**Firefighter Occupation**

**Labor Market Information Report**

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 Firefighters compared to the demand for this occupation in the Bay region and the Santa Cruz-Monterey (SC-Monterey) sub-region. The annual gap between demand and supply from Fire Academy programs is about 525 in the region and 85 in the SC-Monterey sub-region. This undersupply warrants the addition of the proposed Fire Academy certificate program. However, there are 440 annual average awards on TOP 2133.00 (Fire Technology) in the Bay region and 26 annual average awards in the SC-Monterey sub-region. If those awards are taken into account and added to awards for Fire Academy (TOP 2133.50), then the regional gap shrinks to 83, and the sub-regional gap is 59.

This report also provides student outcomes data on employment and earnings for regional and sub-regional Fire Academy programs compared to other community colleges in the state with Fire Academy programs on TOP code 2133.50. It is recommended that this data be reviewed to better understand how outcomes for Monterey Peninsula College (MPC) students taking courses on this TOP code compare to potentially similar programs at colleges in the state, region and sub-region as well as to outcomes across all programs at MPC and in the region.

# Introduction

This report profiles the Firefighter occupation in the 12 county Bay Region and SC-Monterey (Monterey, San Benito and Santa Cruz counties) to help inform the decision regarding a new Firefighter I Certificate of Achievement at Monterey Peninsula College.

* **Firefighters (SOC 33-2011)**: Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance.

*Entry-Level Educational Requirement:* *Postsecondary nondegree award*

*Training Requirement:* *Long-term on-the-job training*

*Percentage of Community College Award Holders or Some Postsecondary Coursework:* 62%

# Occupational Demand

**Table 1. Employment Outlook for Firefighters in Bay Region and SC-Monterey Sub-Region**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | Region or Sub-Region | 2016 Jobs | 2021 Jobs | 5-Yr Change | 5-Yr % Change | 5-Year Openings | Annual Openings | 10% Hourly Wage | Median Hourly Wage |
| Firefighters | Bay Region | 6,869 | 7,306 | 437 | 6% | 2,733 | 547 | $22.80 | $40.25 |
| Firefighters | SC-Monterey  | 1,066 | 1,134 | 68 | 6% | 423 | 85 | $16.56 | $28.18 |

*Source: EMSI 2017.4***Bay Region** includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**SC-Monterey Sub-Region** includes Monterey, San Benito, and Santa Cruz Counties

### Job Postings in Bay Region and SC-Monterey Sub-Region

**Table 2. Number of Job Postings by Occupation for latest 12 months (Feb 2017 – Jan 2018)**

|  |  |  |
| --- | --- | --- |
| Occupation | Bay Region | SC-Monterey |
| Municipal Firefighters (33-2011.01) | 54 | 6 |
| Forest Firefighters (33-2011.02) | 8 | 0 |
| **Total** | **62** | **6** |

*Source: Burning Glass*

**Table 3. Top Job Titles for Firefighters for latest 12 months (Feb 2017 – Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay Region | SC-Monterey | Common Title | Bay Region | SC-Monterey |
| Firefighter | 38 | 5 | Fire Technician | 4 | 0 |

*Source: Burning Glass*

# Industry Concentration

**Table 4. Industries hiring Firefighters in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Industry – 6 Digit NAICS (North American Industry Classification) Codes** | **Jobs in Industry (2016)** | **Jobs in Industry (2021)** | **% Change (2016-21)** | **% in Industry (2016)** |
| Local Government, Excluding Education and Hospitals (903999) | 6,454 | 6,866 | 6% | 93.9% |
| All Other Support Services (561990) | 82 | 74 |  (10%) | 1.2% |
| Federal Government, Civilian, Excluding Postal Service (901199) | 78 | 78 | 0% | 1.1% |
| State Government, Excluding Education and Hospitals (902999) | 76 | 79 | 4% | 1.1% |
| Convention and Trade Show Organizers (561920) | 67 | 78 | 16% | 1.0% |

*Source: EMSI 2017.4*

**Table 5. Top Employers Posting Jobs in Bay Region for latest 12 months (Feb 2017 – Jan 2018)**

|  |  |  |
| --- | --- | --- |
| **Employer** | **Bay** | **SC-Monterey** |
| Department Of The Army | 6 | 4 |
| National Park Service | 4 | 0 |
| Nissan North America Inc | 4 | 0 |

*Source: Burning Glass*

# Educational Supply

On the supply side, for Fire Academy Programs (TOP 2133.50), there are two community colleges in the Bay region issuing 24 awards annually. Two of these colleges are in the Santa Cruz – Monterey sub-region, but neither college has issued awards based on available data. Nine colleges in the region have students taking courses on the Fire Academy TOP Code.

**Table 6. Number of Degrees and Certificates and Headcount on TOP 2133.50 - Fire Academy**

|  |  |  |  |
| --- | --- | --- | --- |
| College | Sub-Region | CC Headcount | Certificates or Other Credit Awards |
| Chabot | East Bay | 34 | 0 |
| Foothill | Silicon Valley | 368 | 0 |
| Hartnell | SC & Monterey | 547 | 0 |
| Merritt | East Bay | 85 | 0 |
| Los Medanos | East Bay | 34 | 1 |
| Mission | Silicon Valley | 41 | 0 |
| Monterey | SC & Monterey | 90 | 0 |
| San Mateo | Mid-Peninsula | 63 | 0 |
| Santa Rosa | North Bay | 73 | 23 |
| **Total for Bay Region** | **1,335** | **24** |
| **Total for SC Monterey** | **637** | **0** |

# *Source: Data Mart and Launchboard*

NOTE: Headcount of students who took one or more courses is for 2015-16. Certificates for Community Colleges is the annual average for 2014-17. There are no Associate Degrees on this TOP code. There appear to be no other educational institutes issuing awards in IPEDS.

# Gap Analysis

The labor market gap is large in the Bay region for these occupations with annual openings of 547 and annual supply of 24 community college students. This represents an undersupply of 523 students. In the SC-Monterey sub-region, there are 85 annual openings and no annual supply on TOP 2133.50 (Fire Academy), for a gap of 85.

However, there are 440 annual average awards on TOP code 2133.00 (Fire Technology) in the Bay region and 26 annual average awards in the SC-Monterey sub-region (21 from Cabrillo and five from MPC). If those awards are taken into account and added to awards for Fire Academy (TOP 2133.50), then the regional gap shrinks to 83, and the sub-regional gap is 59.

# Student Outcomes

Looking at Launchboard for employment outcomes data shows that students who took courses on the Fire Academy TOP code (2133.50) in the Bay Region did well in terms of employment outcomes as compared with the state or with students on all regional programs in 2014-15. The following highlights some of the results in Table 7:

* 88% of MPC students who exited and took courses on that TOP code earned a living wage in 2014-15 compared to 80% at the state level in Fire Academy and 67% across all program areas at MPC.
* 100% of Chabot Fire Academy students were employed four quarters after exit. MPC students, who took courses on this TOP code, appear to be employed at a much lower rate (53%) than students who took courses on this TOP code at the sub-region (72%), region (84%) or state (86%) or than MPC students across all programs (72%).
* Foothill’s students earned the highest quarterly wages in 2014-15 in the region at $38,625 as well as the highest percentage of students earning a living wage at 90%.

**Table 7. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 2133.50 - Fire Academy for 2014-15**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **2014-15** | **Bay Region (All Programs)** | **MPC (All Programs)** | **State (2133.50)** | **Bay Region (2133.50)** | **SC-Monterey Sub-Region (2133.50)** | **MPC (2133.50)** | **Top Performing College in Bay Region (2133.50)** |
| % Employed Four Quarters After Exit | 68% | 72% | 86% | 84% | 72% | 53% | Chabot | 100% |
| Median Earnings Two Quarters After Exit | $12,640 | $18,315 | $27,330 | $29,285 | $23,155 | $22,000 | Foothill | $38,625 |
| Median % Change in Earnings | 37% | 22% | 15% | 25% | 28% | 211% | MPC | 211% |
| % of Students Earning a Living Wage | 51% | 67% | 80% | 85% | 86% | 88% | Foothill | 90% |

*Source: Launchboard*

# Skills & Certifications

**Table 8. Top Skills and Certifications for Firefighters in the Bay Region (Feb 2017 – Jan 2018)**

Note: 42% of records have been excluded because they do not include a skill. 47% of records have been excluded because they do not include a certification. As a result, the charts below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| **Skill** | **Postings** | **Certifications** | **Postings** |
| Inspection | 16 | Emergency Medical Technician (EMT) | 23 |
| Life Support | 11 | Firefighter | 15 |
| Fire Suppression | 10 | Certified Patient Account Technician | 13 |
| Cardiopulmonary Resuscitation (CPR) | 8 | Paramedic Certification | 12 |
| Emergency Medical Care | 8 | First Aid Cpr AED | 6 |
| Advanced Cardiac Life Support (ACLS) | 5 | Commercial Driver's License | 5 |
| *Source: Burning Glass* |  | National Registry Of Emergency Medical Technicians (NREMT) | 4 |

**Table 9. Education (Minimum Advertised) for Firefighters in the Bay Region**

Note: 63% 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 | 20 (87%) |
| Bachelor’s Degree | 2 (9%) |
| Master’s Degree | 1 (4%) |

*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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