**** **Construction Management Occupations**

**Labor Market Information Report**

**City College of San Francisco**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

February 2019

# Recommendation

Based on all available data, there appears to be a significant undersupply of Construction Management workers compared to the demand for this cluster of occupations in the Bay region and in the Mid-Peninsula sub-region (San Francisco and San Mateo Counties). The gap is about 4,130 students annually in the Bay region and about 960 students annually in the Mid-Peninsula sub-region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0957.00 - Civil and Construction Management Technology in the state and region. It is recommended that this 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 City College of San Francisco and in the region.

# Introduction

This report profiles Construction Management Occupations in the 12 county Bay region and in the Mid-Peninsula sub-region for the proposed program modifications/substantial changes to two programs at City College of San Francisco: the Construction Management: Advanced Skills Certificate of Achievement and the Construction Management AS Major. This LMI report can be used for both programs since the TOP and SOC codes are exactly the same.

|  |  |
| --- | --- |
| * **Cost Estimators (SOC 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: 39%* | |
|  | |
| * **Construction and Building Inspectors (SOC 47-4011):** Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing. | |
| *Entry-Level Educational Requirement: High school diploma or equivalent* | |
| *Training Requirement: Moderate-term on-the-job training* | |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 46%* | |
|  | |
| * **Construction Managers (SOC 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%* | |
|  | |
| * **First-Line Supervisors of Construction Trades and Extraction Workers (SOC 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 Management Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Cost Estimators | 7,847 | 8,558 | 711 | 9% | 4,638 | 928 | $22.32 | $37.99 |
| Construction and Building Inspectors | 4,020 | 4,288 | 268 | 7% | 2,487 | 497 | $24.34 | $43.58 |
| Construction Managers | 12,321 | 12,598 | 278 | 2% | 4,820 | 964 | $14.34 | $45.37 |
| First-Line Supervisors of Construction Trades and Extraction Workers | 15,736 | 16,964 | 1,227 | 8% | 9,304 | 1,861 | $15.17 | $37.60 |
| **Total** | **39,924** | **42,408** | **2,484** | **6%** | **21,250** | **4,250** | **$17.24** | **$40.67** |

*Source: EMSI 2018.2*

**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 Management Occupations in Mid-Peninsula Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Cost Estimators | 1,651 | 1,808 | 157 | 10% | 985 | 197 | $24.85 | $39.55 |
| Construction and Building Inspectors | 1,079 | 1,163 | 83 | 8% | 680 | 136 | $29.28 | $48.59 |
| Construction Managers | 3,144 | 3,284 | 140 | 4% | 1,300 | 260 | $14.76 | $52.69 |
| First-Line Supervisors of Construction Trades and Extraction Workers | 3,113 | 3,427 | 314 | 10% | 1,936 | 387 | $15.01 | $39.56 |
| **TOTAL** | **8,987** | **9,681** | **695** | **8%** | **4,901** | **980** | **$18.44** | **$45.24** |

*Source: EMSI 2018.2*

**Mid-Peninsula Sub-Region** includes San Francisco and San Mateo Counties

### Job Postings in Bay Region and Mid-Peninsula Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Sept 2017 - Aug 2018)**

|  |  |  |
| --- | --- | --- |
| Occupation | Bay Region | Mid-Peninsula |
| Construction Managers (11-9021.00) | 5,147 | 1,975 |
| Cost Estimators (13-1051.00) | 1,496 | 488 |
| First-Line Supervisors of Construction Trades and Extraction Workers (47-1011.00) | 850 | 273 |
| Construction and Building Inspectors (47-4011.00) | 512 | 132 |
| Solar Energy Installation Managers (47-1011.03) | 26 | 8 |
| **Total** | **8,031** | **2,876** |

*Source: Burning Glass*

**Table 4. Top Job Titles for Construction Management Occupations for latest 12 months (Sept 2017 - Aug 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | Mid-Peninsula | Common Title | Bay | Mid-Peninsula |
| Construction Manager | 1,790 | 660 | Cost Analyst | 80 | 16 |
| Estimator | 549 | 168 | Director of Construction | 80 | 37 |
| Construction Superintendent | 496 | 193 | Construction Foreman | 66 |  |
| Superintendent | 474 | 174 | Project Estimator | 61 | 22 |
| Project Manager | 354 | 117 | Cost Estimator | 60 | 28 |
| Construction Estimator | 252 | 103 | Electrical Foreman | 58 |  |
| Construction Inspector | 225 | 58 | Senior Superintendent | 57 | 28 |
| Service Advisor | 208 |  | Commercial Construction Superintendent | 50 | 29 |
| Electrical Estimator | 145 | 46 | Content Contractor | 50 |  |
| Assistant Superintendent | 104 | 32 | Foreman | 48 |  |
| Assistant Manager | 96 | 37 | Project Superintendent | 48 | 17 |
| Captain | 85 | 48 | Contractor | 43 | 16 |
| Inspector | 84 | 17 | Chief Estimator | 42 | 31 |
| Senior Project Manager | 84 | 33 | Project Coordinator | 35 |  |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Construction Management Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2017) | Jobs in Industry (2022) | % Change (2017-22) | % in Industry (2017) |
| Commercial and Institutional Building Construction (236220) | 4,614 | 5,452 | 18% | 11.8% |
| Residential Remodelers (236118) | 3,686 | 3,937 | 7% | 9.4% |
| New Single-Family Housing Construction (except For-Sale Builders) (236115) | 2,810 | 2,776 | (1%) | 7.2% |
| Electrical Contractors and Other Wiring Installation Contractors (238210) | 2,670 | 3,013 | 13% | 6.8% |
| Plumbing, Heating, and Air-Conditioning Contractors (238220) | 2,365 | 2,646 | 12% | 6.1% |
| Local Government, Excluding Education and Hospitals (903999) | 2,323 | 2,476 | 7% | 6.0% |
| All Other Specialty Trade Contractors (238990) | 1,529 | 1,525 | (0%) | 3.9% |
| Site Preparation Contractors (238910) | 1,123 | 1,100 | (2%) | 2.9% |
| Painting and Wall Covering Contractors (238320) | 1,082 | 1,037 | (4%) | 2.8% |
| Engineering Services (541330) | 1,063 | 1,182 | 11% | 2.7% |
| Drywall and Insulation Contractors (238310) | 964 | 1,029 | 7% | 2.5% |
| Highway, Street, and Bridge Construction (237310) | 908 | 987 | 9% | 2.3% |
| Roofing Contractors (238160) | 875 | 944 | 8% | 2.2% |
| Poured Concrete Foundation and Structure Contractors (238110) | 679 | 744 | 10% | 1.7% |
| Water and Sewer Line and Related Structures Construction (237110) | 637 | 708 | 11% | 1.6% |
| Automotive Body, Paint, and Interior Repair and Maintenance (811121) | 535 | 571 | 7% | 1.4% |
| Architectural Services (541310) | 496 | 549 | 11% | 1.3% |
| Industrial Building Construction (236210) | 483 | 534 | 11% | 1.2% |
| Finish Carpentry Contractors (238350) | 449 | 430 | (4%) | 1.2% |
| Flooring Contractors (238330) | 423 | 401 | (5%) | 1.1% |
| Natural Gas Distribution (221210) | 376 | 378 | 1% | 1.0% |
| Tile and Terrazzo Contractors (238340) | 374 | 388 | 4% | 1.0% |

*Source: EMSI 2018.3*

**Table 6. Top Employers Posting Construction Management Occupations in Bay and Mid-Peninsula Sub-Region (Sept 2017 - Aug 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Mid-Peninsula |
| The Turner Corporation | 101 | Xl Construction Corporation | 32 | Webcor Builders | 58 |
| Webcor Builders | 69 | Swinerton Incorporated | 29 | The Turner Corporation | 43 |
| CBRE | 53 | Facebook | 27 | Jones Lang Lasalle Incorporated | 36 |
| Jones Lang Lasalle Incorporated | 49 | Fairfield Residential | 27 | Suffolk Construction | 35 |
| Suffolk Construction | 42 | Swinerton Builders | 27 | Facebook | 27 |
| Lennar Corporation | 41 | Tesla Motors | 27 | Balfour Beatty | 24 |
| Balfour Beatty | 38 | National Construction Workforce | 24 | cbre | 24 |
| Vanir Construction Management Incorporated | 36 | Jacobs Engineering Group Incorporated | 23 | Xl Construction Corporation | 21 |
| Rosendin Electric Incorporated | 32 | Toll Brothers Incorporated | 23 | Pros In Construction | 20 |
| The Kleinfelder Group, Inc | 32 | Aegion Corporation | 22 | Wework | 18 |

*Source: Burning Glass*

# Educational Supply

There are five community colleges in the Bay Region issuing 50 awards annually on TOP 0957.00 - Civil and Construction Management Technology. There are three other educational institutions issuing 69 awards annually on CIP code 46.0415 - Building Construction Technology for a total of 119 awards annually (on average) in the region. City College of San Francisco is the only college in the Mid-Peninsula sub-region issuing awards on TOP 0957.00, issuing 18 awards annually (on average).

**Table 7. Awards on TOP 0957.00 - Civil and Construction Management Technology and CIP code 46.0415 - Building Construction Technology in the Bay Region**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| College | Sub-Region | CIP Code | Headcount | Associates | Certificates | Total |
| Cabrillo | Santa Cruz & Monterey | n/a | 229 | 5 | 15 | 20 |
| Diablo Valley | East Bay | n/a | 327 | 3 | 3 | 3 |
| Hartnell | Santa Cruz & Monterey | n/a | 15 | 2 | 1 | 3 |
| Laney | East Bay | n/a | 218 | 4 | 2 | 6 |
| San Francisco | Mid-Peninsula | n/a | 159 | 3 | 15 | 18 |
| CET-Soledad | Santa Cruz & Monterey | 46.0415 | n/a | 0 | 13 | 13 |
| CET-Watsonville | Santa Cruz & Monterey | 46.0415 | n/a | 0 | 26 | 26 |
| CET-Sobrato | Silicon Valley | 46.0415 | n/a | 0 | 30 | 30 |
| **Total Bay Region** | |  | **948** | **17** | **105** | **119** |
| **Total Mid-Peninsula Sub-Region** | |  |  | **3** | **15** | **18** |

# *Source: IPEDS, Data Mart and Launchboard*

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

# Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 4,250 annual openings for the Construction Management occupational cluster and 119 annual awards for an annual undersupply of 4,131 students. In the Mid-Peninsula, there is also a gap with 980 annual openings and 18 annual awards for an annual undersupply of 962 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0957.00 - Civil and Construction Management Technology**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | City College of San Francisco (All CTE Programs) | State (TOP 0957) | Bay (TOP 0957) | Mid-Peninsula (TOP 0957) | City College of San Francisco (TOP 0957) |
| % Employed Four Quarters After Exit | 74% | 72% | 77% | 79% | 84% | 83% |
| Median Earnings Two Quarters After Exit | $10,310 | $10,974 | $13,889 | $13,456 | $13,951 | $12,784 |
| Median % Change in Earnings | 46% | 46% | 40% | 52% | 48% | 47% |
| % of Students Earning a Living Wage | 63% | 55% | 80% | 75% | 75% | 70% |

*Source: Launchboard Pipeline (version available on 9/7/18)*

# Skills, Certifications and Education

**Table 9. Top Skills for Construction Management Occupations in Bay Region (Sept 2017 - Aug 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Project Management | 3,286 | Estimating | 1,942 | Repair | 554 |
| Scheduling | 2,878 | Quality Assurance and Control | 1,376 | Plumbing | 538 |
| Budgeting | 1,942 | Microsoft Project | 1,029 | Building Codes | 520 |
| Construction Management | 1,376 | Commercial Construction | 1,000 | Managing Subcontractors | 512 |
| Estimating | 1,029 | Cost Control | 981 | Contract Preparation | 454 |
| Quality Assurance and Control | 1,000 | Occupational Health and Safety | 856 | Request for Information (RFI) | 450 |
| Microsoft Project | 981 | Customer Service | 770 | Civil Engineering | 424 |
| Commercial Construction | 856 | Cost Estimation | 769 | Business Development | 421 |
| Cost Control | 770 | Project Planning and Development Skills | 719 | Sales | 414 |
| Occupational Health and Safety | 769 | Procurement | 690 | Design and Construction | 395 |
| Customer Service | 719 | Staff Management | 612 | Accounting | 381 |
| Cost Estimation | 690 | Quality Management | 611 | Residential Construction | 380 |
| Project Planning and Development Skills | 612 | Copying | 581 | Punch List | 377 |
| Procurement | 3,286 | Contract Review | 575 | Renovation | 363 |
| Staff Management | 2,878 | Customer Contact | 560 | Primavera | 354 |

*Source: Burning Glass*

**Table 10. Certifications for Construction Management Occupations in the Bay Region (Sept 2017 - Aug 2018)**

Note: 77% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| Certification | Postings | Certification | Postings |
| Driver's License | 978 | Automotive Service Excellence (ASE) Certification | 38 |
| Project Management Certification | 238 | Electrician Certification | 36 |
| Leadership In Energy And Environmental Design (LEED) Certified | 119 | Aci Field Testing Technician | 29 |
| Certified Construction Manager | 111 | Cisco Certified Internetwork Professional (CCIP) | 24 |
| Project Management Professional (PMP) | 107 | CDL Class C | 21 |
| LEED AP | 99 | Security Clearance | 21 |
| Contractors License | 72 | OSHA Safety 10 Hour | 20 |
| Licensed Professional Engineer | 72 | OSHA Safety 30 Hour | 18 |
| Occupational Safety and Health Administration Certification | 51 | Architecture License | 17 |
| Master Electrician License | 42 | Certified Public Accountant (CPA) | 17 |
| Welding Certification | 42 | CDL Class A | 13 |
| First Aid CPR AED | 41 | CompTIA Advanced Security Practitioner (CASP) | 13 |
| Safety Trained Supervisor | 41 | I-Car | 13 |
| Certified Welding Inspector (CWI) | 39 | North American Board of Energy Practitioners (NABCEP) | 12 |

*Source: Burning Glass*

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

Note: 47% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |
| --- | --- |
| Education (minimum advertised) | Latest 12 Mos. Postings |
| High school or vocational training | 867 (20%) |
| Associate Degree | 130 (3%) |
| Bachelor’s Degree or Higher | 3,294 (77%) |

*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 CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://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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