

**Labor Market Analysis for Program Recommendation**

**Construction Crafts Technology Occupations**

**Foothill College**

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

## December 2023

## Recommendation

Based on all available data, there appears to be an “undersupply” of Construction Crafts Technologyworkers 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 4,367 students in the Bay region and 948 students in the Silicon Valley Sub-Region.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 0952.00 - Construction Crafts 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 Foothill College and in the region.

This report profiles Construction Crafts Technology Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new Plumbing/HVAC/Sheet Metal/General Electrician Industry Management program at Foothill College.

* **Construction Managers (11-9021):** Plan, direct, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. Includes managers in specialized construction fields, such as carpentry or plumbing.  
    Entry-Level Educational Requirement: Bachelor’s degree  
    Training Requirement: Moderate-term on-the-job training  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 33%
* **Cost Estimators (13-1051):** Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.  
    Entry-Level Educational Requirement: Bachelor’s degree  
    Training Requirement: Moderate-term on-the-job training  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 40%
* **Career/Technical Education Teachers, Secondary School (25-2032):** Teach occupational, career and technical, or vocational subjects at the secondary school level in public or private schools. Substitute teachers are included in “Teachers and Instructors, All Other” (25-3099). Excludes “Special Education Teachers, Secondary School” (25-2054).  
    Entry-Level Educational Requirement: Bachelor’s degree  
    Training Requirement: None  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 4%
* **First-Line Supervisors of Construction Trades and Extraction Workers (47-1011):** Directly supervise and coordinate activities of construction or extraction workers.  
    Entry-Level Educational Requirement: High school diploma or equivalent  
    Training Requirement: None  
    Percentage of Community College Award Holders or Some Postsecondary Coursework: 32%

## Occupational Demand

**Table 1. Employment Outlook for Construction Crafts Technology Occupations in Bay Region**

| **Occupation** | **2021 Jobs** | **2026 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Construction Managers | 16,093 | 17,321 | 1,229 | 8% | 7,623 | 1,525 | $28 | $48 |
| Cost Estimators | 6,557 | 6,766 | 209 | 3% | 3,242 | 648 | $31 | $43 |
| Career/Technical Education Teachers, Secondary School | 1,105 | 1,201 | 96 | 9% | 486 | 97 | $27 | $41 |
| First-Line Supervisors of Construction Trades and Extraction Workers | 20,009 | 20,988 | 978 | 5% | 10,824 | 2,165 | $33 | $43 |
| **Total** | **43,763** | **46,275** | **2,512** | **6%** | **22,176** | **4,435** |  |  |
| Source: Lightcast 2022.3 | | | | | | | | |
| **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 Construction Crafts Technology Occupations in Silicon Valley Sub-region**

| **Occupation** | **2021 Jobs** | **2026 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Construction Managers | 3,547 | 3,862 | 315 | 9% | 1,717 | 343 | $27 | $51 |
| Cost Estimators | 1,526 | 1,582 | 56 | 4% | 758 | 152 | $34 | $46 |
| Career/Technical Education Teachers, Secondary School | 251 | 270 | 19 | 8% | 107 | 21 | $47 | $58 |
| First-Line Supervisors of Construction Trades and Extraction Workers | 4,311 | 4,597 | 286 | 7% | 2,411 | 482 | $34 | $47 |
| **Total** | **9,635** | **10,311** | **676** | **7%** | **4,992** | **998** |  |  |
| Source: Lightcast 2022.3 | | | | | | | | |
| **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 (Nov. 2022 - Oct. 2023)**

| **Occupation** | **Bay Region** | **Silicon Valley** |
| --- | --- | --- |
| Construction Managers | 5,235 | 1,259 |
| Cost Estimators | 1,876 | 447 |
| First-Line Supervisors of Construction Trades and Extraction Workers | 1,070 | 225 |
| Career/Technical Education Teachers, Secondary School | 281 | 70 |
| Source: Lightcast | | |

**Table 4a. Top Job Titles for Construction Crafts Technology Occupations for latest 12 months (Nov. 2022 - Oct. 2023) - Bay Region**

| **Title** | **Bay** | **Title** | **Bay** |
| --- | --- | --- | --- |
| Construction Project Managers | 657 | Captains | 94 |
| Project Managers | 471 | Multifamily Superintendents | 92 |
| Estimators | 383 | Project Superintendents | 92 |
| Superintendents | 377 | Electrical Estimators | 91 |
| Construction Superintendents | 347 | Foremen | 90 |
| Construction Managers | 346 | Electrical Foremen | 88 |
| Construction Estimators | 162 | Commercial Construction Superintendents | 80 |
| Service Advisors | 122 | Drywall Estimators | 75 |
| Driving Instructors | 118 | Commercial Construction Project Managers | 72 |
| Source: Lightcast | | | |

**Table 4b. Top Job Titles for Construction Crafts Technology Occupations for latest 12 months (Nov. 2022 - Oct. 2023) - Silicon Valley Sub-Region**

| **Title** | **Silicon Valley** | **Title** | **Silicon Valley** |
| --- | --- | --- | --- |
| Construction Project Managers | 133 | Driving Instructors | 27 |
| Project Managers | 104 | Overseas Sales Managers | 24 |
| Superintendents | 102 | Electrical Estimators | 23 |
| Estimators | 92 | Concrete Estimators | 22 |
| Construction Superintendents | 88 | Drywall Estimators | 22 |
| Construction Managers | 77 | Electrical Foremen | 22 |
| Commercial Construction Superintendents | 34 | Foremen | 21 |
| Commercial Construction Project Managers | 32 | Multifamily Superintendents | 21 |
| Construction Estimators | 29 | Commercial Superintendents | 20 |
| Source: Lightcast | | | |

## Industry Concentration

**Table 5. Industries hiring Construction Crafts Technology Workers in Bay Region**

| **Industry - 6 Digit NAICS (No. American Industry Classification) Codes** | **Jobs in Industry (2021)** | **Jobs in Industry (2026)** | **% Change (2021-26)** | **% Occupation Group in Industry (2022)** |
| --- | --- | --- | --- | --- |
| Commercial and Institutional Building Construction | 4,506 | 5,250 | 17% | 12% |
| Residential Remodelers | 4,639 | 4,973 | 7% | 11% |
| Electrical Contractors and Other Wiring Installation Contractors | 3,456 | 3,854 | 12% | 9% |
| New Single-Family Housing Construction (except For-Sale Builders) | 2,848 | 2,798 | -2% | 7% |
| Plumbing, Heating, and Air-Conditioning Contractors | 2,845 | 2,883 | 1% | 7% |
| All Other Specialty Trade Contractors | 1,565 | 1,563 | 0% | 4% |
| Local Government, Excluding Education and Hospitals | 1,262 | 1,365 | 8% | 3% |
| Painting and Wall Covering Contractors | 1,210 | 1,324 | 9% | 3% |
| Site Preparation Contractors | 1,218 | 1,229 | 1% | 3% |
| Drywall and Insulation Contractors | 955 | 1,012 | 6% | 2% |
| Source: Lightcast 2022.3 | | | | |

**Table 6. Top Employers Posting Construction Crafts Technology Occupations in Bay Region and Silicon Valley Sub-Region (Nov. 2022 - Oct. 2023)**

| **Employer** | **Bay** | **Employer** | **Silicon Valley** |
| --- | --- | --- | --- |
| GPAC | 464 | GPAC | 135 |
| CyberCoders | 216 | CyberCoders | 53 |
| Kiewit Corporation | 89 | Kiewit Corporation | 26 |
| Tesla | 79 | Larsen & Toubro | 25 |
| Actalent | 75 | Actalent | 24 |
| PG&E | 71 | Tesla | 24 |
| Source: Lightcast | | | |

## Educational Supply

There are four (4) community colleges in the Bay Region issuing 68 awards on average annually (last 3 years ending 2021-22) on TOP 0952.00 - Construction Crafts Technology. In the Silicon Valley Sub-Region, there is one (1) community college that issued 50 awards on average annually (last 3 years) on this TOP code.

**Table 7. Community College Awards on TOP 0952.00 - Construction Crafts Technology in Bay Region**

| **College** | **Subregion** | **Associate Degree** | **High unit Certificate** | **Low unit Certificate** | **Noncredit award** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
| Diablo Valley | East Bay | 0 | 0 | 6 | 0 | 6 |
| San Francisco | Mid-Peninsula | 0 | 0 | 3 | 0 | 3 |
| San Jose City | Silicon Valley | 8 | 10 | 32 | 0 | 50 |
| Santa Rosa | North Bay | 0 | 0 | 0 | 9 | 9 |
| **Total** |  | **8** | **10** | **41** | **9** | **68** |
| Source: Data Mart | | | | | | |
| Note: The annual average for awards is 2019-20 to 2021-22. | | | | | | |

## Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 4,435 annual openings for the Construction Crafts Technology occupational cluster and 68 annual (3-year average) awards for an annual undersupply of 4,367 students. In the Silicon Valley Sub-Region, there is also a gap with 998 annual openings and 50 annual (3-year average) awards for an annual undersupply of 948 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0952.00 - Construction Crafts Technology**

| **Metric Outcomes** | **Bay All CTE Programs** | **Foothill All CTE Programs** | **State 0952.00** | **Bay 0952.00** | **Silicon Valley 0952.00** | **Foothill College 0952.00** |
| --- | --- | --- | --- | --- | --- | --- |
| Students with a Job Closely Related to Their Field of Study | 74% | 88% | 74% | 75% | 75% | N/A |
| Median Annual Earnings for SWP Exiting Students | $53,090 | $73,174 | $45,440 | $52,272 | $50,922 | $167,437 |
| Median Change in Earnings for SWP Exiting Students | 24% | 42% | 28% | 18% | 22% | 12% |
| Exiting Students Who Attained the Living Wage | 54% | 66% | 60% | 47% | 44% | 80% |
| Source: Launchboard Strong Workforce Program Median of 2018 to 2021. | | | | | | |

## Skills, Certifications and Education

**Table 9. Top Skills for Construction Crafts Technology Occupations in Bay Region (Nov. 2022 - Oct. 2023)**

| **Skill** | **Posting** | **Skill** | **Posting** |
| --- | --- | --- | --- |
| Construction | 4,812 | Procore | 613 |
| Project Management | 4,718 | Building Codes | 581 |
| Subcontracting | 3,195 | Cost Control | 569 |
| Construction Management | 2,984 | Purchasing | 551 |
| Change Orders | 1,715 | Microsoft Project | 534 |
| Project Schedules | 1,302 | Civil Engineering | 514 |
| Submittals (Construction) | 1,030 | Renovation | 500 |
| Procurement | 742 | Accounting | 489 |
| Commercial Construction | 654 | Bidding | 468 |
| Invoicing | 626 | Billing | 461 |
| Source: Lightcast | | | |

**Table 10. Certifications for Construction Crafts Technology Occupations in Bay Region (Nov. 2022 - Oct. 2023)**

| **Certification** | **Posting** | **Certification** | **Posting** |
| --- | --- | --- | --- |
| Valid Driver's License | 1,440 | Architecture License | 49 |
| 30-Hour OSHA General Industry Card | 289 | CDL Class C License | 48 |
| Project Management Professional Certification | 250 | Commercial Driver's License (CDL) | 46 |
| Cardiopulmonary Resuscitation (CPR) Certification | 230 | Master of Business Administration (MBA) | 37 |
| First Aid Certification | 224 | OSHA Certification | 34 |
| Certified Construction Manager | 164 | Security Clearance | 34 |
| Professional Engineer (PE) License | 150 | Project Management Certification | 25 |
| LEED Accredited Professional (AP) | 125 | Construction Health And Safety Technician | 22 |
| 10-Hour OSHA General Industry Card | 109 | Safety Trained Supervisor Certification | 21 |
| Contractor License | 50 |  |  |
| Source: Lightcast | | | |

**Table 11. Education Requirements for Construction Crafts Technology Occupations in Bay Region**

| **Education Level** | **Job Postings** | **% of Total** |
| --- | --- | --- |
| High school or GED | 1,253 | 22% |
| Associate degree | 329 | 6% |
| Bachelor's degree & higher | 4,076 | 72% |
| Source: Lightcast | | |
| Note: 46% 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 CCCCO Data Mart and CTE Launchboard.

## Sources

O\*Net Online  
Lightcast  
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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