

## Program Endorsement Brief: 0430.00/Biotechnology and Biomedical Technology Industrial Safety Regulatory and Bio-Manufacturing

Los Angeles/Orange County Center of Excellence, March 2019

### Summary:

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide regional labor market supply and demand data related to quality assurance/quality control (QA/QC) and environmental compliance. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with relevant occupations.

The following summarizes key findings from this data brief:

- The number of jobs for the three occupations of interest is projected to decrease by 4% through 2022; however, more than 4,200 job openings will be available annually due to retirements and workers leaving the field.
- Over the past 12 months, there have been 6,245 online job postings related to QA/QC and/or environmental compliance in Los Angeles and Orange Counties.
- No other related program recommendation requests were received in 2018 from regional community colleges.
- Eight colleges in the region have biotechnology and biomedical technology programs.
- Between 2015 and 2018, community colleges in the region conferred an average of 62 awards annually (associate degrees and certificates) in related training programs.

**Occupational Demand**—In Los Angeles/Orange County, the number of jobs for QA/QC and environmental compliance jobs is projected to decrease by 4% through 2022; however, there will be more than 4,200 job openings per year due to retirements and workers leaving the field (Exhibit 1).

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

Geography	2017 Jobs	2022 Jobs	2017-2022 Change	2017-2022 % Change	Annual Openings
Los Angeles	27,763	26,357	(1,406)	(5%)	2,914
Orange	12,679	12,490	(189)	(1%)	1,352
<b>Total</b>	<b>40,442</b>	<b>38,847</b>	<b>(1,595)</b>	<b>(4%)</b>	<b>4,266</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**—Entry-level wages for QA/QC and environmental compliance jobs in the region are between \$11.11 and \$23.76. Entry-level wages for compliance officers are higher than the MIT Living hourly wage for one adult in the region (\$13.54 in Los Angeles County and \$15.31 in Orange County). Experienced workers earn between \$32.67 and \$54.36.

**Job Postings**—There were 6,245 online job postings related to QA/QC and/or environmental compliance listed in the past 12 months. The majority of job postings are for quality inspector, quality control inspector, quality assurance inspector, quality assurance technician and quality assurance specialist. Top specialized skills and/or machinery are: quality assurance and control; quality management; micrometers; calipers; and coordinate measuring machine (CMM). The top employers, by number of job postings, in the region are: Arconic, SpaceX, and Teledyne Technologies.

**Educational Attainment**—The BLS lists a Bachelor’s degree as the typical entry-level education for compliance officers, an associate degree for life, physical, and social science technicians, and a high school diploma for inspectors, testers, sorters, samplers and weighers. The national-level educational attainment data indicates between 28% and 38% of workers in the field have completed some college or an associate degree. In Los Angeles/Orange County, 85% of job postings request a high school diploma or vocational training.

**Community College Supply**—Appendix A shows the annual and three-year average number of awards conferred by community colleges in Biotechnology and Biomedical Technology (0430.00). The colleges with the most completions in the region are: Pasadena, Citrus, and Santa Ana. In 2018, there were no other related program recommendation requests from regional community colleges.

**Appendix A: Regional community college awards (certificates and degrees), 2015-18**

TOP Code	Program	College	2015-16 Awards	2016-17 Awards	2017-18 Awards	3-Year Award Average
0430.00	Biotechnology and Biomedical Technology	Citrus	10	18	16	15
		Fullerton	4	4	3	4
		Irvine	1	8	13	7
		LA Mission	-	-	14	14
		LA Trade-Tech	3	3	5	4
		Pasadena	14	16	19	16
		Santa Ana	3	13	13	10
		Santiago Canyon	5	-	-	5
<b>Total/Average</b>			<b>40</b>	<b>62</b>	<b>83</b>	<b>62</b>

**Appendix B: Occupational demand and wage data by county**

**Exhibit 2. Los Angeles County**

<b>Occupation (SOC)</b>	<b>2017 Jobs</b>	<b>2022 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Entry-Level Hourly Earnings</b>	<b>Median Hourly Earnings</b>	<b>Experienced Hourly Earnings</b>
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	16,847	15,107	(1,740)	(10%)	1,914	\$10.94	\$18.40	\$33.82
Compliance Officers (13-1041)	9,013	9,293	280	3%	768	\$23.88	\$39.40	\$53.20
Life, Physical, and Social Science Technicians, All Other (19-4099)	1,903	1,957	54	3%	232	\$11.48	\$21.85	\$34.43
<b>Total</b>	<b>27,763</b>	<b>26,357</b>	<b>(1,406)</b>	<b>(5%)</b>	<b>2,914</b>			

**Exhibit 3. Orange County**

<b>Occupation (SOC)</b>	<b>2017 Jobs</b>	<b>2022 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Entry-Level Hourly Earnings</b>	<b>Median Hourly Earnings</b>	<b>Experienced Hourly Earnings</b>
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	7,718	7,342	(376)	(5%)	895	\$11.95	\$18.77	\$30.88
Compliance Officers (13-1041)	4,242	4,383	141	3%	364	\$23.51	\$38.65	\$57.30
Life, Physical, and Social Science Technicians, All Other (19-4099)	720	765	45	6%	94	\$12.50	\$23.09	\$34.78
<b>Total</b>	<b>12,679</b>	<b>12,490</b>	<b>(189)</b>	<b>(1%)</b>	<b>1,352</b>			

**Exhibit 4. Los Angeles and Orange Counties**

<b>Occupation (SOC)</b>	<b>2017 Jobs</b>	<b>2022 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Entry-Level Hourly Earnings</b>	<b>Median Hourly Earnings</b>	<b>Experienced Hourly Earnings</b>
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	24,564	22,450	(2,114)	(9%)	2,809	\$11.11	\$18.51	\$32.67
Compliance Officers (13-1041)	13,255	13,675	420	3%	1,132	\$23.76	\$39.20	\$54.36
Life, Physical, and Social Science Technicians, All Other (19-4099)	2,623	2,721	98	4%	326	\$11.77	\$22.17	\$34.53
<b>Total</b>	<b>40,442</b>	<b>38,847</b>	<b>(1,595)</b>	<b>(4%)</b>	<b>4,266</b>			

**Appendix C: Sources**

- O\*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (EMSI)
- Employment Development Department, Labor Market Information Division, OES
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- California Community Colleges Chancellor’s Office Management Information Systems (MIS)
- MIT Living Wage
- Chancellor’s Office Curriculum Inventory (COCI 2.0)

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