



Labor Market Analysis for Program Recommendation Mechatronic Occupations Mission College

**Prepared by the San Francisco Bay Center of Excellence for Labor Market Research
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Recommendation

Based on all available data, there appears to be an “undersupply” of Mechatronic workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara county). There is a projected annual gap of about 62 students in the Bay region and 28 students in the Silicon Valley Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0935.00 Electro-Mechanical Technology 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 colleges in the state and region, as well as to outcomes across all CTE programs at Mission College and in the region.

This report profiles Mechatronic Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Mission College.

- **Electro-Mechanical and Mechatronics Technologists and Technicians (17-3024):** Operate, test, maintain, or calibrate unmanned, automated, servo-mechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment at worksites, such as oil rigs, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.
 Entry-Level Educational Requirement: Associate’s degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 51%

Occupational Demand

Table 1. Employment Outlook for Mechatronic Occupations in Bay Region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Electro-Mechanical and Mechatronics Technologists and Technicians	554	574	19	4%	311	62	\$25	\$52
Total	554	574	20	4%	311	62		

Source: EMSI 2021.3

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 Mechatronic Occupations in Silicon Valley Sub-region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Electro-Mechanical and Mechatronics Technologists and Technicians	278	274	-3	-1%	138	28	\$28	\$56
Total	278	274	-4	-1%	138	28		

Source: EMSI 2021.3

Silicon Valley Sub-Region includes: Santa Clara County**Job Postings in Bay Region and Silicon Valley Sub-Region****Table 3. Number of Job Postings by Occupation for latest 12 months (Apr 2021 - Mar 2022)**

Occupation	Bay Region	Silicon Valley
Electro-Mechanical Technicians	801	264
Robotics Technicians	197	74

Source: Burning Glass

Table 4a. Top Job Titles for Mechatronic Occupations for latest 12 months (Apr 2021 - Mar 2022) Bay Region

Title	Bay	Title	Bay
Automotive Adas Calibration Technician	46	Robotics Technician	12
Calibration Technician	43	Musical Instrument Repair Technician	11
Electro Mechanical Assembler	34	Rework Technician	11
Instrument Technician	29	Senior Formulation Technician	11
Instrumentation Technician	28	Technician, Powertrain Advanced Manufacturing - Power Electronics	10
Product Test Technician	17	E/M Technician	9
Assembly Technician	15	Electro Mechanical Technician	9
Electronic Mechanical Assembler	13	Automotive Calibration Technician	8
Calibration Technician II	12	Field Technician	8

Source: Burning Glass

Table 4b. Top Job Titles for Mechatronic Occupations for latest 12 months (Apr 2021 - Mar 2022)**Silicon Valley Sub-Region**

Title	Silicon Valley	Title	Silicon Valley
Automotive Adas Calibration Technician	20	Automotive Calibration Technician	5
Calibration Technician	18	Calibration Technician - Rf Microwave	4

Title	Silicon Valley	Title	Silicon Valley
Product Test Technician	15	Electro Mechanical Technician	4
Electro Mechanical Assembler	12	Instrument Service Technician	4
Electronic Mechanical Assembler	10	Instrument Technician	4
Rework Technician	9	Medical Instrument Technician Polysomnography	4
Assembly Technician	8	Pcba, Electronic Technician	4
Hardware Technician	6	Robotics Technician	4
Security Officer-Electronics Technician Campus	6	Security Guard - Electronics Technician Campus	4

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Mechatronic Workers in Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2020)	Jobs in Industry (2025)	% Change (2020-25)	% Occupation Group in Industry (2020)
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	63	67	7%	12%
Research and Development in Biotechnology (except Nanobiotechnology)	37	45	22%	7%
Engineering Services	39	38	0%	7%
Semiconductor and Related Device Manufacturing	38	34	-12%	7%
Electronic Computer Manufacturing	34	36	8%	6%
Semiconductor Machinery Manufacturing	29	32	11%	5%
Testing Laboratories	18	18	-2%	3%
Blank Magnetic and Optical Recording Media Manufacturing	14	14	0%	3%
Surgical and Medical Instrument Manufacturing	13	14	6%	2%
Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	13	12	-6%	2%

Source: EMSI 2021.3

Table 6. Top Employers Posting Mechatronic Occupations in Bay Region and Silicon Valley Sub-Region (Apr 2021 - Mar 2022)

Employer	Bay	Employer	Silicon Valley
Protech Automotive	52	Protech Automotive	24
Johnson & Johnson	21	Allied Universal	13
Lucid Motors Inc	16	Trescal Inc	8
Trescal Inc	13	Department of Veterans Affairs	7
Department of Veterans Affairs	13	Foxconn	6
Allied Universal	13	Apple Inc.	6

Source: Burning Glass

Educational Supply

There are no community colleges in the Bay Region or Silicon Valley Sub-Region issuing awards on average annually (last 3 years ending 2018-19) on TOP 0935.00 Electro-Mechanical Technology.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 62 annual openings for the Mechatronic occupational cluster and no annual (3-year average) awards for an annual undersupply of 62 students. In the Silicon Valley Sub-Region, there is also a gap with 28 annual openings and no annual (3-year average) awards for an annual undersupply of 28 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0935.00 Electro-Mechanical Technology

Metric Outcomes	Bay All CTE Programs	Mission All CTE Program	State 0935.00	Bay 0935.00	Silicon Valley 0935.00	Mission 0935.00
Students with a Job Closely Related to Their Field of Study	74%	74%	90%	N/A	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$47,419	\$54,792	\$44,228	N/A	N/A	N/A
Median Change in Earnings for SWP Exiting Students	23%	19%	35%	N/A	N/A	N/A
Exiting Students Who Attained the Living Wage	52%	51%	70%	N/A	N/A	N/A

Source: Launchboard Strong Workforce Program Median of 2017 to 2020.

Skills, Certifications and Education

Table 9. Top Skills for Mechatronic Occupations in Bay Region (Apr 2021 - Mar 2022)

Skill	Posting	Skill	Posting
Repair	457	Electromechanical Assemblies	83

Skill	Posting	Skill	Posting
Calibration	332	Vaccination	83
Robotics	213	Manufacturing Processes	79
Soldering	206	Oscilloscopes	74
Test Equipment	197	Mechanical Assembly	68
Wiring	172	Predictive/Preventative Maintenance	68
Schematic Diagrams	170	Biotechnology	66
Hand Tools	153	Microscope	65
Scheduling	100	Good Manufacturing Practices (GMP)	61
Customer Service	95	Technical Support	57
Electronics Industry Knowledge	95	Lifting Ability	52
Quality Assurance and Control	95	Data Entry	50
Customer Contact	91	Personal Protective Equipment (PPE)	49
Power Tools	87	Electrical Diagrams / Schematics	47

Source: Burning Glass

Table 10. Certifications for Mechatronic Occupations in Bay Region (Apr 2021 - Mar 2022)

Certification	Posting	Certification	Posting
Driver's License	197	Certified Control Systems Technician	4
Security Clearance	29	Soldering Certification	3
IPC Certification	16	Red Hat Certified System Administrator (RHCSA)	3
Electrician Certification	10	Linux Server Professional (LPIC-1)	3
Cdl Class C	9	Linux Professional Institute Certification	3
American Society For Quality (ASQ) Certification	9	Certified Instrument Specialist (CIS)	3
Basic Cardiac Life Support Certification	8	Basic Life Saving (BLS)	3
Certified Calibration Technician (CCT)	7	Automotive Service Excellence (ASE) Certification	3
Project Management Certification	4	Advanced Cardiac Life Support (ACLS) Certification	3
Certified Control Systems Technician (CCST)	4	Wastewater Treatment Plant Operator	2

Certification	Posting	Certification	Posting
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Source: Burning Glass

Note: 71% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.

Table 11. Education Requirements for Mechatronic Occupations in Bay Region

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	341	56%
Associate's degree	154	25%
Bachelor's degree and higher	116	19%

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

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