

Program Endorsement Brief: 0934.00/Electronics and Electric Technology *Fundamentals of Industrial Automation*

Los Angeles/Orange County Center of Excellence, ~~March 2019~~ rev. October 2019

Summary:

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) *originally prepared this report to provide regional labor market demand data related to industrial automation occupations and supply data for TOP code 0956.00. The TOP code, along with all subsequent data, for this report has been updated to TOP code 0934.00.* 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:

- **Industrial automation occupations are increasing by 1% over the next five years, and over 1,110 job openings will be available annually** due to new job growth and replacement need.
 - Over the past 12 months, there were 170 online job postings related to industrial automation in Los Angeles and Orange Counties.
- **Between 2014 and 2017, community colleges in the region conferred an average of 366 awards annually** (associate degrees and certificates) in related training programs.
 - Seven other related program recommendation requests were received during 2018 from regional community colleges.
 - Sixteen colleges in the region have existing programs closely related to industrial automation.

Occupational Demand—In Los Angeles/Orange County, the number of jobs related to industrial automation is projected to increase by 1% over the next five years. There will be over 1,110 job openings per year through 2022 (Exhibit 1).

Exhibit 1: Occupational demand in Los Angeles and Orange Counties¹

Geography	2017 Jobs	2022 Jobs	2017-2022 Change	2017-2022 % Change	Annual Openings
Los Angeles	7,619	7,613	(5)	(0.07%)	686
Orange	4,536	4,675	139	3%	432
Total	12,155	12,288	132	1%	1,117

Wages—Entry-level wages for industrial automation occupations in the region are between \$13.78 and \$17.52. Entry-level wages for all occupations, with the exception of Industrial Engineering Technicians, are lower than the California Family Needs Calculator hourly wage for

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

one adult in the region (\$15.04 in Los Angeles County and \$17.36 in Orange County)². Experienced workers earn between \$42.73 and \$50.96, which is higher than the California Family Needs Calculator wage estimates for both counties. Regional wages are below the average statewide wage for this occupation. Wage information, by county, is included in Appendix A.

Job Postings—There were 170 online job postings related to industrial automation listed in the past 12 months. The majority of job postings are for maintenance technician, calibration technician, manufacturing technician, industrial maintenance technician and instrumentation technician. Top specialized skills are: repair/maintenance, schematic diagrams, machinery, test equipment and calibration. The top three employers, by number of job postings, in the region are: FedEx, Scoop Technologies and Anheuser-Busch Companies.

Educational Attainment—The BLS lists an associate degree as the typical entry-level education for all occupations in this report, with the exception of Electrical and Electronics Repairers, Commercial and Industrial Equipment, which typically requires a postsecondary non-degree award. The national-level educational attainment data indicates between 50.4% and 53.1% of workers in the field have completed some college or an associate degree. In Los Angeles/Orange County, 77% of job postings request a high school diploma or vocational training.

Community College Supply—Appendix A shows the three-year average number of awards conferred by community colleges in the related TOP code: Electronics and Electric Technology (0934.00). Between 2014 and 2017, Coastline had the most completions in the region. During 2018, there were seven other related program recommendation requests from regional community colleges.

Appendix A: Regional community college awards (certificates and degrees), 2014-2017

TOP Code	Program	College	2014-15 Awards	2015-16 Awards	2016-2017 Awards	3-Year Award Average
0934.00	Electronics and Electric Technology	Coastline	123	128	100	117
		East LA	7	21	12	13
		El Camino	2	2	6	3
		Glendale	7	3	9	6
		Irvine	15	21	25	20
		LA City	1	2	14	6
		LA Pierce	15	33	34	27
		LA Swest	5	7	3	5
		LA Valley	12	25	23	20
		Long Beach	50	51	44	48
		Mt San Antonio	67	42	36	48
		Orange Coast	6	7	7	7
Pasadena	19	3	27	16		

² Living wage data was pulled from California Family Needs Calculator on 10/28/2019. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

TOP Code	Program	College	2014-15 Awards	2015-16 Awards	2016-2017 Awards	3-Year Award Average
		Rio Hondo	-	-	1	0
		Saddleback	25	9	17	17
		Santa Ana	9	8	14	10
Total/Average			363	362	372	366

Appendix B: Occupational demand and wage data by county

Exhibit 2. Los Angeles County

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Electrical and Electronics Repairers, Commercial and Industrial Equipment (49-2094)	1,155	1,142	(13)	(1%)	100	\$12.46	\$25.97	\$45.27
Industrial Engineering Technicians (17-3026)	904	908	4	0%	79	\$17.59	\$35.25	\$51.75
Electrical and Electronics Engineering Technicians (17-3023)	3,777	3,667	(110)	(3%)	318	\$16.10	\$28.82	\$48.04
Engineering Technicians, Except Drafters, All Other (17-3029)	1,783	1,897	114	6%	188	\$16.90	\$32.10	\$50.22
Total	7,619	7,613	(5)	(0.1%)	686			

Exhibit 3. Orange County

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Electrical and Electronics Repairers, Commercial and Industrial Equipment (49-2094)	1,033	1,032	(1)	(0%)	89	\$17.08	\$25.36	\$39.73
Industrial Engineering Technicians (17-3026)	462	485	23	5%	45	\$17.41	\$29.66	\$49.05

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Electrical and Electronics Engineering Technicians (17-3023)	2,149	2,130	(19)	(1%)	186	\$16.16	\$28.67	\$47.45
Engineering Technicians, Except Drafters, All Other (17-3029)	892	1,028	136	15%	111	\$16.91	\$32.08	\$50.18
Total	4,536	4,675	139	3%	432			

Exhibit 4. Los Angeles and Orange Counties

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Electrical and Electronics Repairers, Commercial and Industrial Equipment (49-2094)	2,187	2,174	(13)	(1%)	189	\$13.78	\$25.55	\$42.73
Industrial Engineering Technicians (17-3026)	1,366	1,393	27	2%	124	\$17.52	\$33.31	\$50.96
Electrical and Electronics Engineering Technicians (17-3023)	5,927	5,796	(131)	(2%)	505	\$16.09	\$28.77	\$47.82
Engineering Technicians, Except Drafters, All Other (17-3029)	2,675	2,924	249	9%	299	\$16.90	\$32.09	\$50.21
Total	12,155	12,288	132	1%	1,117			

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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