>

The top employers in the region, by number of job postings, are shown in Exhibit 7.

**Exhibit 7: Top Employers by Number of Job Postings (n=16,058)**

Employer	Job Postings	Percentage of Job Postings
University of California	439	3%
Cedars-Sinai	406	3%
Actalent	359	2%
Providence	326	2%
Aerotek	319	2%
Healthcare Employment Network	221	1%
American Consumer Panels	209	1%
Kelly Services	189	1%
University of Southern California	164	1%
Randstad	163	1%

<sup>2</sup> K. R. Chowdhary, *Fundamentals of Artificial Intelligence* (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8.

### Exhibit 8: Top Skills by Number of Job Postings (n=16,058)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Medical Laboratory (2,252)	Communications (4,772)	Microsoft Excel (1,617)
Biology (1,780)	Quality Control (4,143)	Microsoft Office (1,205)
Calipers (1,535)	Detail-Oriented (3,231)	Microsoft Word (871)
Auditing (1,511)	Management (2,312)	Microsoft Outlook (795)
Laboratory Equipment (1,436)	Quality Assurance (2,293)	Microsoft PowerPoint (700)
Micrometer (1,422)	Operations (1,989)	Spreadsheets (275)
Chemistry (1,397)	Computer Literacy (1,864)	Laboratory Information Management Systems (197)
Good Manufacturing Practices (1,377)	Customer Service (1,854)	SAP Applications (170)
Laboratory Testing (1,184)	Problem Solving (1,830)	Microsoft Access (126)
Laboratory Experience (1,171)	Writing (1,807)	eClinicalWorks (ECW) (100)

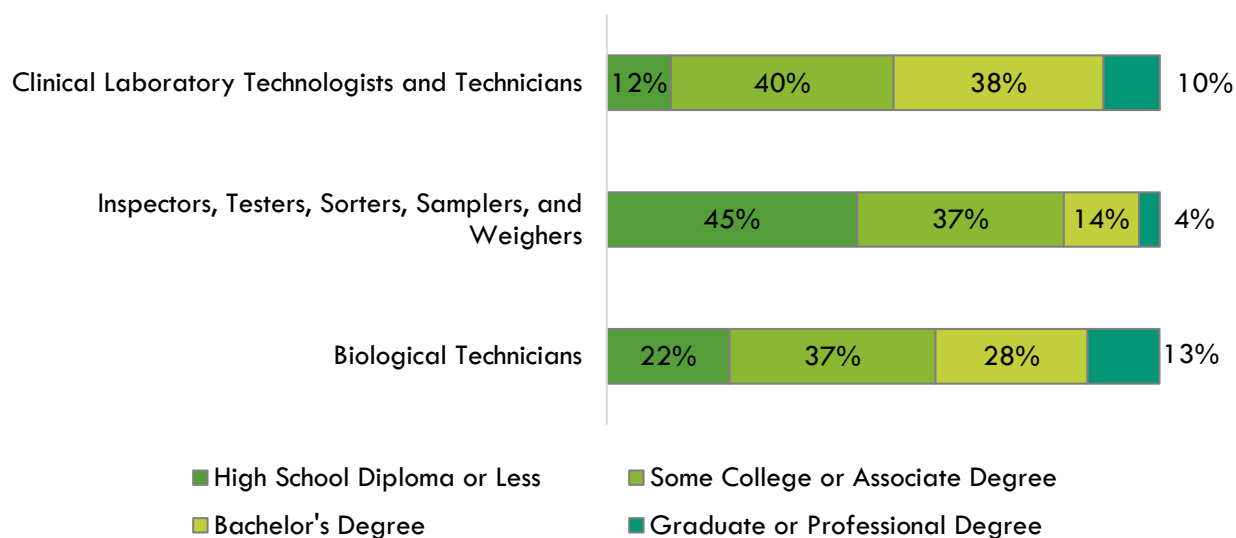
### Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *inspectors, testers, sorters, samplers, and weighers* and a bachelor's degree for *biological technicians* and *clinical laboratory technologists and technicians*.

The national-level educational attainment data indicates between 37% and 40% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Of the 57% of the cumulative job postings for these biotechnology occupations that listed a minimum education requirement in Los Angeles/Orange County, 71% (6,561) requested a high school diploma or an associate degree and 29% (2,635) requested a bachelor's, master's, or doctoral degree.

### Exhibit 9: National-level Educational Attainment for Occupations



## Educational Supply

### Community College Supply:

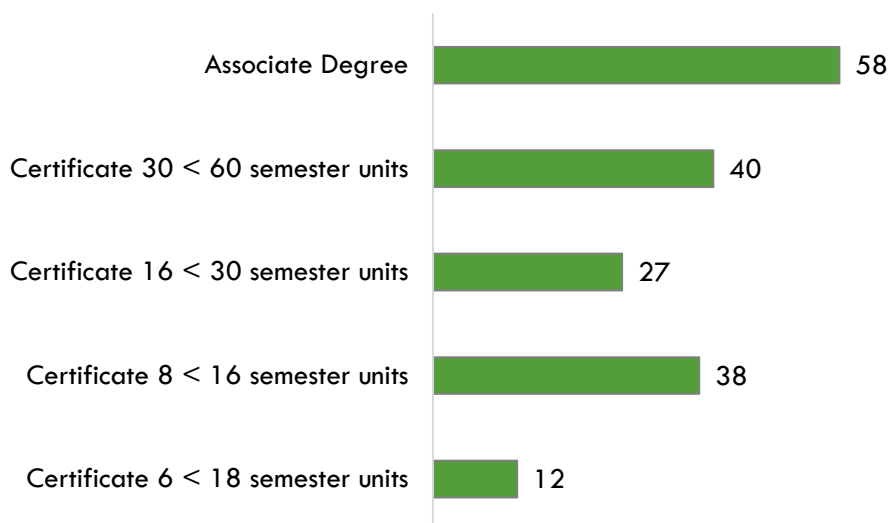
Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Biotechnology and Biomedical Technology (0430.00), Laboratory Science Technology (0955.00), Industrial Quality Control (0956.80), and Medical Laboratory Technology (1205.00). The colleges with the most completions in the region are: LA Mission, Pasadena, Irvine Valley, and Saddleback. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

**Exhibit 10: Regional Community College Awards (Certificates and Degrees), 2018-2021**

TOP Code	Program	College	2018-2019 Awards	2019-2020 Awards	2020-2021 Awards	3-Year Award Average
0430.00	Biotechnology and Biomedical Technology	Citrus	19	8	5	11
		East LA	0	5	7	4
		LA Mission	21	37	17	25
		LA Trade	2	7	6	5
		Pasadena	18	24	32	25
		<b>LA Subtotal</b>	<b>60</b>	<b>81</b>	<b>67</b>	<b>70</b>
		Fullerton	18	18	13	17
		Irvine	25	33	14	24
		Santa Ana	11	10	5	9
		Santiago Canyon	11	8	9	8
		<b>OC Subtotal</b>	<b>65</b>	<b>69</b>	<b>41</b>	<b>58</b>
<b>Supply Subtotal/Average</b>			<b>125</b>	<b>150</b>	<b>108</b>	<b>128</b>
0955.00	Laboratory Science Technology	Mt San Antonio	2	1	5	3
		<b>LA Subtotal</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>3</b>
		-	-	-	-	-
		<b>OC Subtotal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Supply Subtotal/Average</b>			<b>2</b>	<b>1</b>	<b>5</b>	<b>3</b>
0956.80	Industrial Quality Control	-	-	-	-	-
		<b>LA Subtotal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
		Santiago Canyon	2	0	0	1
		<b>OC Subtotal</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Supply Subtotal/Average</b>			<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>
1205.00	Medical Laboratory Technology	Mt San Antonio	19	11	26	19
		<b>LA Subtotal</b>	<b>19</b>	<b>11</b>	<b>26</b>	<b>19</b>
		Saddleback	18	29	27	24
		<b>OC Subtotal</b>	<b>18</b>	<b>29</b>	<b>27</b>	<b>24</b>
<b>Supply Subtotal/Average</b>			<b>37</b>	<b>40</b>	<b>53</b>	<b>43</b>
<b>Supply Total/Average</b>			<b>166</b>	<b>191</b>	<b>166</b>	<b>175</b>

Exhibit 11 shows the annual average community college awards by type from 2018-19 through 2020-21. The plurality of the awards are for associate degrees, followed by certificates between 30 and less than 60 semester units and certificates between 8 and less than 16 semester units.

### Exhibit 11: Annual Average Community College Awards by Type, 2018-2021



### Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for biotechnology and biomedical technology programs in South Orange County Community College District (SOCCCD), the Orange County Region, and California. Throughout Orange County, there were 434 students in biotechnology and biomedical technology courses in the 2020-21 academic year. Of those, 21% (93) attended a SOCCCD college.

SOCCCD students that exited biotechnology and biomedical technology programs in the 2019-20 academic year had higher median annual earnings (\$42,124) compared to all biotechnology and biomedical technology students in Orange County (\$33,882). There was insufficient data to determine the median change in earnings and percentage of students that attained the living wage for SOCCCD.

### Exhibit 12: Biotechnology and Biomedical Technology (0430.00) Strong Workforce Program Metrics, 2020-21<sup>3</sup>

SWP Metric	SOCCCD	OC Region	California
SWP Students	93	434	2,511
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	17%	11%	21%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	66%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	23	287
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	14	41	198

<sup>3</sup> All SWP metrics are for 2020-21 unless otherwise noted.



SWP Metric	SOCCCD	OC Region	California
SWP Students with a Job Closely Related to Their Field of Study (2018-19)	Insufficient Data	Insufficient Data	80%
Median Annual Earnings for SWP Exiting Students (2019-20)	\$42,124 (\$20.25)	\$33,882 (\$16.29)	\$43,766 (\$21.04)
Median Change in Earnings for SWP Exiting Students (2019-20)	Insufficient Data	10%	43%
SWP Exiting Students Who Attained the Living Wage (2019-20)	Insufficient Data	34%	53%

### Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for these office technology occupations. Exhibit 13 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Quality Control Technology/Technician (51.1004) and Clinical/Medical Laboratory Technician (51.1004). Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, non-community college institutions in the region conferred an average of 3 awards annually in related training programs.

**Exhibit 13: Regional Non-Community College Awards, 2017-2020**

CIP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
15.0702	Quality Control Technology/Technician	California State University-Dominguez Hills	5	3	1	3
<b>Supply Subtotal/Average</b>			<b>5</b>	<b>3</b>	<b>1</b>	<b>3</b>
51.1004	Clinical/Medical Laboratory Technician	Regan Career Institute	0	0	0	0
<b>Supply Subtotal/Average</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Supply Total/Average</b>			<b>5</b>	<b>3</b>	<b>1</b>	<b>3</b>

## Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in biotechnology and biomedical technology compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

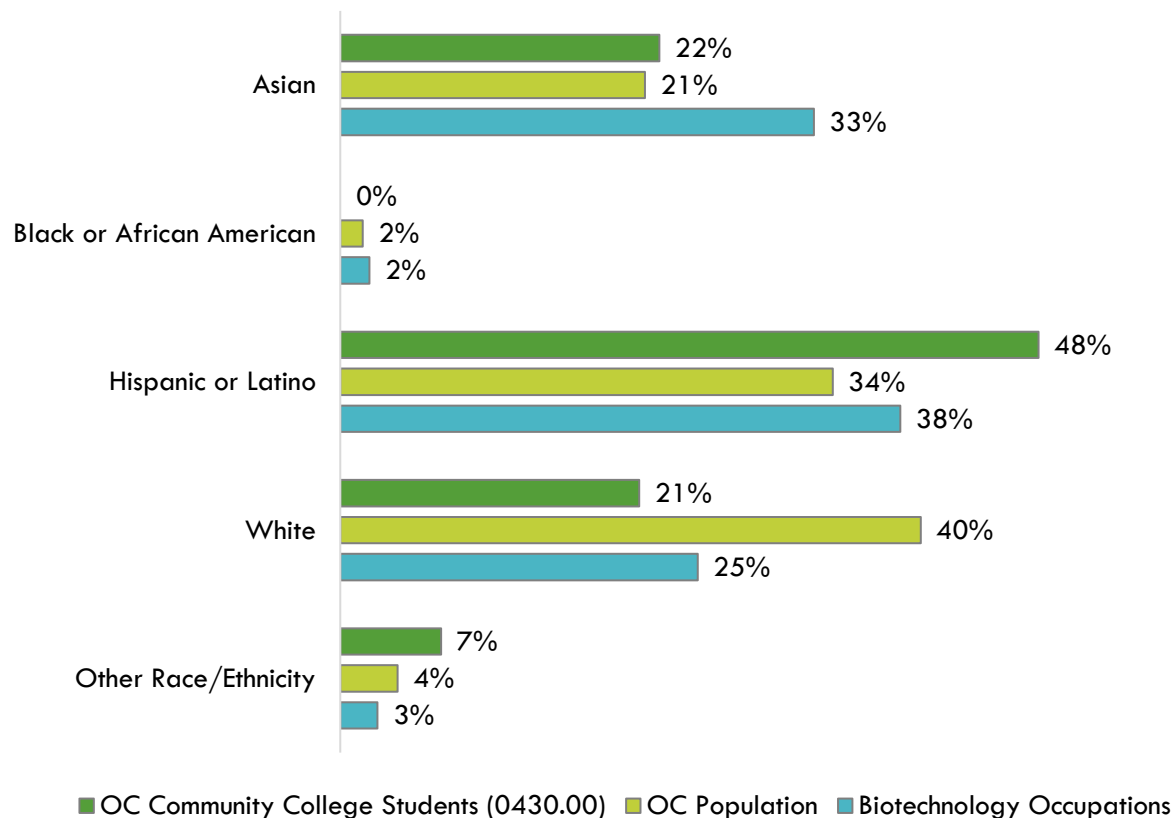
### Ethnicity:

Exhibit 14 shows the ethnicity of Orange County community college students enrolled in biotechnology and biomedical technology programs compared to the overall Orange County population, as well as these biotechnology occupations. Notably, 33% of workers in these biotechnology occupations are Asian, which is significantly higher than the population (21%) and community college biotechnology and biomedical technology students (22%).

Conversely, 48% of community college biotechnology and biomedical technology students are Hispanic or Latino, which is significantly higher than the population (34%), and these biotechnology occupations (38%). Additionally, though 40% of the population is white, only 21% of biotechnology community college students and 25% of workers in these biotechnology occupations are white.

Examining disaggregated data by occupation (not shown), 43% of *inspectors, testers, sorters, samplers, and weighers* are Hispanic or Latino. This occupation has entry-level wages significantly below the living wage and the lowest entry-level wages of all biotechnology occupations analyzed in this report. Similarly, 57% of *biological technicians* are Asian; this occupation has entry-level wages below the living wage.

Exhibit 14: Program and County Demographics by Ethnicity

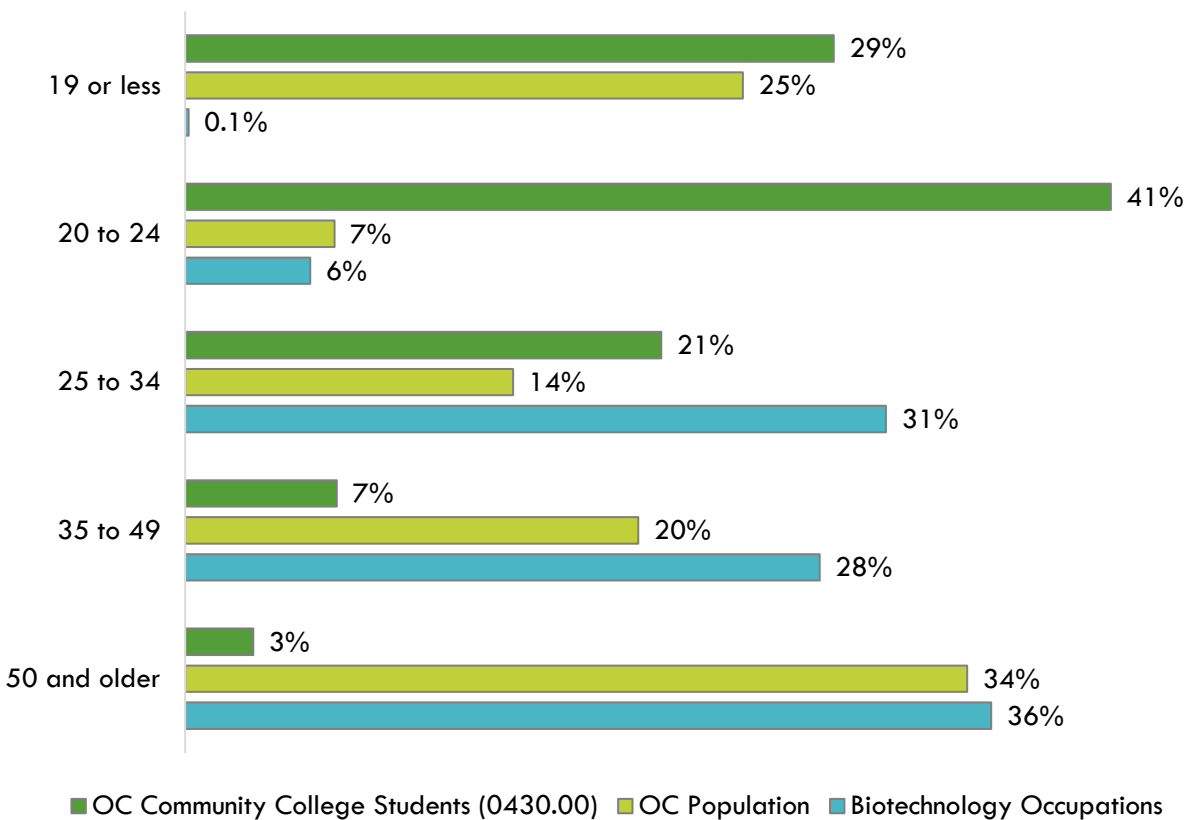


## Age:

Exhibit 15 shows the age of Orange County community college students enrolled in biotechnology and biomedical technology programs compared to the overall Orange County population, as well as these biotechnology occupations. The plurality (36%) of workers in these biotechnology occupations are 50 and older, which is similar to the population (34%) but significantly higher than community college biotechnology and biomedical technology students (3%). Conversely, 69% of community college biotechnology and biomedical technology students are 24 or less, which is significantly higher than the population (32%), and these biotechnology occupations (6.1%).

Examining disaggregated data by occupation (not shown), the majority (59%) of *biological technicians* are 34 or less.

Exhibit 15: Program and County Demographics by Age



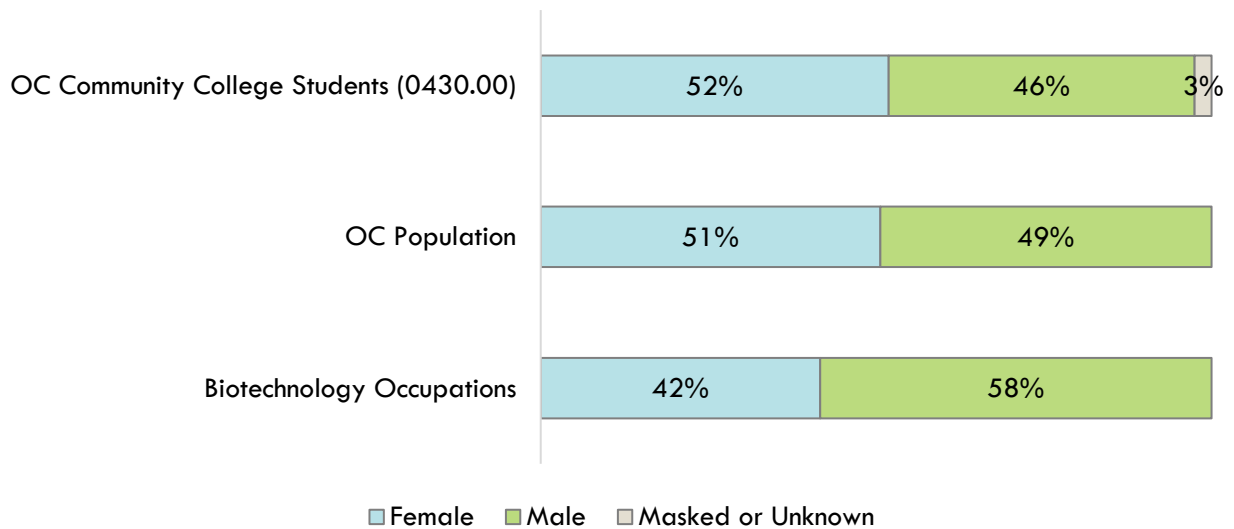
## Sex:

Exhibit 16 shows the sex of Orange County community college students enrolled in biotechnology and biomedical technology programs compared to the overall Orange County population as well as these biotechnology occupations.

Though the Orange County population and community college biotechnology and biomedical technology students are split nearly evenly between men and women, there is a significantly higher percentage of male workers in these biotechnology occupations (58%).

Examining disaggregated data by occupation (not shown), *clinical laboratory technologists and technicians* has the highest percentage of women (63%).

**Exhibit 16: Program and County Demographics by Sex**



## Appendix A: Methodology

The OC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The OC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a "supply table" with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart ([datamart.cccco.edu](http://datamart.cccco.edu)) and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://nces.ed.gov/ipeds/use-the-data)), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represents the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; 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 findings; however, neither the Centers of Excellence for Labor Market Research (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.

## Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	<p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see <a href="https://lightcast.io/">https://lightcast.io/</a></p>
Living Wage	<p>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: <a href="https://insightccd.org/family-needs-calculator/">https://insightccd.org/family-needs-calculator/</a></p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see <a href="https://www.bls.gov/emp/documentation/education/tech.htm">https://www.bls.gov/emp/documentation/education/tech.htm</a></p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledge, work activities, and interests associated with occupations. For more information, see <a href="https://www.onetonline.org/help/online/">https://www.onetonline.org/help/online/</a></p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: <a href="https://datamart.cccco.edu">https://datamart.cccco.edu</a></p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see <a href="https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions">https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</a></p>
Student Metrics and Demographics	<p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: <a href="https://www.calpassplus.org/LaunchBoard/Home.aspx">https://www.calpassplus.org/LaunchBoard/Home.aspx</a></p>

Data Type	Source
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: <a href="https://www.census.gov/programs-surveys/acs">https://www.census.gov/programs-surveys/acs</a></p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: <a href="https://usa.ipums.org/usa/about.shtml">https://usa.ipums.org/usa/about.shtml</a></p>

For more information, please contact the Orange County Center of Excellence:

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May 2023

