

# BIOSCIENCE REGIONAL PROGRAM ADVISORY

LOS ANGELES COMMUNITY  
COLLEGE PROGRAM LOOK BOOK



April 24, 2026  
12:00pm - 2:00pm



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# MEETING AGENDA

**Date and Time** April 24, 2026, from 12:00pm – 2:00pm

**Occupation Focus** Bioscience Industry

**Opening Remarks** Welcome and Introductions | Pablo Martinez, LAEDC  
 LARC Overview | Dr. Narineh Makijan, LARC  
 LAEDC Overview | Jermaine Hampton, LAEDC  
 Industry Data | Matthew Skyberg, LAEDC  
 Industry Data | Luke Meyer, COE

**Discussion Topics Moderated by Jose Pelayo and Alicia Nyein**

**State of the Industry:**

1. Which areas of bioscience are seeing the strongest growth right now, and where do you anticipate the greatest hiring demand in the near future?
2. What factors make Los Angeles an attractive region for bioscience growth, and what challenges still need to be addressed to support industry expansion here?

**Workforce Development:**

3. What entry-level roles are most difficult for your organization to fill, and what skills or qualifications are typically missing in the applicant pool?
4. Beyond technical knowledge, what professional skills most influence whether a candidate succeeds in bioscience roles and advances over time?
5. What is expected when new hires step into the role and what are the gaps?

**Curriculum Alignment and College Partnerships:**

6. How can community colleges better align curriculum and program design with current bioscience hiring practices? Are there particular tools, lab environments, regulatory concepts, or workplace expectations that students should be exposed to before entering the field? GPM, SOP, GLP competencies.
7. What are the most effective ways colleges and employers can work together to strengthen talent pipelines—such as internships, job shadowing, guest speakers, curriculum input, faculty engagement, or equipment support? (Existing model)

**Building Talent Pipelines:**

8. What can colleges do to help students better understand the range of careers available in bioscience, not just the most visible roles?
9. How can industry and education partners work together to ensure that bioscience pathways are accessible to students from historically underrepresented communities?

Community College Representation & Feedback Poll

**Closing Remarks** Next Steps | William Powles, LAEDC  
 Adjournment | Jermaine Hampton, LAEDC

# LOS ANGELES COUNTY ECONOMIC DEVELOPMENT CORPORATION

The Los Angeles County Economic Development Corporation, a non-profit organization, champions equitable economic growth across the Los Angeles region.

LAEDC is committed to developing a competitive regional workforce because we know that a robust workforce and our economic growth as a region should not be separated from each other. We bring industry leaders and educational partners together within the economic development process. We want our education infrastructure to train the next generation of the workforce and ensure they receive relevant training and can join the industry of their choice. We know there needs to be an alignment between industry and our educational systems.

## Vision

A reimagined Los Angeles regional economy – growing, equitable, sustainable, and resilient – that provides a healthy and high standard of living for all.

## Mission

Reinventing our economy to collaboratively advance growth and prosperity for all.



Funded by the California Community Colleges Chancellor's Office under the Strong Workforce Program (SWP) as a Los Angeles Regional Project.

The Los Angeles County Economic Development Corporation (LAEDC) was founded in 1981 as a nonprofit, public-benefit organization to harness the power of private sector in collaboration with L.A. County, to guide economic development and create more widely shared prosperity. LAEDC collaborates with all stakeholders in the region including education, business, and government. Learn more at [www.LAEDC.org](http://www.LAEDC.org).

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# LOS ANGELES REGIONAL CONSORTIUM

**Los Angeles Regional Consortium (LARC)** serves as the regional backbone organization for Los Angeles County’s workforce and education ecosystem, bringing together LA’s 19 community colleges, four-year colleges and universities, K–12 partners, employers, workforce agencies, and priority industry leaders to drive coordinated, data-informed action. LARC leads regional collaboration to align education, training, and workforce strategies that strengthen talent pipelines, expand economic mobility, and ensure students and workers are prepared for high-opportunity careers in an evolving economy. By convening partners, advancing shared priorities, and supporting the development of responsive programs and pathways, LARC helps build a more connected, equitable, and future-ready regional workforce system.

To learn more, visit [www.losangelesrc.org](http://www.losangelesrc.org)

## Mission

Our mission is to serve as the connector and catalyst between education, workforce, and industry, ensuring Los Angeles County has the talent, partnerships, and infrastructure needed to meet current and future economic demands. Through strong regional alignment, we work to close workforce gaps, expand access and opportunity, and increase economic and social mobility for LA County residents.

## Contact Information



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# CENTER OF EXCELLENCE FOR LABOR MARKET RESEARCH

The Los Angeles Center of Excellence for Labor Market Research (COE) hosted at Mt. San Antonio College represents expertise in labor market analysis with a focus on research design, educational and training program mapping, and identifying skill sets for emerging occupations as well as geospatial analysis. The COE maintains strategic alliances with research organizations whose relationships and technical expertise enhance COE research efforts and with industry associations that assist in validating research findings, ensuring that the most recent industry and labor market conditions are captured. COE studies are used to inform policy discussions, industry-wide legislative efforts, and regional workforce and economic development strategies, as well as guide program and resource development efforts by the California Community Colleges. These reports can be accessed at [www.coecc.net](http://www.coecc.net).

## Mission

The mission of the center is to research, analyze and present information on regional economic and workforce needs, customized for Community College decision making and curriculum planning.

## Contact Information



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# INDUSTRY REPRESENTATION

**Regan Gabrillo | Senior Talent Acquisition Partner | Grifols**



Regan Gabrillo is a talent acquisition professional at Grifols with more than seven years of experience supporting recruitment and staffing functions. Over the course of her tenure, she has advanced from Recruiting Coordinator to Staffing Partner I, Staffing Partner II, and now serves as Senior Talent Acquisition Partner. Her experience reflects a strong background in talent strategy, recruitment operations, and workforce hiring support within a global healthcare organization.

**Amanda Osterman | Talent Acquisition Partner | Medtronic**



Amanda Osterman is a talent acquisition and contingent workforce professional at Medtronic with more than eight years of experience in strategic sourcing, supplier management, and talent operations. She currently serves as a Talent Acquisition Partner and previously held roles as Senior Strategic Sourcing Specialist and Strategic Sourcing Specialist within Medtronic's Contingent Labor Program. Her background includes managing contingent labor strategy across multiple business functions, leading process improvements, supporting compliance and stakeholder training, and helping convert contract talent into full-time employees.

**Dan St. Peter | Site Director | Nexspring Health**



Dan St. Peter is an experienced operations leader with over 20 years in the healthcare industry, including roles in biologics, pharma, medical devices, and cell and gene therapy. He's led teams across both large corporations and startups, with a strong focus on operational excellence, regulatory compliance, and team culture. As Site Director at Nexspring, Dan is building out a new manufacturing facility to support the company's growth.

Before joining Nexspring, Dan launched a CAR-T manufacturing site at ImmPACT Bio (now Lyell Immunopharma) and held senior operations roles at Baxter. He holds a B.S. in Chemical Engineering, an MBA in Organizational Behavior, and is a certified PMP.

Originally from the Midwest, Dan now lives in Orange County with his wife, three daughters, a rescued sheepadoodle, and their bearded dragon.

**Loren Ornales | Manager, Biomanufacturing Center | Cedars-Sinai**



Loren Alexis Ornelas, BS, MBA, PMP® is the Manager of the Cedars-Sinai Biomanufacturing Center, where she leads a multidisciplinary team supporting cell therapy research and manufacturing. With over 20 years of experience in stem cell biology and large-scale cell line production, she has contributed to major initiatives, including overseeing the generating over 1,000 induced pluripotent stem cell (iPSC) lines for the Answer ALS project. Loren is deeply committed to workforce development and has developed hands-on training programs, including a biomanufacturing internship and a Cell and Gene Therapy Certification Program, designed to prepare community college and undergraduate students for careers in bioscience. She also serves as an Adjunct Professor at Mount Saint Mary's University, where she teaches cell culture and stem cell techniques, helping bridge the gap between academic training and industry needs.

## Life Sciences - Biotechnology

The Life Sciences - Biotechnology industry is a dynamic and innovation-driven sector that plays a critical role in advancing human health, scientific discovery, and economic competitiveness. From the development of pharmaceuticals and biologics to the production of medical devices, diagnostic tools, and laboratory services, this industry supports breakthroughs that shape modern medicine, improve quality of life, and strengthen regional innovation ecosystems. As science and technology continue to evolve, the sector has expanded to include increasingly sophisticated research, testing, and commercialization activities, as well as new applications in agricultural biotechnology. In Southern California, where research institutions, specialized manufacturers, and laboratory enterprises form a growing innovation base, the Life Sciences - Biotechnology industry serves as an important source of high-value employment, innovation, and long-term economic opportunity.

### Industry Definition

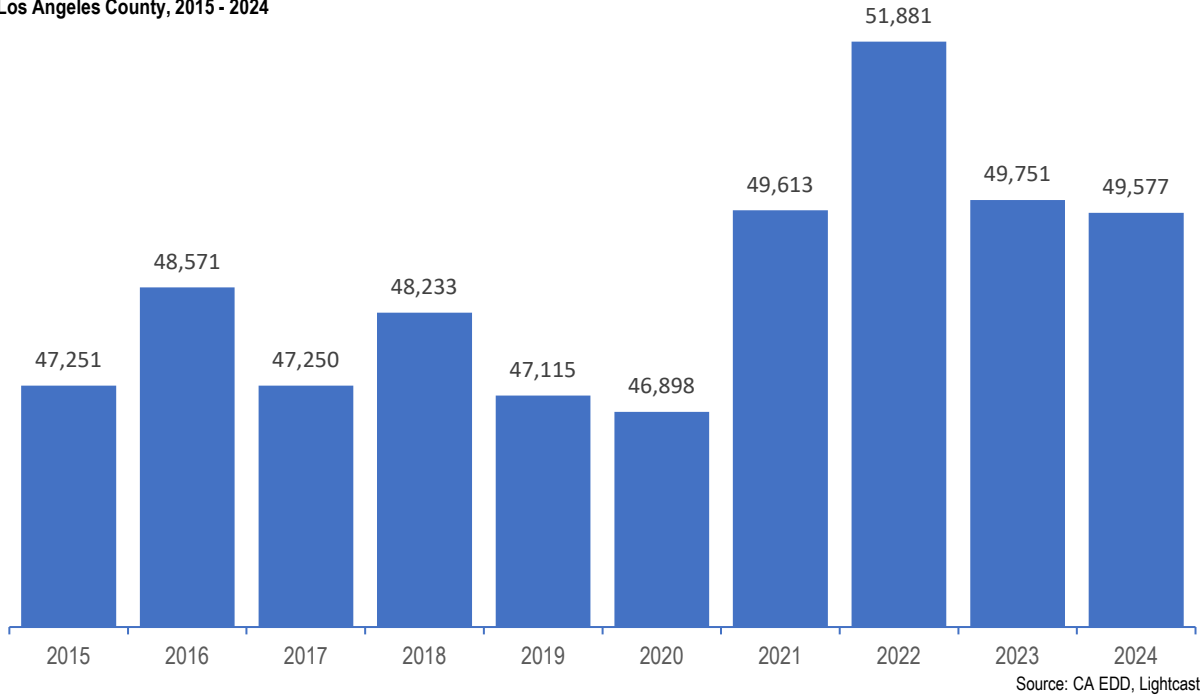
The Life Sciences - Biotechnology industry is not represented by a single official NAICS industry group. For this analysis, the sector is defined using selected 6-digit NAICS national industries, which are organized into four analytical groupings that reflect major functional components of the sector:

- **Biopharmaceuticals:** This grouping includes selected industries involved in the development and manufacturing of medicinal, pharmaceutical, diagnostic, and biological products. These industries are central to therapeutic innovation and support the discovery, production, and commercialization of treatments, vaccines, and other health-related products.
- **Medical Devices and Diagnostics Equipment:** This grouping includes selected industries engaged in the manufacturing of medical, surgical, dental, ophthalmic, analytical, and irradiation equipment and supplies. These industries provide the tools and technologies essential to patient care, clinical procedures, disease detection, and laboratory analysis.
- **Research and Lab Services:** This grouping includes selected industries focused on testing laboratories, biotechnology and life sciences research and development, and medical laboratory services. These activities support scientific discovery, product validation, regulatory processes, and commercialization across the broader sector.
- **Agricultural Biotechnology:** This grouping includes selected industries related to aquaculture, wet corn milling and starch manufacturing, certain chemical manufacturing activities tied to agricultural and biological processes, fertilizer manufacturing, and pesticide and other agricultural chemical manufacturing. These industries reflect the application of biotechnology and related scientific processes to agriculture, food systems, and resource management.

Together, these segments form the backbone of the Life Sciences - Biotechnology industry, advancing scientific innovation, supporting specialized and high-value career opportunities, and generating significant economic output. As research, manufacturing, and commercialization continue to evolve, the industry must continuously innovate by embracing emerging technologies, strengthening talent pipelines, and fostering collaboration across science, engineering, and production to remain competitive in an increasingly global and innovation-driven marketplace.

**Current Landscape**

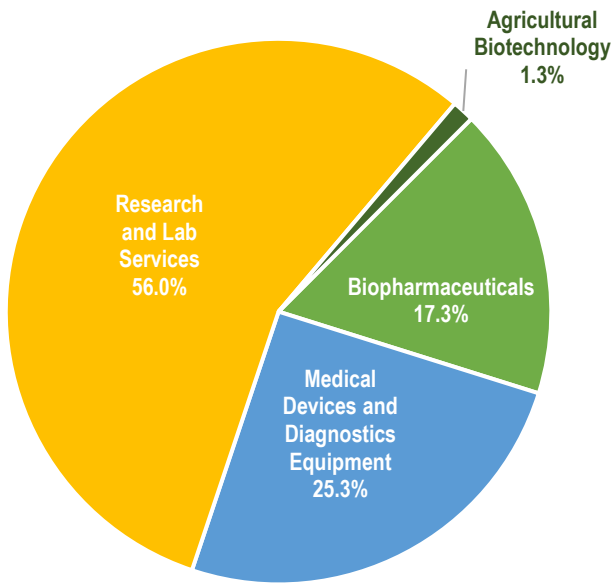
**Exhibit 1-0**  
**Life Sciences-Biotechnology Industry Employment**  
**Los Angeles County, 2015 - 2024**



The **Life Sciences-Biotechnology** industry employed just over 47,000 people in Los Angeles County in 2015. Employment fluctuated within a relatively narrow range through 2020, rising to just under 48,600 jobs in 2016, dipping to just under 46,900 in 2020, and generally remaining between about 47,000 and 48,500 jobs over much of the period. Compared with many industries, this pattern points to a relatively stable employment base prior to the stronger growth that followed in the early 2020s.

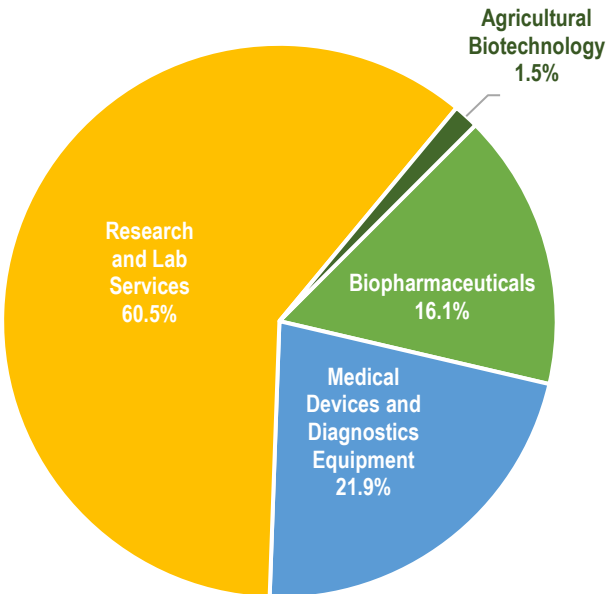
Following the 2020 low point, employment in the Life Sciences-Biotechnology industry increased notably, rising to over 49,600 jobs in 2021 and peaking at nearly 51,900 jobs in 2022. This represented growth of more than 10 percent, or nearly 5,000 jobs, between 2020 and 2022. Employment eased in the following two years, declining to just under 49,800 jobs in 2023 and about 49,600 jobs in 2024. Even with that moderation, industry employment in 2024 remained above its 2015 level, indicating modest long-term growth over the period.

**Exhibit 1-2**  
Life Sciences-Biotechnology Industry Employment  
Los Angeles County 2015



Source: CA EDD, Lightcast

**Exhibit 1-3**  
Life Sciences-Biotechnology Industry Employment  
Los Angeles County 2024



Source: CA EDD, Lightcast

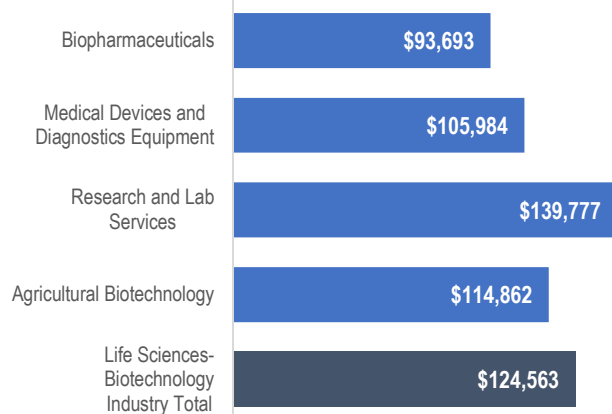
**Employment Distribution 2015-2024**

- **Research and Lab Services** represented the largest share of employment within the Life Sciences-Biotechnology industry in both 2015 and 2024. Its share increased from 56.0 percent in 2015 to 60.5 percent in 2024, reinforcing its role as the dominant employment base within the sector. This indicates that laboratory services, testing, and research-related activities accounted for a growing portion of industry employment over the period.
- **Medical Devices and Diagnostics Equipment** remained the second-largest segment, though its share of total industry employment declined over time. The segment accounted for 25.3 percent of employment in 2015, compared with 21.9 percent in 2024. While still a major component of the sector, this shift suggests that employment growth in this segment did not keep pace with the broader industry, particularly with the expansion of Research and Lab Services.
- **Biopharmaceuticals** represented a smaller but still significant share of industry employment, declining slightly from 17.3 percent in 2015 to 16.1 percent in 2024. This relative stability suggests that biopharmaceutical activity remained an important pillar of the sector, even as other segments, particularly research and laboratory services, gained a larger share of employment.
- **Agricultural Biotechnology** accounted for a very small share of employment in both years, increasing modestly from 1.3 percent in 2015 to 1.5 percent in 2024. Although limited in scale within Los Angeles County, the segment posted a slight increase in its share over the period.
- **Research and Lab Services** remained the largest employer and expanded its share of industry employment over the period, while **Medical Devices and Diagnostics Equipment** and **Biopharmaceuticals** both accounted for smaller shares in 2024 than in 2015. **Agricultural Biotechnology** remained a very small component of the sector. Collectively, these trends suggest that the **Life Sciences-Biotechnology** industry in Los Angeles County became increasingly concentrated in research, testing, and laboratory-oriented activities between 2015 and 2024.

**Average Annual Pay**

- All segments in the **Life Sciences-Biotechnology** industry reported average annual pay well above the MIT living wage of \$57,845 in Los Angeles County for a single person in 2024.
- In 2024, the average annual wage in:
  - Los Angeles County was about \$81,350
  - The total **Life Sciences-Biotechnology** industry was approximately \$124,563 per year, reflecting strong wage levels across the industry.
- The highest-paying segment in 2024 was **Research and Lab Services**, with an average annual wage of \$139,777, reflecting the concentration of highly skilled scientific, technical, and laboratory-oriented occupations within the segment.
- Three segments within the **Life Sciences-Biotechnology** industry exceeded \$100,000 per year. **Agricultural Biotechnology** averaged \$114,862, and **Medical Devices and Diagnostics Equipment** averaged \$105,984. **Biopharmaceuticals** earned \$93,693, making it the lowest among the four segments, but still well above the county average wage and the living wage threshold.
- These wage levels reflect both the specialized scientific and technical skills required across the industry and the high value of work tied to research, laboratory services, advanced manufacturing, and biotechnology production in Los Angeles County.

**Exhibit 1-4**  
**Average Annual Pay in the Life Sciences-Biotechnology Industry Los Angeles County 2024**

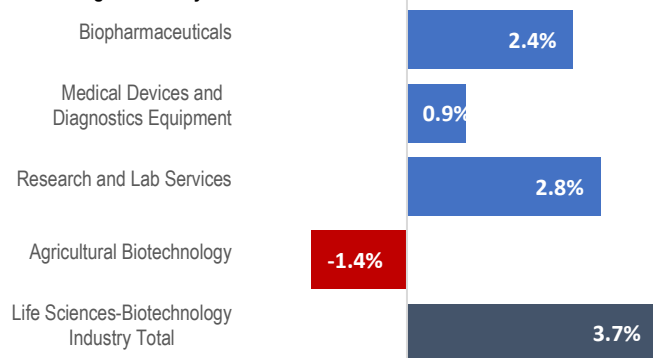


Source: QCEW, Lightcast

**Real Wage Growth**

- Over the past decade (2015 to 2024), real wage growth in the **Life Sciences-Biotechnology** industry varied across segments, reflecting differences in market conditions, workforce composition, and the pace of growth across research, manufacturing, and agricultural-related activities.
- The most substantial real wage growth occurred in **Research and Lab Services**, with an increase of 2.8 percent. **Biopharmaceuticals** also posted relatively strong growth at 2.4 percent, suggesting that inflation-adjusted earnings increased modestly in segments tied to research, laboratory work, and therapeutic production.
- **Medical Devices and Diagnostics Equipment** saw more limited real wage growth of 0.9 percent over the period. This indicates that wages in the segment generally kept pace with inflation, but showed less upward momentum than in **Research and Lab Services** and **Biopharmaceuticals**.
- **Agricultural Biotechnology** experienced a real wage decline of 1.4 percent, making it the only segment to post negative inflation-adjusted wage growth between 2015 and 2024.
- When adjusted for inflation, total real wages in the **Life Sciences-Biotechnology** industry increased by 3.7 percent from 2015 to 2024. This modest growth suggests limited but positive wage gains at the aggregate level, even as performance varied across segments.
- Overall, the data points to a mixed wage landscape in the **Life Sciences-Biotechnology** industry, with stronger real earnings growth in research-oriented and biopharmaceutical activities, slower gains in medical device manufacturing, and a slight decline in **Agricultural Biotechnology**.

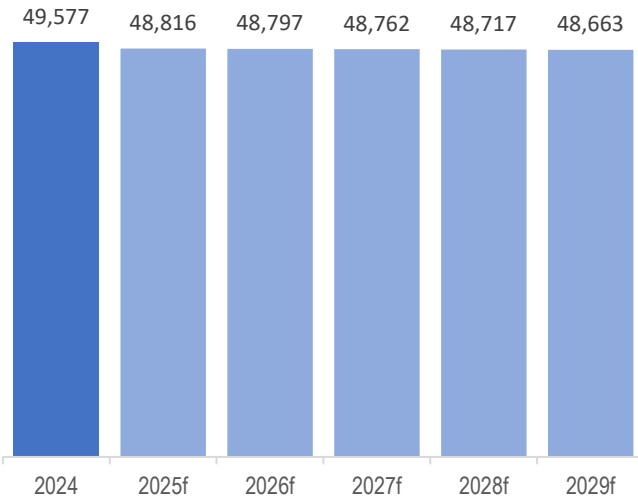
**Exhibit 1-5**  
**Real Wage Growth in the Life Sciences-Biotechnology Industry Los Angeles County 2015-2024**



Source: QCEW, Lightcast

## Employment Forecast

**Exhibit 1-6**  
 Life Sciences-Biotechnology Industry Employment  
 Los Angeles County, 2024 - 2029



Source: CA EDD, Lightcast

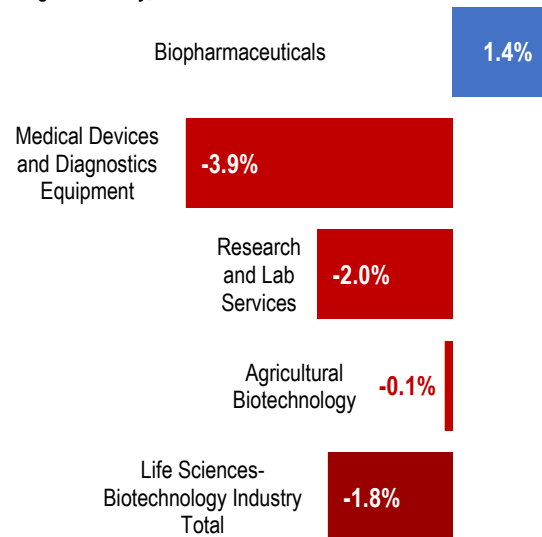
### Forecasted Employment

- From 2024 to 2029, total employment in the **Life Sciences-Biotechnology** industry is projected to decline slightly from 49,577 to 48,663 jobs, a reduction of just over 900 jobs.
- The largest job losses are expected in **Research and Lab Services**, which is forecasted to shed nearly 600 jobs during the period. **Medical Devices and Diagnostics Equipment** is also projected to decline, losing more than 400 jobs.
- Employment in **Biopharmaceuticals** is expected to grow modestly, adding just over 100 jobs, while **Agricultural Biotechnology** is projected to remain essentially flat over the forecast period.
- These projections reflect slight contraction in parts of the industry tied to research, laboratory services, and medical device-related activities, partly offset by modest gains in **Biopharmaceuticals**.

### Forecasted Employment Growth by Segment

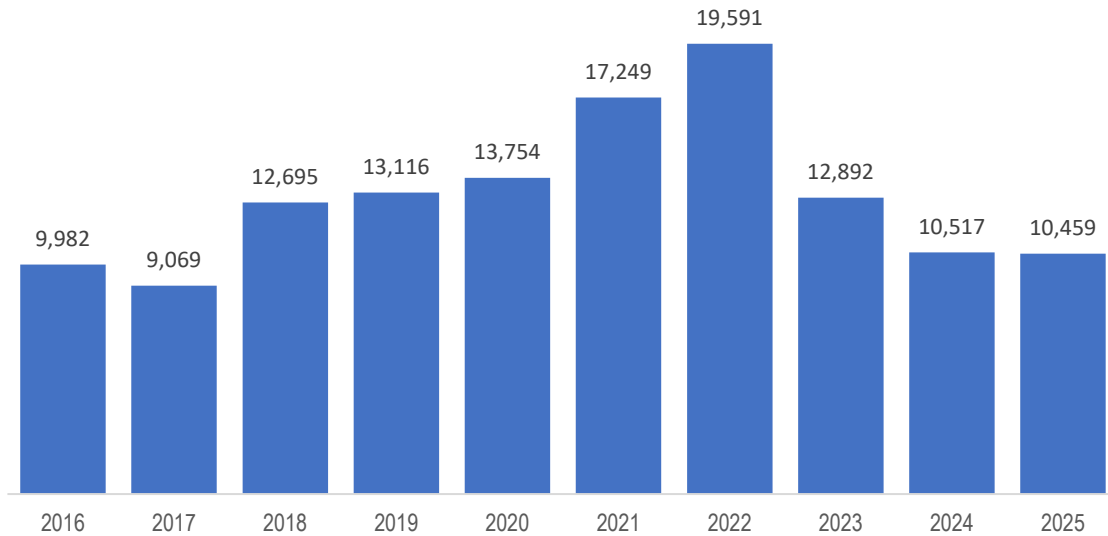
- **Biopharmaceuticals** is expected to grow the fastest, with a 1.4 percent increase in employment between 2024 and 2029.
- **Medical Devices and Diagnostics Equipment** is projected to decline by 3.9 percent, the steepest drop among the four segments.
- **Research and Lab Services** is also forecasted to decline, falling by 2.0 percent over the period.
- **Agricultural Biotechnology** is expected to remain essentially flat, with a slight 0.1 percent decline in employment between 2024 and 2029.
- Overall, these changes suggest a relatively stable but slightly softening outlook for the **Life Sciences-Biotechnology** industry, with modest gains in **Biopharmaceuticals** partly offset by projected declines in **Medical Devices and Diagnostics Equipment** and **Research and Lab Services**.

**Exhibit 1-7**  
 Life Sciences-Biotechnology Industry Employment  
 Los Angeles County, 2024 - 2029



Source: Lightcast

**Exhibit 1-8**  
**Life Sciences-Biotechnology Industry Job Postings**  
**Los Angeles County, 2016 - 2025**



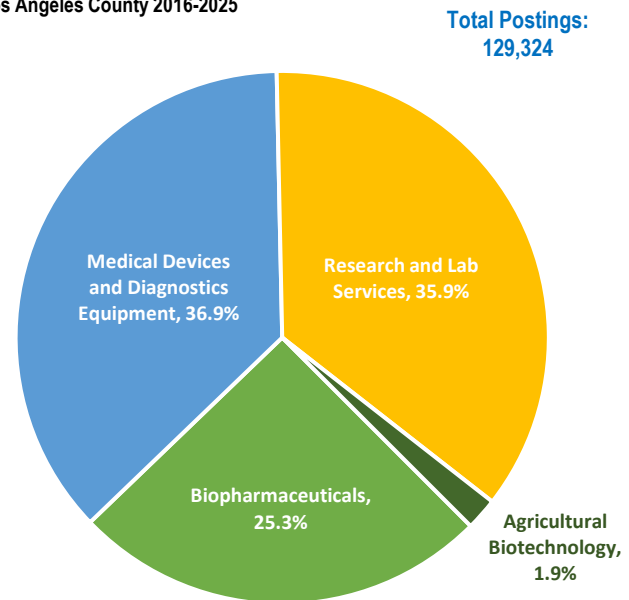
Source: Lightcast

**Job Postings**

**Distribution of Job Postings**

- **Medical Devices and Diagnostics Equipment** accounted for the largest share of job postings between 2016 and 2025, representing 36.9 percent of all postings in the Life Sciences-Biotechnology industry. This points to strong demand for workers tied to medical equipment, diagnostics, and related manufacturing activities.
- **Research and Lab Services** made up 35.9 percent of total postings, close behind Medical Devices and Diagnostics Equipment. This reflects sustained hiring demand in research, laboratory, and other science-based occupations.
- **Biopharmaceuticals** contributed 25.3 percent of total postings. While a smaller share than the top two segments, this still indicates substantial hiring activity tied to pharmaceutical and biologics production.
- **Agricultural Biotechnology** accounted for just 1.9 percent of postings, suggesting comparatively limited hiring demand in this segment over the period.
- Overall, job postings indicate that labor demand in the **Life Sciences-Biotechnology** industry was concentrated primarily in **Medical Devices and Diagnostics Equipment** and **Research and Lab Services**, with **Biopharmaceuticals** also representing a meaningful share of hiring activity.

**Exhibit 1-9**  
**Distribution of Job Postings in the Life Sciences-Biotechnology Industry**  
**Los Angeles County 2016-2025**

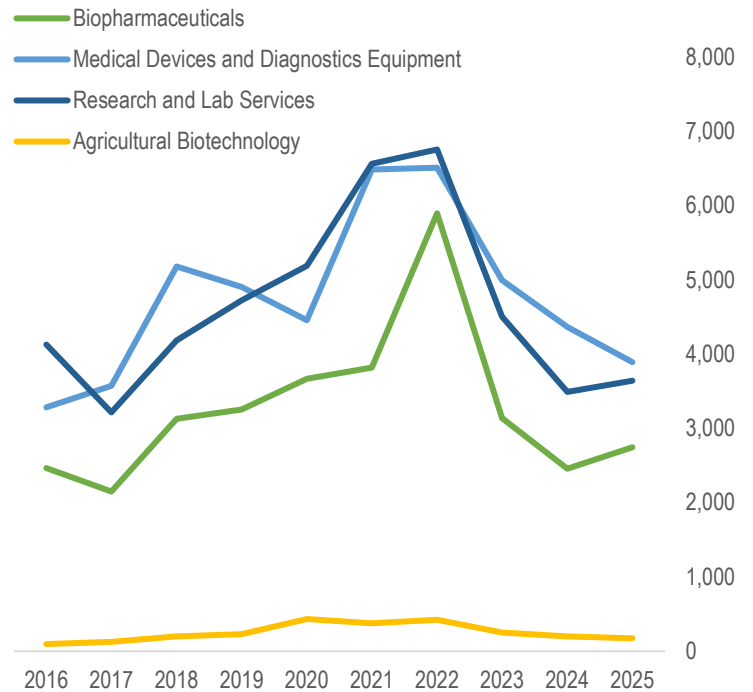


Source: Lightcast

**Job Postings by Segment**

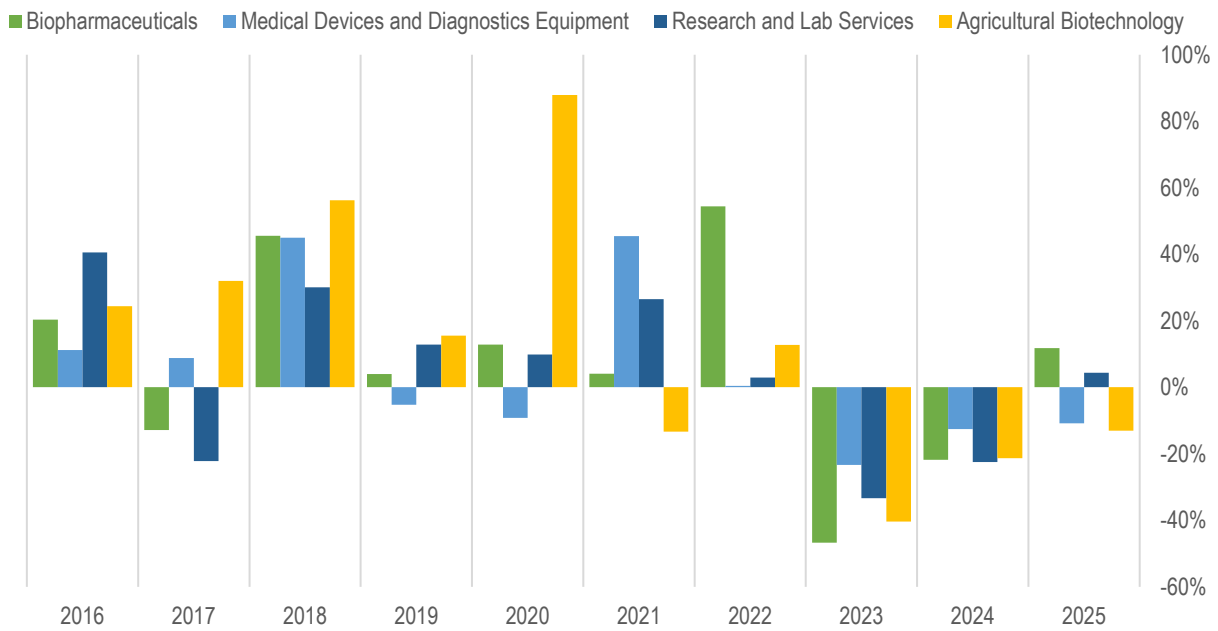
- **Research and Lab Services and Medical Devices and Diagnostics Equipment** recorded the highest number of postings across all years. Both segments climbed to roughly 6,500 or more postings in 2021 and 2022 before declining in the following years.
- **Biopharmaceuticals** also peaked in 2022, reaching nearly 5,800 postings. However, postings dropped in 2023 and remained well below that peak in 2024 and 2025.
- **Agricultural Biotechnology** had the fewest postings throughout the period, remaining comparatively low even during the broader hiring surge in the early 2020s.
- Overall **Life Sciences-Biotechnology** industry job postings rose from just under 10,000 in 2016 to a peak of nearly 19,600 in 2022. Postings then fell to about 12,900 in 2023 and declined further to roughly 10,500 in both 2024 and 2025.
- These trends suggest that hiring demand in the **Life Sciences-Biotechnology** industry strengthened through 2022, then cooled notably afterward. By 2024, postings were down across all segments compared with their earlier peaks, while 2025 showed only limited stabilization rather than a broad rebound.

**Exhibit 1-10**  
**Life Sciences-Biotechnology Industry Job Postings by Subsector**  
**Los Angeles County, 2016 - 2025**

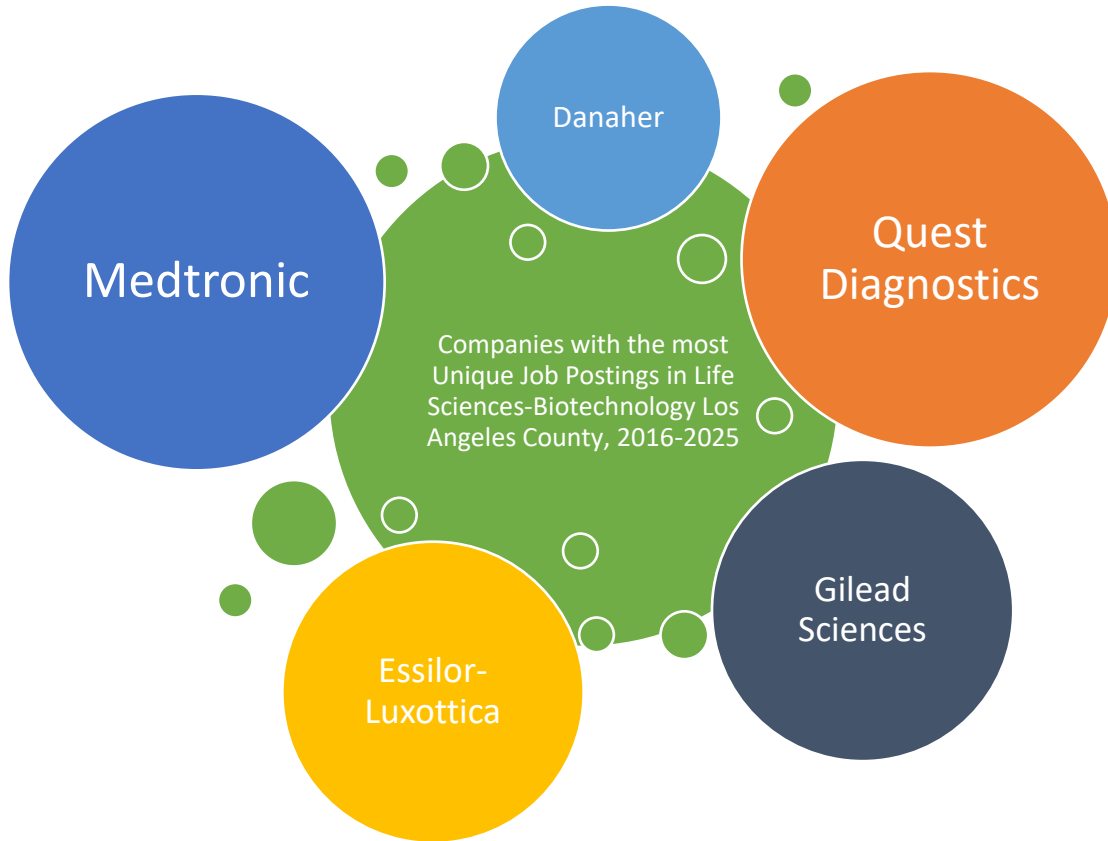


Source: Lightcast

**Exhibit 1-11**  
**Growth of Life Sciences-Biotechnology Job Postings by Subsector**  
**Los Angeles County, 2016 - 2025**

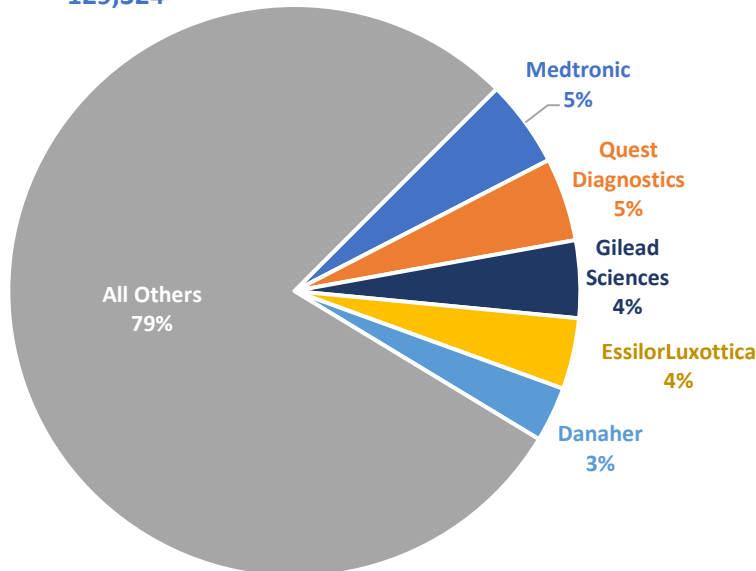


Source: Lightcast



**Exhibit 1-12**  
**Concentration of Top 5 Companies by Job Postings for Life Sciences-Biotechnology Industry**  
 Los Angeles County 2016 - 2025

**Total Postings:**  
 129,324

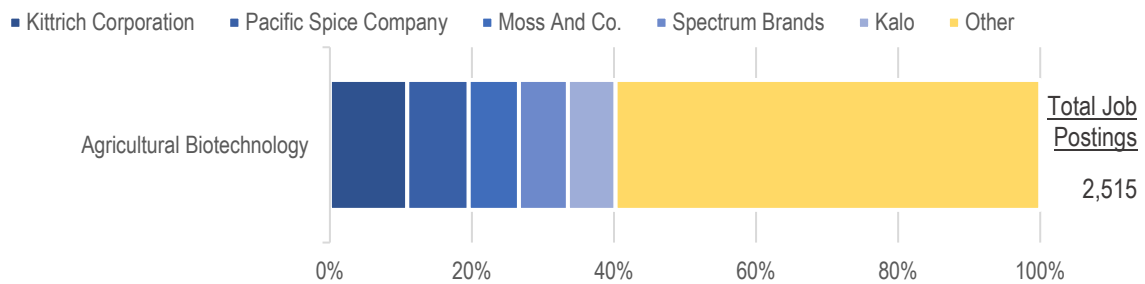
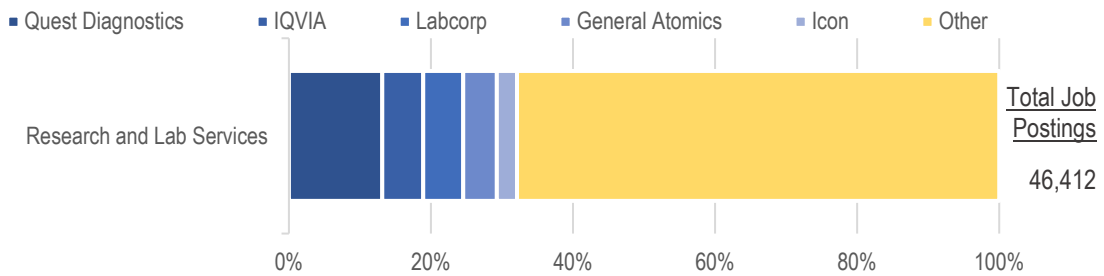
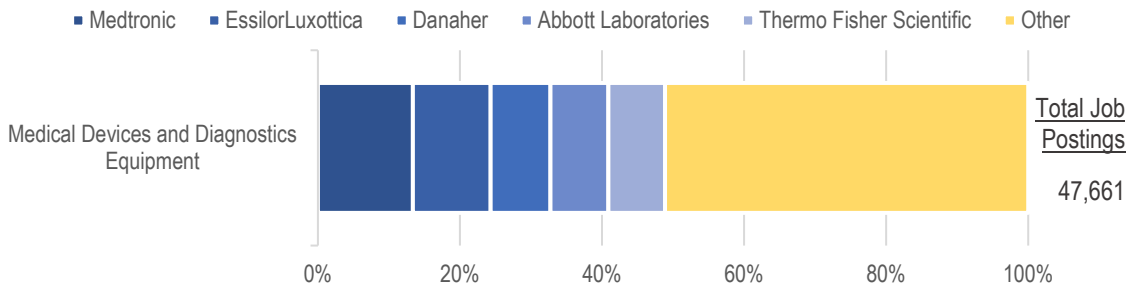
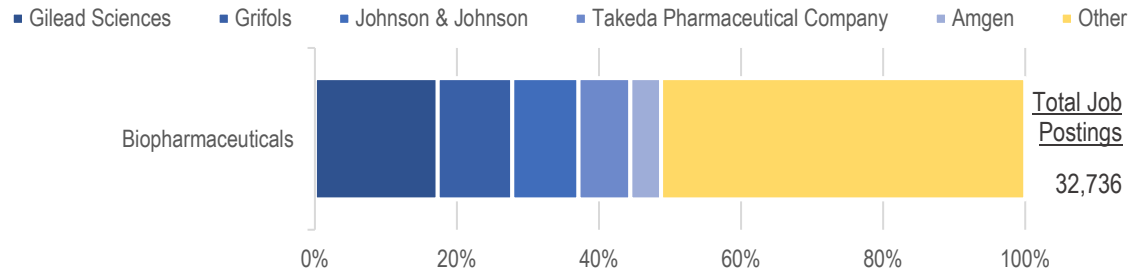


**Overall Life Sciences-Biotechnology Industry**

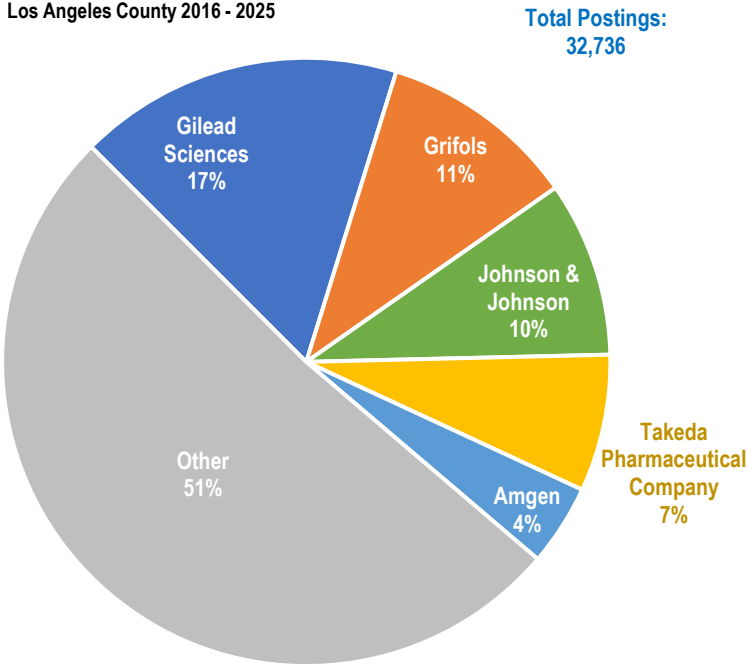
- Top 5 companies in the **Life Sciences-Biotechnology** industry and their share of job postings from 2016 to 2025. The leading employers were **Medtronic** and **Quest Diagnostics**, each accounting for 5 percent of postings, followed by **Gilad Sciences** and **EssilorLuxottica** at 4 percent each, and **Danaher** at 3 percent.
- Job postings are fairly dispersed among these five companies, which together accounted for about 21 percent of all postings in the **Life Sciences-Biotechnology** industry over the period, while all other employers made up 79 percent. This suggests that hiring demand was distributed across a relatively broad employer base rather than dominated by a small number of firms.

Source: Lightcast

**Exhibit 1-13**  
**Concentration of Hiring Among the Top 5 Companies by Job Postings in the Life Sciences-Biotechnology Industry**  
**Los Angeles County 2016 - 2025**



**Exhibit 1-14**  
**Job Postings for Biopharmaceuticals**  
**Los Angeles County 2016 - 2025**

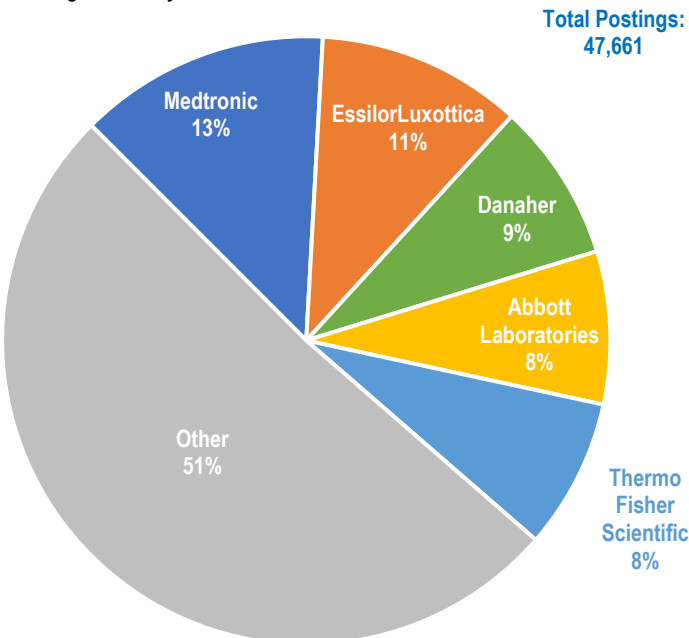


Source: Lightcast

**Biopharmaceuticals**

- Top 5 companies in the **Biopharmaceuticals** segment and their share of job postings from 2016 to 2025. The leading employers were **Gilead Sciences** (17 percent), **Grifols** (11 percent), **Johnson & Johnson** (10 percent), **Takeda Pharmaceutical Company** (7 percent), and **Amgen** (4 percent).
- Job postings are fairly concentrated in these five companies, which together accounted for about 49 percent of postings in the segment over this period.

**Exhibit 1-15**  
**Job Postings for Medical Devices and Diagnostics Equipment**  
**Los Angeles County 2016 - 2025**

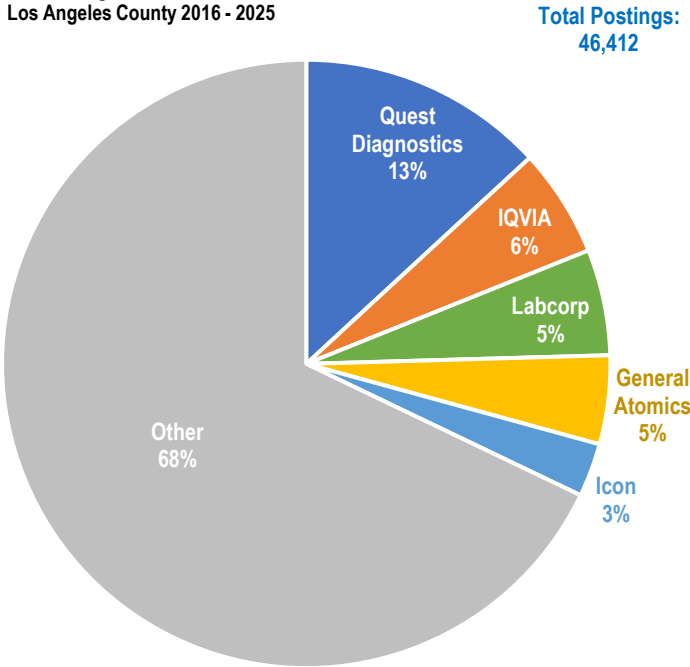


Source: Lightcast

**Medical Devices and Diagnostics Equipment**

- Top 5 companies in the **Medical Devices and Diagnostics Equipment** segment and their share of job postings from 2016 to 2025. The leading employers were **Medtronic** (13 percent), **EssilorLuxottica** (11 percent), **Danaher** (9 percent), **Abbott Laboratories** (8 percent), and **Thermo Fisher Scientific** (8 percent).
- Job postings are fairly concentrated in these five companies, which together accounted for about 49 percent of postings in the segment over the period.

**Exhibit 1-16**  
**Job Postings for Research and Lab Services**  
Los Angeles County 2016 - 2025

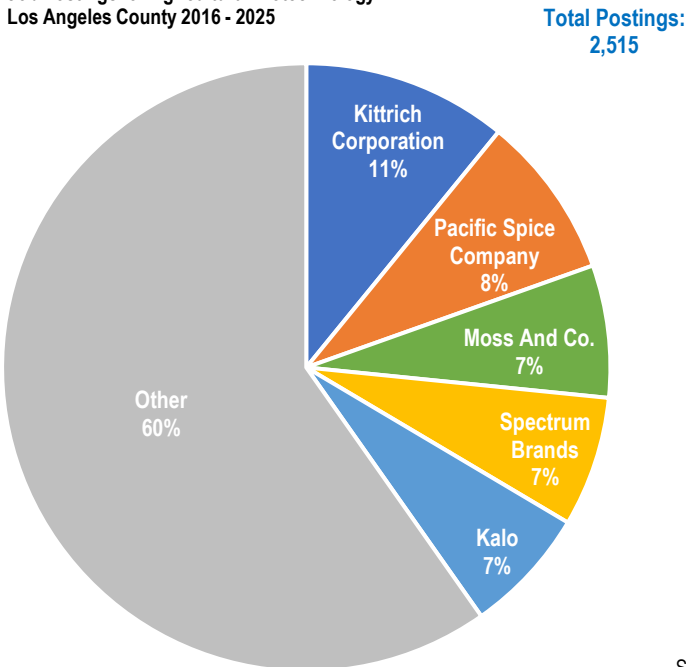


Source: Lightcast

**Research and Lab Services**

- Top 5 companies in the **Research and Lab Services** segment and their share of job postings from 2016 to 2025. The leading employers were **Quest Diagnostics** (13 percent), **IQVIA** (6 percent), **Labcorp** (5 percent), **General Atomics** (5 percent), and **Icon** (3 percent).
- Job postings are less concentrated in these five companies, which together accounted for about 32 percent of postings in the segment, indicating a broader distribution of hiring across employers.

**Exhibit 1-17**  
**Job Postings for Agricultural Biotechnology**  
Los Angeles County 2016 - 2025



Source: Lightcast

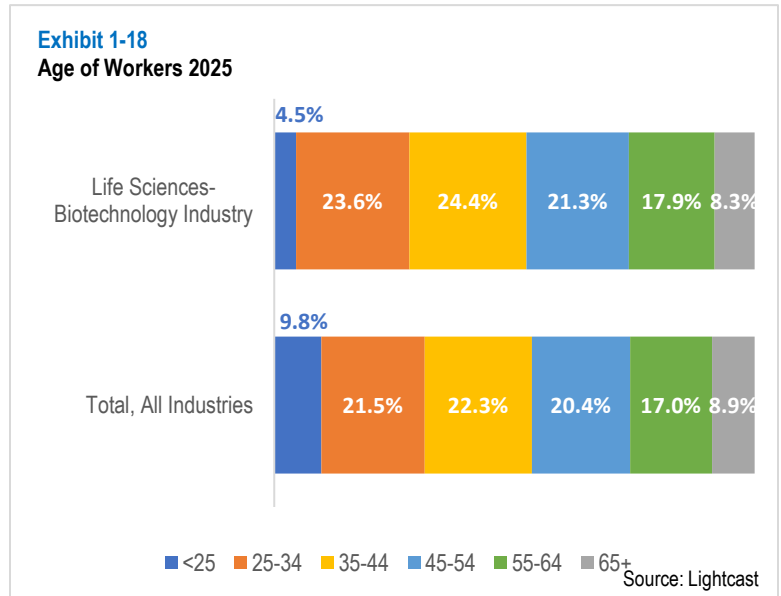
**Agricultural Biotechnology**

- Top 5 companies in the **Agricultural Biotechnology** segment and their share of job postings from 2016 to 2025. The leading employers were **Kittrich Corporation** (11 percent), **Pacific Spice Company** (8 percent), **Moss And Co.** (7 percent), **Spectrum Brands** (7 percent), and **Kalo** (7 percent).
- Job postings are moderately concentrated in these five companies, which together accounted for about 40 percent of postings in the segment over the period.

**Industry Demographics**

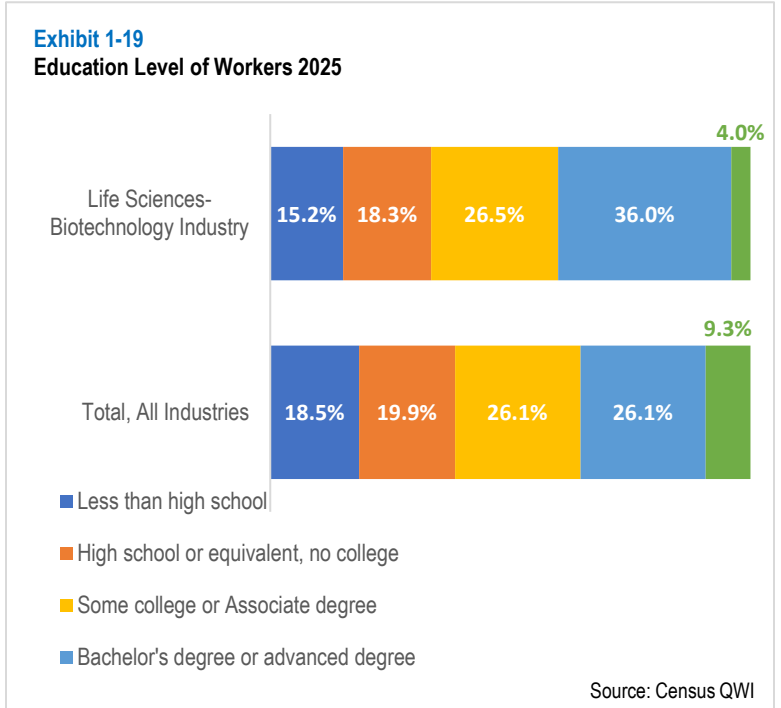
**Age of Workers**

- Nearly 48 percent of employees in the Life Sciences-Biotechnology industry are between the ages of 25 and 44, above the all-industry average of 43.8 percent in Los Angeles County. This suggests a workforce that is somewhat more concentrated in prime working ages.
- Only 4.5 percent of workers in the Life Sciences-Biotechnology industry are under the age of 25, well below the 9.8 percent share across all industries. This may indicate fewer entry-level roles or more limited early-career access within the industry.
- Workers aged 45 to 64 make up 39.2 percent of the Life Sciences-Biotechnology workforce, slightly above the all-industry share of 37.4 percent, reflecting a strong presence of mid-career and experienced workers.
- Workers aged 65 or older account for 8.3 percent of the industry workforce, compared with 8.9 percent across all industries. This suggests the industry does not have a disproportionately older workforce at the upper end of the age distribution.



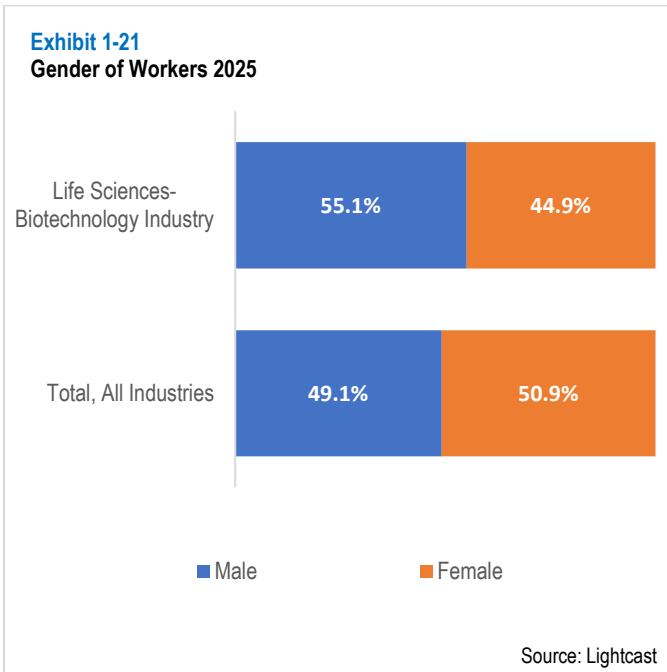
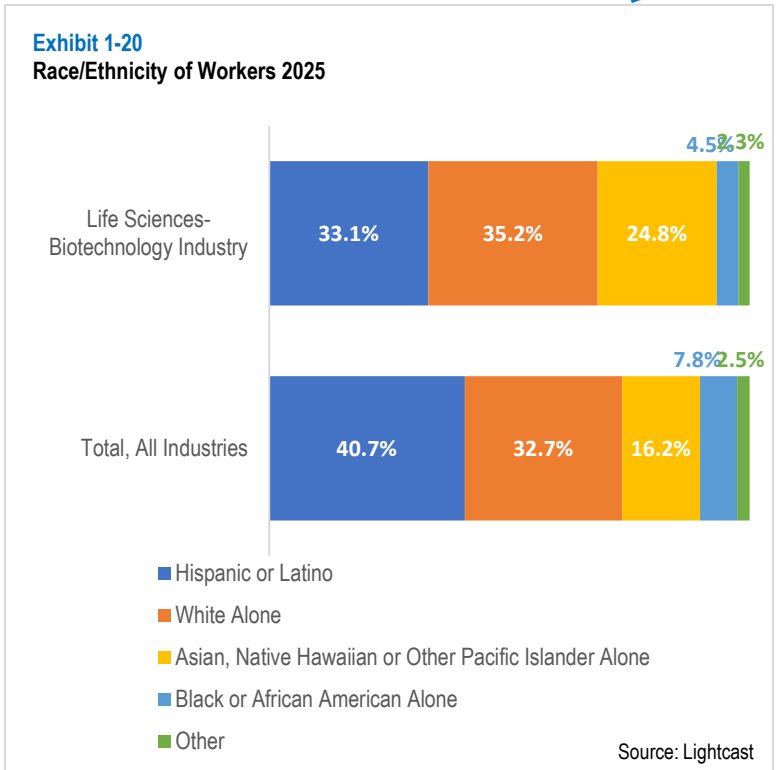
**Education Level of Workers**

- 36.0 percent of workers in the Life Sciences-Biotechnology industry hold a Bachelor’s degree or advanced degree, well above the all-industry average of 26.1 percent, reflecting strong demand for highly educated talent.
- 26.5 percent of workers have some college experience or an Associate degree, compared with 26.1 percent across all industries, indicating a similar share of workers with mid-level postsecondary attainment.
- 33.5 percent of the workforce has a high school diploma or less, below the 38.4 percent all-industry average. This suggests that the industry generally relies more heavily on workers with postsecondary education.
- The share of workers with less than a high school diploma is 15.2 percent, lower than the 18.5 percent all-industry average, reinforcing the industry’s tilt toward more educated labor.
- Educational attainment is not available for 4.0 percent of Life Sciences-Biotechnology workers, compared to 9.3 percent across all industries, consistent with the industry’s smaller share of younger workers.



**Race/Ethnicity of Workers**

- White workers make up the largest share of the Life Sciences-Biotechnology industry at 35.2 percent, slightly above the 32.7 percent share across all industries in Los Angeles County.
- Hispanic or Latino workers represent 33.1 percent of the Life Sciences-Biotechnology workforce, well below their 40.7 percent share in the overall workforce, indicating lower representation in the industry.
- Asian, Native Hawaiian, or Other Pacific Islander workers account for 24.8 percent of the industry, significantly above the 16.2 percent share across all industries.
- Black or African American workers make up 4.5 percent of the industry workforce, below the 7.8 percent share across all industries.
- Workers identified as Other race or ethnicity represent 2.3 percent of the Life Sciences-Biotechnology workforce, compared to 2.5 percent across all industries.
- Overall, the Life Sciences-Biotechnology industry has a different racial and ethnic profile than the broader workforce, with stronger representation among White and Asian workers and lower representation among Hispanic and Black workers.



**Gender of Workers**

- The Life Sciences-Biotechnology industry has a predominantly male workforce, with 55.1 percent of workers identifying as male and 44.9 percent as female.
- This differs from the overall workforce in Los Angeles County, where 49.1 percent of workers are male and 50.9 percent are female, indicating a gender gap within the industry.
- The industry’s gender imbalance suggests that women are underrepresented relative to the broader workforce, particularly in segments tied to technical, manufacturing, and scientific roles.
- Addressing this disparity could support broader talent pipelines and strengthen equity and inclusion as the industry continues to evolve

## Industry Segment Profiles

Metric		Bio-pharmaceuticals	Medical Devices and Diagnostics Equipment	Research and Lab Services	Agricultural Biotechnology	All Industries
Gender	Male	58.2%	56.5%	53.1%	<b>77.2%</b>	49.1%
	Female	41.8%	43.5%	<b>46.9%</b>	22.8%	50.9%
Education	Less than HS	<b>22.0%</b>	18.6%	12.0%	19.6%	18.5%
	High School	21.3%	19.8%	16.9%	<b>23.4%</b>	19.9%
	Some College / Associates	26.8%	27.5%	26.0%	<b>30.1%</b>	26.1%
	Bachelor's degree or advanced degree	25.8%	31.2%	<b>40.8%</b>	24.0%	26.1%
	Educational attainment not available (workers aged 24 or younger)	4.1%	3.0%	<b>4.4%</b>	2.9%	9.3%
Age	<25	4.6%	3.6%	<b>4.9%</b>	2.1%	9.8%
	25-34	23.6%	19.7%	<b>25.2%</b>	17.7%	21.5%
	35-44	24.2%	21.9%	<b>25.3%</b>	23.4%	22.3%
	45-54	21.9%	24.0%	20.1%	<b>25.0%</b>	20.4%
	55-64	18.5%	21.7%	16.2%	<b>22.6%</b>	17.0%
	>65	7.1%	9.2%	8.3%	<b>9.3%</b>	8.9%
Race	Hispanic	<b>48.9%</b>	37.8%	26.8%	47.2%	40.7%
	White	21.7%	29.6%	<b>41.1%</b>	33.4%	32.7%
	Asian, Native Hawaiian, & Pacific Islander	23.5%	<b>26.0%</b>	25.0%	11.1%	16.2%
	Black	4.1%	4.5%	4.6%	<b>6.6%</b>	7.8%
	All Others	1.7%	2.1%	<b>2.6%</b>	1.7%	2.5%

Source: Lightcast

## Workforce Demographics in the Life Sciences-Biotechnology Industry Segments

### Gender Distribution

- Agricultural Biotechnology is the most male-dominated segment, with 77.2 percent male workers.
- Biopharmaceuticals (58.2 percent male), Medical Devices and Diagnostics Equipment (56.5 percent male), and Research and Lab Services (53.1 percent male) also show male-majority workforces.
- In contrast to the 49.1 percent male workforce across all industries, all four segments of the Life Sciences-Biotechnology industry exhibit a gender imbalance, though it is most pronounced in Agricultural Biotechnology.

### Education Levels

- Research and Lab Services is the most highly educated segment, with 40.8 percent of workers holding a bachelor's degree or advanced degree, compared with 31.2 percent in Medical Devices and Diagnostics Equipment, 25.8 percent in Biopharmaceuticals, and 24.0 percent in Agricultural Biotechnology.
- Workers with some college or an associate degree range from 26.0 percent in Research and Lab Services to 30.1 percent in Agricultural Biotechnology, with all four segments near or above the 26.1 percent all-industry average.
- Biopharmaceuticals has the largest share of workers with less than a high school diploma at 22.0 percent, while Research and Lab Services has the lowest at 12.0 percent.
- Overall, Agricultural Biotechnology has the lowest bachelor's degree attainment and the highest share of workers with some college or an associate degree.

### Age Distribution

- Agricultural Biotechnology has the oldest workforce, with 31.9 percent of workers age 55 and older, including 9.3 percent age 65 or older.
- Medical Devices and Diagnostics Equipment also skews older, with 30.9 percent of workers age 55 and older and the highest share ages 45 to 54 at 24.0 percent.
- Research and Lab Services has the largest concentration of workers ages 25 to 44 at 50.5 percent, followed by Biopharmaceuticals at 47.8 percent, both above the 43.8 percent all-industry share.
- All four segments have a smaller share of workers under age 25 than the 9.8 percent all-industry average.

### Racial and Ethnic Representation

- Hispanic workers are most prevalent in Biopharmaceuticals (48.9 percent) and Agricultural Biotechnology (47.2 percent), both above the 40.7 percent all-industry average. Medical Devices and Diagnostics Equipment (37.8 percent) and Research and Lab Services (26.8 percent) fall below it.
- White workers are most prevalent in Research and Lab Services (41.1 percent), above the 32.7 percent all-industry average. Agricultural Biotechnology (33.4 percent) is slightly above average, while Biopharmaceuticals (21.7 percent) and Medical Devices and Diagnostics Equipment (29.6 percent) are below it.
- Asian, Native Hawaiian, and Pacific Islander workers are strongly represented in Medical Devices and Diagnostics Equipment (26.0 percent), Research and Lab Services (25.0 percent), and Biopharmaceuticals (23.5 percent), all above the 16.2 percent all-industry average.
- Black workers account for 4.1 percent to 6.6 percent of employment across the four segments, below the 7.8 percent all-industry average in each case.
- The clearest demographic imbalance is the underrepresentation of Hispanic and Black workers, especially in Research and Lab Services and Medical Devices and Diagnostics Equipment.

### Key Demographic Takeaways

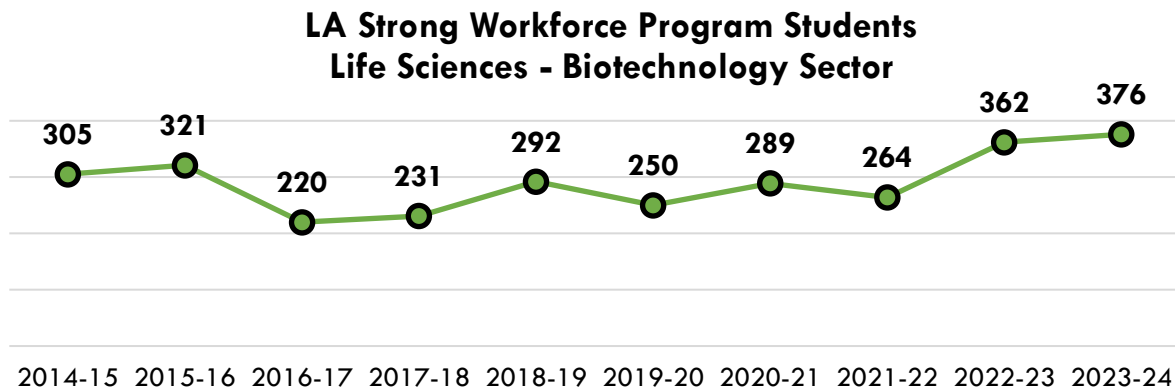
- The workforce varies notably by segment: Research and Lab Services is the most highly educated, while Agricultural Biotechnology is the most male-dominated and among the oldest.
- Medical Devices and Diagnostics Equipment also skews older, while Research and Lab Services and Biopharmaceuticals have stronger concentrations of workers ages 25 to 44.
- Across all segments, younger workers are underrepresented relative to the broader workforce, suggesting more limited early-career access or higher experience requirements.
- The most notable demographic imbalance is the underrepresentation of Hispanic and Black workers, especially in research, laboratory services, and medical device-related segments.
- These differences reflect the distinct occupational mix across the industry, from research and lab roles to advanced manufacturing and agricultural production.

### Community College Talent Supply

Six community college programs have historically prepared students for careers involved in the Life Sciences – Biotechnology sector, providing education and career preparation related to the theories, operations, and technical skills used to assist researchers and engineers engaged in developing or manufacturing biological, biotechnical, or medical systems or products:

- Biotechnology and Biomedical Technology (0430.00)
- Biomedical Instrumentation (0934.60)
- Electron Microscopy (0934.70)
- Chemical Technology (0954.00)
- Laboratory Science Technology (0955.00)
- Medical Laboratory Technology (1205.00)

Since the 2014-2015 academic year, the number of students in life sciences-biotechnology has grown to 376, which is a 23% increase compared to the 2014-15 school year and the most recorded in program history. The exhibit below shows the breakdown by academic year over the last decade.



Source: DataVista

Between 2023 and 2025, community colleges in the region conferred an average of 177 awards across five training programs in the Life Sciences – Biotechnology sector, rising steadily over the last three years. From 2022 to 2024, there were no awards conferred in the Electron Microscopy (0934.70) TOP Code.

#### Regional community college awards (certificates and degrees), 2023-2025

TOP	Program	2022-23 Awards	2023-24 Awards	2024-25 Awards	3-Year Average
0430.00	Biotechnology and Biomedical Technology	106	135	156	132
1205.00	Medical Laboratory Technology	26	23	14	21
0934.60	Biomedical Instrumentation	22	15	10	16
0954.00	Chemical Technology	1	7	7	5
0955.00	Laboratory Science Technology	2	4	2	3
<b>LA Supply Total/Average</b>		<b>157</b>	<b>184</b>	<b>189</b>	<b>177</b>

Source: [California Community Colleges Chancellor’s Office MIS Data Mart](#)

## Regional Biotechnology Programs

Sixteen of the nineteen regional community colleges offer career education programs that prepare students for careers in biotechnology. While the majority of the colleges listed in the table below offer core training in biotechnology, several offer more specialized training related to specific areas – biomanufacturing, biomedical instrumentation, computational biology, stem cell culture, and others.

### LA Biotechnology programs and award types offered by college

College	Local Program Title	Award Offered
<a href="#"><u>Cerritos</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> <li>• Biotechnology I: Basic Web Lab Skills</li> <li>• Biotechnology II: Biomanufacturing</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>Citrus</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> <li>• Biomanufacturing</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>Compton</u></a>	<ul style="list-style-type: none"> <li>• Biomanufacturing</li> <li>• Biomanufacturing Technician</li> <li>• Biotechnology Laboratory Assistant</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>East L.A.</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> </ul>	<ul style="list-style-type: none"> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>El Camino</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> <li>• Biotechnology Laboratory Assistant</li> <li>• Biotechnology Technician</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>Glendale</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> <li>• Biotechnology Research Lab Assistant</li> <li>• Biotechnology Research Lab Technician</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree/Certificate</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>L.A. Harbor</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> <li>• Biotechnology Lab Assistant</li> <li>• Biotechnology Research Lab Assistant</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>L.A. Mission</u></a>	<ul style="list-style-type: none"> <li>• Biomanufacturing</li> <li>• Biotechnology</li> <li>• Biotechnology Lab Assistant</li> <li>• Biotechnology Research Lab Assistant</li> <li>• Cell and Gene Therapy</li> </ul>	<ul style="list-style-type: none"> <li>• BS Degree</li> <li>• AS Degree</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>
<a href="#"><u>L.A. Pierce</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> <li>• Biomanufacturing Technician</li> <li>• Biotechnology Lab Assistant</li> <li>• Biotechnology Research Lab Assistant</li> <li>• Career Exploration: Biotechnology Careers</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> <li>• Noncredit program</li> </ul>
<a href="#"><u>L.A. Trade Tech</u></a>	<ul style="list-style-type: none"> <li>• Biotechnology</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree/Certificate</li> </ul>
<a href="#"><u>L.A. Valley</u></a>	<ul style="list-style-type: none"> <li>• Electronics: Biomedical Instrumentation</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree/Certificate</li> </ul>
<a href="#"><u>Mt. San Antonio</u></a>	<ul style="list-style-type: none"> <li>• Histotechnology</li> <li>• Applied Laboratory Science Technology</li> <li>• Histotechnician Training</li> </ul>	<ul style="list-style-type: none"> <li>• BS Degree</li> <li>• AS Degree</li> <li>• AS Degree</li> </ul>
<a href="#"><u>Pasadena City</u></a>	<ul style="list-style-type: none"> <li>• Biological Technology</li> <li>• Biological Technology - Stem Cell Culture</li> <li>• Biological Technology – Stem Cell-Based Biomanufacturing</li> <li>• Biological Technology - Computational Biology</li> </ul>	<ul style="list-style-type: none"> <li>• AS Degree/Certificate</li> <li>• AS Degree/Certificate</li> <li>• AS Degree/Certificate</li> <li>• Certificate of Achievement</li> <li>• Certificate of Achievement</li> </ul>

College	Local Program Title	Award Offered
	<ul style="list-style-type: none"> <li>Biological Technology - Laboratory Assistant</li> <li>Biological Technology – Laboratory Skill</li> </ul>	<ul style="list-style-type: none"> <li>Certificate of Achievement</li> </ul>
<a href="#">Rio Hondo</a>	<ul style="list-style-type: none"> <li>Biotechnology</li> </ul>	<ul style="list-style-type: none"> <li>Certificate of Achievement</li> </ul>
<a href="#">Santa Monica</a>	<ul style="list-style-type: none"> <li>Biotechnology</li> <li>Biotechnology/Life Sciences Laboratory Assistant</li> <li>Biotechnology &amp; Cell Science Laboratory Technician</li> <li>Chemical Technician Skills</li> </ul>	<ul style="list-style-type: none"> <li>AS Degree</li> <li>Certificate of Achievement</li> <li>Certificate of Achievement</li> <li>Certificate of Achievement</li> </ul>
<a href="#">West L.A.</a>	<ul style="list-style-type: none"> <li>Biotechnology Lab Technician</li> </ul>	<ul style="list-style-type: none"> <li>Certificate of Achievement</li> </ul>

Source: [California Community Colleges Chancellor’s Office Curriculum Inventory \(COCI\)](#)

### LA’s Emerging Biotechnology Programs

A few community colleges in the region are currently in the process of finalizing and launching new programs related to biotechnology.

#### Emerging LA Biotechnology programs and award types offered by college

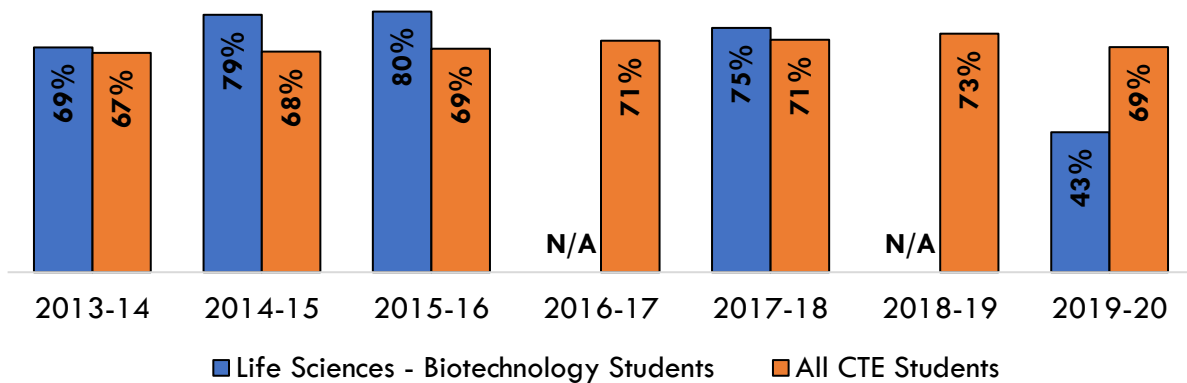
College	Local Program Title	Award Offered
<a href="#">Citrus College</a>	<ul style="list-style-type: none"> <li>Environmental Monitoring in Biomanufacturing</li> </ul>	<ul style="list-style-type: none"> <li>Certificate of Achievement</li> </ul>
<a href="#">LA Pierce</a>	<ul style="list-style-type: none"> <li>Biomanufacturing</li> <li>Chemical Technology</li> </ul>	<ul style="list-style-type: none"> <li>BS Degree</li> <li>AS Degree/Certificate</li> </ul>
<a href="#">Santa Monica</a>	<ul style="list-style-type: none"> <li>Biological Laboratory Skills</li> </ul>	<ul style="list-style-type: none"> <li>Certificate of Achievement</li> </ul>

Source: [RegionalCTE.org](#)

### Student Employment Outcomes

According to LaunchBoard data, between 43%-80% percent of exiting students from these biotechnology programs report working in a job closely related to their field of study (2014-2020). Data was not available for this metric for 2016-17 and 2018-19. Biotechnology students regularly reported working in a job closely related to their field of study at higher rates than the average of all CTE students, with the exception of 2019-20.

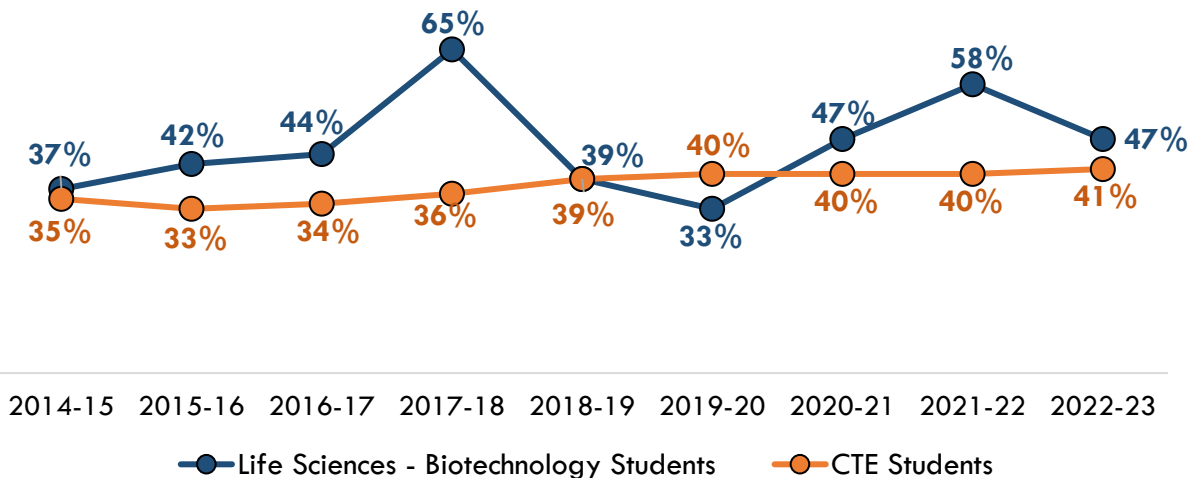
### Job Closely Related to Field of Study



Source: LaunchBoard

Biotechnology students also had a higher percentage of students who attained a living wage after exiting, as compared to all CTE students. In the latest data available, 47% of exiting biotechnology students reported earning a living wage compared to 41% of all CTE students.

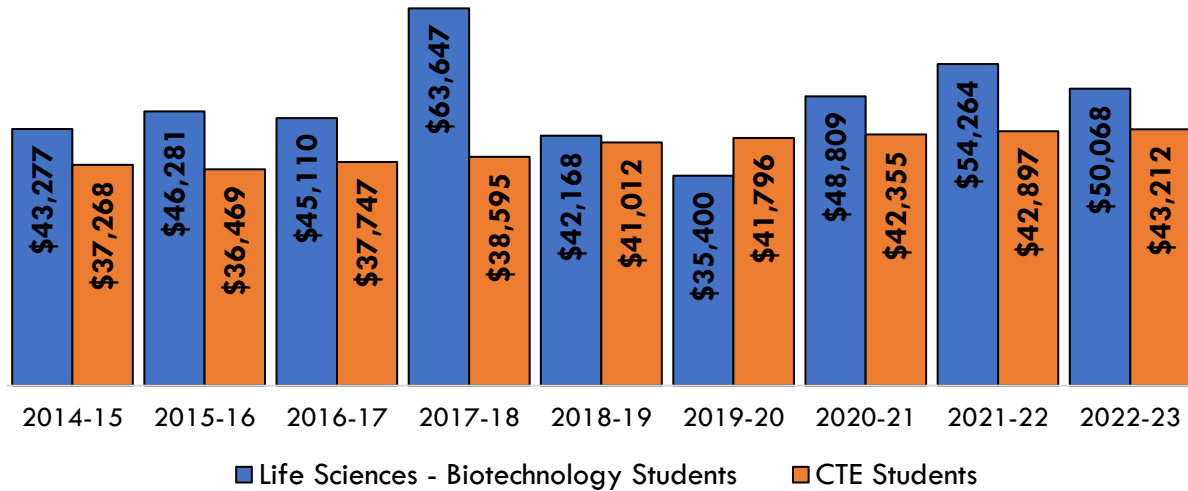
### Exiting Students Who Attained A Living Wage



Source: DataVista

DataVista’s data display of median annual earnings for exiting students shows a fluctuation from a high of nearly \$64,000 in 2017-18 to \$35,400 in 2019-20. Over the past three years, exiting students have earned median annual wages between \$49,000 and \$54,000. Compared to all CTE students, biotechnology students reported earning higher annual wages than the average of all CTE students, with the exception of 2019-2020.

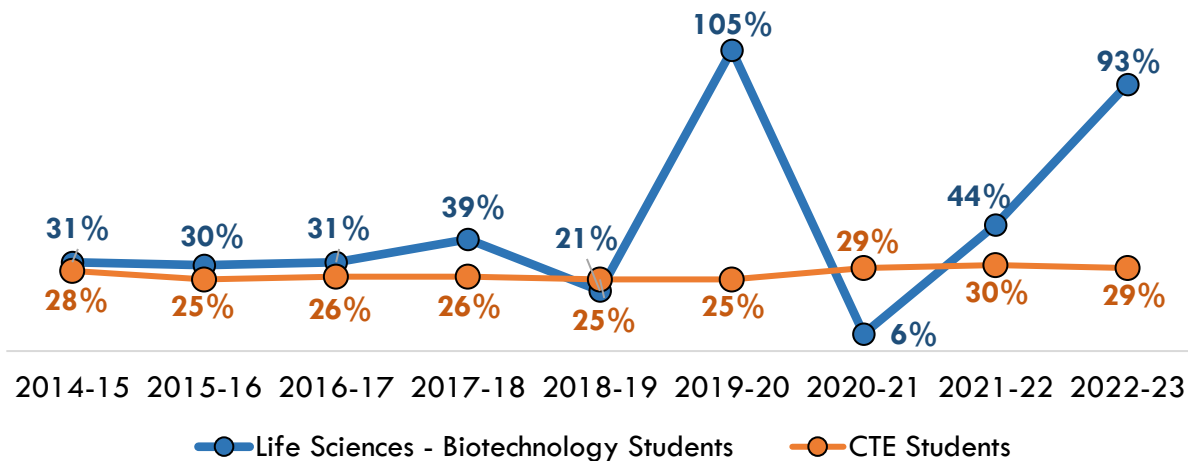
### Median Annual Earnings for Exiting Students



Source: DataVista

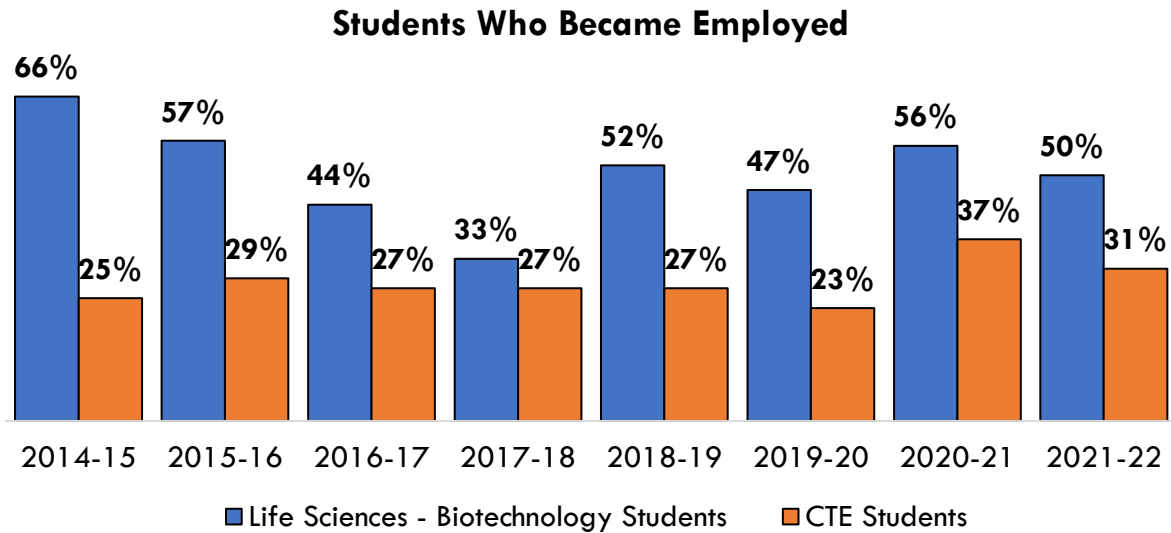
Biotechnology programs are positively impacting our students’ lives, increasing their earnings by 93% in the latest data available (2022-23). This is a much higher rate of growth than the average of all CTE students, who reported between 25% and 30% change in earnings.

### Median Change in Earnings for Exiting Students



Source: DataVista

Self-reported data also shows that biotechnology students became employed after exiting community college programs at much higher rates than compared to all exiting CTE students. In 2021-2022, 50% of biotechnology students became employed, which was higher than the 31% of CTE students within the same metric.



Source: DataVista

# COMMUNITY COLLEGE REPRESENTATION

## Cerritos College

<b>Program Name</b>	A.S. Degree - Biotechnology
<b>Website</b>	<a href="https://www.cerritos.edu/biotech/default.htm">https://www.cerritos.edu/biotech/default.htm</a>
<b>Overview</b>	Biotechnology utilizes biological systems or living organisms to create products and solve real-world problems. From employing bacteria to produce human insulin, to genetically changing a patient's own immune system cells so they can better fight cancer, the biotech industry continues to expand and innovate. The Associate of Science Degree for Biotechnology is aimed at preparing students for positions in the biotechnology industry, including biological technicians and biomanufacturing production technicians.

For more information, contact:

Michelle Stieber, Department Lead, [mstieber@Cerritos.edu](mailto:mstieber@Cerritos.edu)

## Citrus College

<b>Program Name</b>	A.S. Degree - Biotechnology
<b>Website</b>	<a href="https://catalog.citruscollege.edu/disciplines/biotechnology/biotechnology-as/#text">https://catalog.citruscollege.edu/disciplines/biotechnology/biotechnology-as/#text</a>
<b>Overview</b>	Biotechnology involves the application of biology to develop new products and technologies to combat disease, reduce our environmental impact, provide cleaner fuel sources, improve food production, and create safer industrial processes. The Citrus College Biotechnology A.S. degree includes a mix of basic science courses and hands-on laboratory classes designed to provide essential technical training and experiences necessary to thrive in this growing industry. Students will gain the conceptual knowledge, practical skills, and confidence to obtain entry-level employment as biological technicians, manufacturing production technicians, quality control technicians, and environmental monitoring technicians in bioscience laboratories and companies. The program emphasizes work readiness skills, such as resume writing, teamwork, and communication.

For more information, contact:

Eleanor Sark, Department Lead, [etsark@citruscollege.edu](mailto:etsark@citruscollege.edu)

## Compton College

<b>Program Name</b>	A.S. Degree - Biomanufacturing
<b>Website</b>	<a href="https://programmap.compton.edu/academics/interest-clusters/16174beb-f12c-4911-adfd-86b903f67daa/programs/37fede0f-">https://programmap.compton.edu/academics/interest-clusters/16174beb-f12c-4911-adfd-86b903f67daa/programs/37fede0f-</a>

[e0e3-4ef3-47c8-28f4db825365](#)

## Overview

In this biomanufacturing program, students will gain key knowledge, skills, and abilities needed to work in the biomanufacturing industry, which uses biological systems to produce biofuels, vaccines, pharmaceutical drugs, and other therapeutic agents. Students will get hands-on experience with production and analysis of biologically relevant molecules. Students learn both basic and advanced techniques in biotechnology and biomanufacturing such as genetic engineering, cell culture, chromatography including HPLC, and biochemical analysis as well as how to do technical writing, approaches to quality in the biomanufacturing industry, and requirements to work in a regulated environment.

For more information, contact:

Katherine Marsh, Division Lead, [kmarsh@compton.edu](mailto:kmarsh@compton.edu)

## East Los Angeles College

**Program Name** Certificate of Achievement - Biotechnology

**Website** <https://www.elac.edu/academics/aos/biotechnology>

### Overview

This course provides both theoretical and practical use of foundational concepts directly required in laboratory science, including discussions on good laboratory practice (GLP) and good manufacturing practice (GMP). The laboratory component provides to skills to solution and media preparation, which is achieved through calculating, assembling, and performing proper laboratory techniques. Other laboratory skills include growing, maintaining, staining, and identifying the morphology of bacteria, in which aseptic techniques are emphasized. The application of industry standard communication protocols, Food and Drug Administration (FDA) regulations, and Standard Operating Procedures (SOP) in the laboratory makes it easier for students to transition into the workforce in the biotechnology industry.

For more information, contact:

Tuyen Nguyen, Division Lead, [nguyentt7@elac.edu](mailto:nguyentt7@elac.edu)

## El Camino College

**Program Name** A.S. Degree - Biotechnology

**Website** [http://catalog.elcamino.edu/preview\\_program.php?catoid=12&poid=3490&returno=686](http://catalog.elcamino.edu/preview_program.php?catoid=12&poid=3490&returno=686)

## Overview

The Biotechnology AS degree program is a lab-skills based program that includes two Certificates of Achievement (Biotechnology Laboratory Assistant and Biotechnology Technician Certificate) with the option to transfer to a four-year program. This AS degree builds on foundational biotechnology lab skills acquired in the two stackable certificate programs to further advance student knowledge of concepts and practices employed in modern biotechnology industries including proteins and other biomolecules and quality and regulatory compliance. With close interactions with local biotechnology industry partners, the industry-responsive curriculum taught in this degree program will prepare students for entry-level positions and career advancement in the biotechnology sector with the option to transfer to a four-year institution.

For more information contact:

Edwardo Ayala, Division Lead, [eayala@elcamino.edu](mailto:eayala@elcamino.edu)

## Glendale College

### Program Name

A.S. Degree - Biotechnology

### Website

<https://www.glendale.edu/academics/degree-certificate-programs/graduation-requirements/associate-in-science-degree-requirements/biotechnology>

### Overview

The AS degree in Biotechnology provides a strong foundation for transfer to a college (two- or four- year) to complete a BS in Biotechnology. It also prepares students with the foundation in microbiology, molecular and cell biology laboratory skills and soft skills that meet industry standards for employment in biotech industry (e.g. life science technician and biological science technician) and in academic research institutions. Students may petition to use IGETC for STEM majors in place of our local GE requirements. To gain authentic, hands-on research experience, students are recommended to take the BIOL 298 path and conduct the internship (BIOL 50) at a four-year college prior to transfer. Students must complete all required core courses for a total of 25-30 units. Program Learning Outcomes: Upon completion of this program, students will be qualified for a lab technician job and transfer to a college with a BS in Biotechnology, and will have mastery of advanced biotechnology laboratory skills, good documentation practices, and work readiness skills. Learn skills necessary for a lab technician job Fulfill requirements for transfer to a college with a BS in Biotechnology Master advanced biotechnology laboratory skills and good documentation practices Acquire work-readiness skills

For more information contact:

Shelley Thai, Division Chair, [sthai@glendale.edu](mailto:sthai@glendale.edu)

## Long Beach City College

### Program Name

Associate in Science – Biological Sciences

### Website

<https://www.lbcc.edu/node/1014>

**Overview**

The department has a multifold mission of preparing students for transfer to a four-year university, attain an Associate’s degree, and satisfying the biological science prerequisite for various programs at other colleges.

Students who have matriculated through the programs will be exposed to the scientific method, gain an appreciation for the environment, and become aware of the vital roles of science in our lives. The courses will also help students to better comprehend scientific information and increase awareness of personal health.

For more information contact:

Robyn Arias, Department Head, [rarias@lbcc.edu](mailto:rarias@lbcc.edu)

### Los Angeles City College

**Program Name**

Associate in Science for Transfer - Biology

**Website**

<https://programmmap.lacitycollege.edu/academics/interest-clusters/51c3d91b-f44a-4091-ba30-5bfda01c5530/programs/3c4fd6c0-2c9b-fe6a-30e3-579af6440a33>

**Overview**

Students completing the Associate in Science in Biology for Transfer Degree will have satisfied the lower division major preparation for bachelors degrees in similar majors as determined by California State University (CSU) campuses and are guaranteed admission with junior status to the California State University system, although not to a particular campus or major. Students can search the CSU Associate Degree for Transfer Major & Campus Search website to find CSU campuses that accept ADT degrees as being similar to their bachelors degree majors.

For more information contact:

Amir Keshavarz, Department Chair, [keshava@lacitycollege.edu](mailto:keshava@lacitycollege.edu)

### Los Angeles Harbor College

**Program Name**

Certificate of Achievement - Biotechnology Lab Assistant

**Website**

<https://la-harbor.programmapper.com/academics/interest-clusters/8294c792-b755-4465-ae87-e6a106a100e3/programs/82cfc9a8-4a9f-78b9-e8d7-2265fe6f6e80>

**Overview**

The students will be given a Certificate of Achievement following completion of the program requirements if the student has maintained a minimum of a C grade in all required courses. These certificates are designed for students who have limited time to pursue their career goals and wish to specialize in a particular aspect of the field, seek upward mobility in their present job, or may desire to prepare themselves for a new career. Some courses taken in the program apply towards curriculum leading to an Associate Degree. Always consult a counselor for program requirements, graduation and transfer information.

For more information contact:

Israel Santana, Division Chair, [santani3@lahc.edu](mailto:santani3@lahc.edu)

## Los Angeles Mission College

**Program Name** Bachelor of Science - Biomanufacturing

**Website** <https://la-mission.programmapper.ws/academics/interest-clusters/fd4c554f-6a1c-4180-9c09-900520f4d4a8/programs/033f6bf4-b154-23ee-99b6-2a1cc5a91d9d>

**Overview** The bachelor's degree program in biomanufacturing will build seamlessly upon the associate degree program in biotechnology, allowing students who complete the associate degree or equivalent coursework from other colleges to enter as juniors and earn a baccalaureate degree. The biomanufacturing bachelor's degree program develops the skills, abilities, and knowledge that students need to work in the unique environment of biological production.

For more information contact:

Dr. Chander Arora, Division Lead, [aroracp@lamission.edu](mailto:aroracp@lamission.edu)

## Los Angeles Pierce College

**Program Name** B.S. Degree – Biomanufacturing (2026)

**Website** <https://www.lapc.edu/academics/aos/biomanufacturing>

**Overview** Biomanufacturing is where Bioscience meets Engineering, Law, and Business. In this rapidly growing industry, technicians and specialists work in process development laboratories and GMP facilities to produce life-saving medicines, food, and other biorenewable products using living cells. A career in biomanufacturing opens doors to cutting-edge biotechnology companies, pharmaceutical firms, and research institutions, where your skills directly contribute to improving human health and the environment. Whether you enjoy the hands-on work with bioreactors or ensuring quality in highly regulated production settings, biomanufacturing offers stable, well-paying jobs and the opportunity to make a real-world impact.

Pierce's Biomanufacturing B.S. program offers an interdisciplinary curriculum that prepares you to be versatile and adaptable in the future Biomanufacturing workforce landscape. Start your career at Pierce and complete the entire Baccalaureate program with a fraction of the cost of attending a typical 4-year University.

For more information contact:

Aron Kamajaya, Department Chair, [kamajaa@piercecollege.edu](mailto:kamajaa@piercecollege.edu)

## Los Angeles Southwest College

**Program Name** AS - Biology

**Website** <https://www.lasc.edu/academics/aos/biology>

**Overview** Determine why harmful bacteria were found in drinking water. Perform experiments to ensure spinach doesn't contain E. coli. Investigate why parrotfish flourish after coral reefs die. Research the mating habits of the shoebill. Discover a new insect in the Amazon. Carbon date a humanoid skeleton found in Eritrea to establish its age. Biologists study life as we know it, from the interconnected redwood tree forests, to the largest organism, known as the humongous fungus, that attacks and destroys forests.

Biologists conduct experiments to improve life on earth, such as finding ways to minimize the damage done to forests by humongous fungus. They observe everything from the smallest microorganism to the largest plants, from the deepest parts of our oceans, to the highest elevations where life can be found. They research life cycles and habitats to see if environmental or man-made factors might be causing a specific species' decline, and what solutions could help them survive. A career in biology is a career exploring life.

For more information contact:

Kim Kang, Division Lead, [kimk@lasc.edu](mailto:kimk@lasc.edu)

## Los Angeles Trade Technical College

**Program Name** A.S. Degree - Biotechnology

**Website** <https://www.lattc.edu/academics/aos/biotechnology-biomanufacturing>

**Overview** The LATTC Biotechnology Certificate/AS Degree Program is designed to meet the needs of students who wish to acquire the necessary skills in a biotechnology career with an emphasis in biomanufacturing. This program also suits the needs of transfer students who wish to complete their first two years of education in a community college.

Biotechnology is a changing industry that applies science and technologies to living organisms through the process of discovering, developing, manufacturing, and regulating quality of new products. Biotechnology applies to agriculture, human health and medicine, energy and environment. Biotechnology workers are employed in many industries, including, pharmaceutical and medical manufacturing; instrument, equipment and supplies manufacturing; scientific and technical consulting services; scientific and research development services; education; laboratories and government.

For more information contact:

Manuel Acost, Department Chair, [acostam2@lattc.edu](mailto:acostam2@lattc.edu)

## Los Angeles Valley College

<b>Program Name</b>	A.S. Degree - Electronics: Biomedical Instrumentation
<b>Website</b>	<a href="https://programmmap.lavc.edu/academics/interest-clusters/a66b5056-0a2c-4512-bdfb-93b17517e885/programs/3495f756-bc4a-1b90-7c27-7556411eb53e">https://programmmap.lavc.edu/academics/interest-clusters/a66b5056-0a2c-4512-bdfb-93b17517e885/programs/3495f756-bc4a-1b90-7c27-7556411eb53e</a>
<b>Overview</b>	This certificate prepares the student to work in an entry-level position as a technician to repair and maintain a variety of electronic apparatus used in the medical field. Some of these positions are: Biomedical Equipment Technician (BMET); Field Service Engineer; Medical Equipment Sales Engineer; Clinical Laboratory Technician; and R & D Technician. The certificate can be the basis for continued study and attainment of an associate's degree.

For more information contact:

Pamela B. Byrd-Williams, Division Lead, [byrdwipb@lavc.edu](mailto:byrdwipb@lavc.edu)

## Mt. San Antonio College

<b>Program Name</b>	A.S. Degree - Applied Laboratory Science Technology
<b>Website</b>	<a href="https://catalog.mtsac.edu/programs/programsaz/applied-laboratory-science/applied-laboratory-science-technology-alst-degree/">https://catalog.mtsac.edu/programs/programsaz/applied-laboratory-science/applied-laboratory-science-technology-alst-degree/</a>
<b>Overview</b>	This program provides theoretical and technical training to prepare students for employment as entry-level chemical technicians in fields such as chemical quality control, chemical process control, analytical chemistry, water quality, and research and development. The program includes a broad-based overview of workforce options and emphasizes development of analytical skills, instrument proficiency, critical thinking, and troubleshooting of experimental designs and outcomes.

For more information contact:

Janine Kido, Division Lead, [jkido@mtsac.edu](mailto:jkido@mtsac.edu)

## Pasadena City College

<b>Program Name</b>	A.S. Degree - BIOLOGICAL TECHNOLOGY - STEM CELL CULTURE
<b>Website</b>	<a href="https://curriculum.pasadena.edu/academic-programs/biological-technology/biological-technology-stem-cell-culture-cert-achievement/">https://curriculum.pasadena.edu/academic-programs/biological-technology/biological-technology-stem-cell-culture-cert-achievement/</a>
<b>Overview</b>	Courses that are part of the Biological Technology - Stem Cell Culture curriculum are designed to prepare students to work in the biotechnology industry by providing instruction and training in basic and advanced laboratory procedures as well as specialized training in stem cell culture techniques. This is an interdisciplinary program including courses and practical training in math, chemistry, and biology. Emphasis is placed on program participants developing the necessary employability skills and competency for working in a laboratory environment, specifically in biomedical and academic laboratories performing research in the field of stem cell biology and regenerative medicine.

The program offers classroom instruction in a working laboratory setting and cell culture facility and assistance in finding appropriate on-site internships providing practical work-based experience in the biotechnology industry. Students must be able to provide their own transportation in the final semester(s) to an internship site. Employment opportunities include: biomedical industry, academic research institutions, pharmaceuticals companies, and genetic engineering laboratories.

For more information contact:

Pamela L. Eversole-Cire, Division Lead, [PLEVERSOLE-CIRE@pasadena.edu](mailto:PLEVERSOLE-CIRE@pasadena.edu)

## Rio Hondo College

<b>Program Name</b>	Certificate of Achievement - Biotechnology
<b>Website</b>	<a href="https://pathways.riohondo.edu/program/biotechnology-coa/#:~:text=Biotechnology%20COA%20%2D%20Guided%20Pathways&amp;text=This%20certificate%20of%20achievement%20comprises,in%20a%20contemporary%20laboratory%20setting.">https://pathways.riohondo.edu/program/biotechnology-coa/#:~:text=Biotechnology%20COA%20%2D%20Guided%20Pathways&amp;text=This%20certificate%20of%20achievement%20comprises,in%20a%20contemporary%20laboratory%20setting.</a>
<b>Overview</b>	This certificate of achievement comprises three foundational courses that give students background and practical experience in the techniques and applications of biotechnology in a contemporary laboratory setting. The certificate is also designed to be a springboard into a wide array of technical and theoretical fields in the natural sciences, including biology, medicine, pharmaceuticals, and agriculture.

For more information contact:

Jeronimo Ribaya, Division Lead, [jribaya@riohondo.edu](mailto:jribaya@riohondo.edu)

## Santa Monica College

<b>Program Name</b>	A.S. Degree - Biotechnology
<b>Website</b>	<a href="https://www.smc.edu/academics/academic-departments/life-sciences/biotechnology/">https://www.smc.edu/academics/academic-departments/life-sciences/biotechnology/</a>
<b>Overview</b>	This Associate degree program prepares students to enter the life science/biotechnology industry — or transfer to a Bachelor’s degree in biomanufacturing program at another California Community College — with the knowledge and skills they need to operate cutting-edge laboratory equipment, perform and analyze experiments, and use scientific principles to address biomedical issues that are impacting society and the planet.

For more information contact:

Thomas Chen, Department Chair, [CHEN\\_THOMAS@smc.edu](mailto:CHEN_THOMAS@smc.edu)

## West Los Angeles College

<b>Program Name</b>	Certificate of Achievement - Life Sciences - Biotechnology
<b>Website</b>	<a href="https://programmap.wlac.edu/academics/interest-clusters/460d8948-6f0c-4d20-a3ed-795607b9f471/programs/ea669121-bae6-2c07-7867-c14f8aec2af4">https://programmap.wlac.edu/academics/interest-clusters/460d8948-6f0c-4d20-a3ed-795607b9f471/programs/ea669121-bae6-2c07-7867-c14f8aec2af4</a>
<b>Overview</b>	The Biotechnology Lab Technician Certificate of Achievement is designed to prepare students for employment in a biotechnology laboratory conducting advanced research. This certificate will give student both theoretical knowledge of, as well as hands-on training in, several basic and advanced biotechnology procedures used in today's microbiology, cell and molecular biology, biomedical and pharmaceutical research facilities. The certificate's curriculum does not align to transfer to a specific major at a four-year college or university.

For more information contact:

Kareen Martin, Division Lead, [martink@wla.edu](mailto:martink@wla.edu)