



Labor Market Analysis for Program Recommendation Semiconductor / IC Manufacturing Occupations Silicon Valley Subregion

Prepared by the Bay Region Center of Excellence for Labor Market Research

Certificate Program

September 2026

Recommendation Based on Labor Market Data: ☒ Yes ☐ With Reservations ☐ No		
	Earning Wage Meets Living Wage	Meets Demand
Bay Region	Entry Level Hourly Wage- \$26 Mid-Career Hourly Wage- \$31 Mid-Career Hourly Wage at or above the Bay Living Wage (\$27)? ☒ Yes ☐ No	Demand: 2,467 Supply: 19 (1% of Demand is Met) Gap: 2448 In-Demand? ☒ Yes ☐ No
Silicon Valley Subregion	Entry Level Hourly Wage- \$27 Mid-Career Hourly Wage-\$33 Mid-Career Hourly Wage at or above the Subregion Living Wage (\$30)? ☒ Yes ☐ No	Demand: 1,072 Supply: 0 (0% of Demand is Met) Gap: 1072 In-Demand? ☒ Yes ☐ No

Note: An occupation is considered to provide a living wage if the mid-career wage is at or above the amount required for a single adult to be economically self-sufficient within a specified region. In this report, living wage estimates are based on the California Self-Sufficiency Standard. The Bay Region Center of Excellence is gradually transitioning to the MIT Living Wage Calculator. During this transition, we include estimates in the methodology section from both sources for reference and comparison. As a rule of thumb, an occupation will be considered **in-demand** when the supply is less than 75% of the demand and the labor market gap exceeds 40 openings (a reasonable regional threshold for starting a new program), but this approach may not apply in all cases. For definitions of demand, supply, and living wage, please scroll to the bottom of the report under **Definitions**.

Recommendation

The labor market data supports this proposed program. The occupations meet both the Bay Region and Silicon Valley subregion living wage at the mid-career level. An additional 2,448 students are needed in the Bay Region and 1,072 students in the Silicon Valley subregion to complete their program. Lastly, only 1% of labor market demand is being met in the Bay Region, and 0% of demand is being met in the Silicon Valley subregion overall.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0934.20 - Industrial Electronics programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at subregion in the state and region.

This report profiles Semiconductor / IC Manufacturing Occupations in the 12 county Bay Region and in the Silicon Valley subregion. The occupations classified as middle-skill occupations require a certificate, or an associate degree, or it may require a bachelor's degree, but 33% or fewer of current workers in these roles hold one.

- **Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061):** Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.
Typical Entry-Level Educational: High school diploma or equivalent
Skill Level: Middle-Skill
Work Experience Required: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 37%
- **Electrical and Electronic Engineering Technologists and Technicians (17-3023):** Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, adjust, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions.
Typical Entry-Level Educational: Associate's degree
Skill Level: Middle-Skill
Work Experience Required: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 59%
- **Semiconductor Processing Technicians (51-9141):** Perform any or all of the following functions in the manufacture of electronic semiconductors: load semiconductor material into furnace; saw formed ingots into segments; load individual segment into crystal growing chamber and monitor controls; locate crystal axis in ingot using x-ray equipment and saw ingots into wafers; and clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties.
Typical Entry-Level Educational: High school diploma or equivalent
Skill Level: Middle-Skill
Work Experience Required: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 27%

Occupational Demand

Table 1. Employment Outlook for Semiconductor / IC Manufacturing Occupations in the Bay Region

Occupation	2025 Jobs	2030 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Inspectors, Testers, Sorters, Samplers, and Weighers	14,316	14,264	-51	0%	8,503	1,701	\$23	\$28
Electrical and Electronic Engineering Technologists and Technicians	5,020	4,876	-143	-3%	2,232	446	\$36	\$44
Semiconductor Processing Technicians	2,941	2,945	3	0%	1,599	320	\$22	\$23
Total	22,277	22,085	-192	-1%	12,334	2,467	\$26	\$31

Source: Lightcast 2026.3

The Bay Region includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Semiconductor / IC Manufacturing Occupations in the Silicon Valley Subregion

Occupation	2025 Jobs	2030 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	Entry Level Hourly	Mid-Career Hourly Wage
Inspectors, Testers, Sorters, Samplers, and Weighers	5,067	4,987	-80	-2%	2,944	589	\$23	\$29
Semiconductor Processing Technicians	2,176	2,176	0	0%	1,172	234	\$22	\$24
Electrical and Electronic Engineering Technologists and Technicians	2,907	2,738	-168	-6%	1,245	249	\$37	\$45
Total	10,150	9,901	-249	-2%	5,361	1,072	\$27	\$33

Source: Lightcast 2026.3

Silicon Valley Subregion includes: Santa Clara Counties

Job Postings in the Bay Region and Silicon Valley Subregion

Table 3. Number of Job Postings by Occupation for the latest 12 months

Occupation	Bay Region	Silicon Valley
Inspectors, Testers, Sorters, Samplers, and Weighers	3,832	1,226
Industrial Engineering Technologists and Technicians	1,673	569
Electrical and Electronic Engineering Technologists and Technicians	1,292	543

Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Table 4a. Top Job Titles in Job Postings for Semiconductor / IC Manufacturing Occupations in the Bay Region

Title	Bay	Title	Bay
Manufacturing Technicians	734	Manufacturing Engineering Technicians	78
Quality Control Inspectors	351	Test Technicians	78
Quality Inspectors	339	Quality Assurance Inspectors	76
Quality Control Technicians	264	Inspectors	68

Title	Bay	Title	Bay
Engineering Technicians	256	Quality Assurance Associates	66
Quality Technicians	237	Test Engineering Technicians	62
Production Technicians	229	Technicians	52
Quality Assurance Specialists	185	Mechanical Inspectors	43
Quality Assurance Technicians	137	Quality Specialists	38

Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Table 4b. Top Job Titles in Job Posting for Semiconductor / IC Manufacturing Occupations in the Silicon Valley Subregion

Title	Silicon Valley	Title	Silicon Valley
Manufacturing Technicians	235	Manufacturing Engineering Technicians	32
Quality Control Inspectors	172	Inspectors	29
Engineering Technicians	138	Quality Assurance Inspectors	28
Quality Inspectors	120	Test Engineering Technicians	25
Quality Control Technicians	83	SMT Operators	25
Quality Technicians	55	Test Technicians	24
Production Technicians	44	Manufacturing Equipment Technicians	21
Quality Assurance Specialists	44	Production Test Technicians	19
Technicians	38	Manufacturing Test Technicians	18

Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Industry Concentration

Table 5. Industries Hiring for Semiconductor / IC Manufacturing Occupations in the Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2025)	Jobs in Industry (2030)	% Change (2025-30)	% Occupation Group in Industry (2025)
Semiconductor and Related Device Manufacturing	4,118	4,441	8%	18%
Testing Laboratories and Services	725	705	-3%	3%
Temporary Help Services	677	643	-5%	3%
Automobile and Light Duty Motor Vehicle Manufacturing	641	709	11%	3%
Electronic Computer Manufacturing	581	219	-62%	3%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	565	593	5%	3%

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2025)	Jobs in Industry (2030)	% Change (2025-30)	% Occupation Group in Industry (2025)
Printed Circuit Assembly (Electronic Assembly) Manufacturing	563	550	-2%	3%
Pharmaceutical Preparation Manufacturing	547	460	-16%	2%
Other Electronic Component Manufacturing	540	396	-27%	2%
Engineering Services	516	515	0%	2%

Source: Lightcast 2026.3

Table 6. Top Employers Posting Semiconductor / IC Manufacturing Occupations in the Bay Region and the Silicon Valley Subregion

Employer	Bay	Employer	Silicon Valley
Aerotek	278	ManpowerGroup	84
ManpowerGroup	208	Tesla	62
Tesla	199	Sanmina	61
Actalent	168	Insight Global	57
Kelly Services	128	Actalent	56
Ultimate Staffing	89	Kelly Services	54

Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Educational Supply

There is one community college in the Bay Region issuing 19 awards on average annually (last 3 years ending 2024-25) on TOP 0934.20 - Industrial Electronics.

There are no other CTE educational institutions in the Bay Region issuing awards on average annually (last 3 years ending 2023-24) on CIP 15.0616- Semiconductor Manufacturing Technology/Technician.

Table 7. Community College Awards on TOP 0934.20 - Industrial Electronics in the Bay Region

College	Subregion	Associate Degree	High unit Certificate	Total
Los Medanos	East Bay	8	11	19
Total	-	8	11	19

Source: Data Mart

Note: The annual average for awards is 2022-23 to 2024-25.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay Region with 2,467 annual openings for the Semiconductor / IC Manufacturing occupational cluster and 19 annual (3-year average) awards for an annual undersupply of 2,448 students. In the Silicon Valley subregion, there is also a gap with 1,072 annual openings and no annual (3-year average) awards for an annual undersupply of 1,072 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0934.20 - Industrial Electronics

Metric Outcomes	Bay All CTE Program	State 0934.20	Bay 0934.20	Silicon Valley 0934.20
Students with a Job Closely Related to Their Field of Study	75%	81%	NA	NA
Median Annual Earnings for SWP Exiting Students	\$58,379	\$60,239	\$73,189	NA
Median Change in Earnings for SWP Exiting Students	31%	48%	69%	NA
Exiting Students Who Attained the Living Wage	50%	67%	73%	NA

Source: DataVista Program Median of 2020 to 2022.

Skills, Certifications and Education

Table 9. Top Skills in Job Postings for Semiconductor / IC Manufacturing Occupations in the Bay Region

Skill	Posting	Skill	Posting
Continuous Improvement Process	1,368	Manufacturing Processes	711
Auditing	1,251	Root Cause Analysis	682
Lifting Ability	1,013	Standard Operating Procedure	666
Quality Management	1,010	Test Equipment	651
Calipers	992	Engineering Drawings	638
Good Manufacturing Practices	981	Soldering	633
Quality Management Systems	796	Hand Tools	627
Micrometer	762	Calibration	603
Process Improvement	745	Machining	597
Packaging And Labeling	722	Electronics	523

Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Table 10. Certifications in Job Postings for Semiconductor / IC Manufacturing Occupations in the Bay Region

Certification	Posting	Certification	Posting
American Society For Quality (ASQ) Certified	77	Airframe & Powerplant (A&P) Certificate	19
Automotive Service Excellence (ASE) Certification	30	ServSafe Certification	18
Hazard Analysis And Critical Control Point (HACCP) Certification	26	American Concrete Institute (ACI) Certification	15
Forklift Certification	22	Quality Certification	14

Certification	Posting	Certification	Posting
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Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Table 11. Education Requirements for Semiconductor / IC Manufacturing Occupations in the Bay Region

Education Level	Job Postings	% of Total
High school or GED	2,259	47%
Associate degree	1,185	25%
Bachelor's degree & higher	1,377	29%

Source: Lightcast 2026.3; "Job Posting Analytics." Sep. 2025 - Aug. 2026

Note: 44% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Methodology

Occupations for this report were identified by use of job descriptions and skills listed in O*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCC Data Mart and CTE Launchboard.

This report uses living wage estimates from the California Self-Sufficiency Standard. The Bay Region Center of Excellence is gradually transitioning to the Massachusetts Institute of Technology (MIT) Living Wage Calculator, which will become the primary living wage benchmark used in future reports. During this transition, we include both estimates to provide context and allow readers to understand how the selected benchmark affects wage comparisons. Because the California Self-Sufficiency Standard and the MIT Living Wage Calculator use different methodologies, their estimates are not directly interchangeable. The MIT Living Wage Calculator generally produces higher living wage thresholds; therefore, future reports may identify fewer occupations as providing a living wage, even when the underlying occupational wage data has not changed. For comparison, the MIT living wage is \$33 per hour for the Bay Region and \$38 per hour for the Silicon Valley subregion. Under the California Self-Sufficiency Standard, the living wage is \$27 per hour for the Bay Region and \$30 per hour for the Silicon Valley subregion.-

Definitions

Demand refers to average annual openings which includes a combination of both [new jobs and replacement jobs](#) between 2025 to 2030. New jobs represent the total number of additional workers required in an occupation, calculated as the difference between the current number of workers and the projected number of unfilled positions. Replacements are jobs that will need to be filled by [new hires](#) due to existing workers leaving the occupation. The average annual openings figure is derived by dividing total openings (2025 to 2030) by five years.

Supply refers to the average number of [graduates](#) between academic years 2021–2022 and 2023–2024. Graduates include students from community colleges, other two-year private and public institutions, as well as four-year institutions.

Living wage refers to the amount of income required for working families to meet basic needs at a minimally adequate level, considering family composition, ages of children, and geographic differences in costs based on the Self-Sufficiency Standard methodology.

Entry-level wages are the hourly earnings paid to workers who are newly entering an occupation.

Mid-career wages are the hourly earnings paid to workers who have accumulated several years of experience in an occupation, reflecting increased productivity, skill proficiency, and responsibility beyond entry-level roles but short of late-career or senior positions.

Sources

O*Net Online

Lightcast

CTE LaunchBoard www.calpassplus.org

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

CCCCO Data Mart

Contacts

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