



Labor Market Analysis for Program Recommendation

Fire Academy Occupations

College of San Mateo

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 Fire workers compared to the demand for this cluster of occupations in the Bay region and in the Mid-Peninsula sub-region (San Francisco, San Mateo counties). There is a projected annual gap of about 556 students in the Bay region and 160 students in the Mid-Peninsula Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 2133.50 - Fire Academy 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 College of San Mateo and in the region.

This report profiles Fire Academy Occupations in the 12 county Bay region and in the Mid-Peninsula sub-region for a proposed new program at College of San Mateo.

- **Firefighters (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: 60%
- **Fire Inspectors and Investigators (33-2021):** Inspect buildings to detect fire hazards and enforce local ordinances and State laws, or investigate and gather facts to determine cause of fires and explosions.
 Entry-Level Educational Requirement: Postsecondary nondegree award
 Training Requirement: Moderate-term on-the-job training
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 50%

Occupational Demand

Table 1. Employment Outlook for Fire Academy 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
Firefighters	6,902	7,277	375	5%	3,210	642	\$36	\$44
Fire Inspectors and Investigators	358	386	28	8%	199	40	\$24	\$38
Total	7,261	7,663	402	6%	3,409	682		

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
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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 Fire Academy Occupations in Mid-Peninsula 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
Firefighters	1,698	1,759	62	4%	752	150	\$42	\$49
Fire Inspectors and Investigators	84	92	8	9%	48	10	\$27	\$47
Total	1,782	1,851	70	4%	800	160		

Source: Lightcast 2022.3

Mid-Peninsula Sub-Region includes: San Francisco, 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

Occupation	Bay Region	Mid-Peninsula
Firefighters	121	10
Fire Inspectors and Investigators	114	12

Source: Lightcast

Table 4a. Top Job Titles for Fire Academy Occupations for latest 12 months - Bay Region

Title	Bay	Title	Bay
Firefighters/Paramedics	58	Captains/Firefighters	4
Firefighters	36	Fire Alarm and Fire Sprinkler Inspectors	4
Fire Alarm Inspectors	27	Fire Captains	4
Fire Inspectors	21	Fire Prevention Specialists	4
Heavy Equipment Operators	8	Fire Sprinkler Technicians	4
Reserve Firefighters	7	Fire Alarm Systems Technicians	3
Fire Sprinkler Inspectors	6	Systems Project Managers	3
Fire Prevention Inspectors	5	Americorps Volunteers	2
Fire Safety Inspectors	5	Fire Extinguisher Technicians	2

Source: Lightcast

Table 4b. Top Job Titles for Fire Academy Occupations for latest 12 months - Mid-Peninsula Sub-Region

Title	Mid-Peninsula
Firefighters	6
Fire Sprinkler Technicians	4
Fire Safety Inspectors	3
Fire Alarm Inspectors	2
Fire Inspectors	2
Firefighters/Paramedics	2
Fire Extinguisher Technicians	1

Industry Concentration**Table 5. Industries hiring Fire Academy 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)
Local Government, Excluding Education and Hospitals	6,702	7,221	8%	90%
All Other Support Services	191	233	22%	3%
State Government, Excluding Education and Hospitals	105	127	22%	2%
Federal Government, Military	89	91	3%	1%
Convention and Trade Show Organizers	53	80	50%	1%
Packaging and Labeling Services	68	78	15%	1%
Federal Government, Civilian, Excluding Postal Service	73	74	1%	1%

Source: Lightcast 2022.3

Table 6. Top Employers Posting Fire Academy Occupations in Bay Region and Mid-Peninsula Sub-Region

Employer	Bay	Employer	Mid-Peninsula
Daily Dispatch	16	A Total Fire Protection Company	4
State of California	13	City & County of San Francisco	3
ADT Security Services	10	San Francisco Public Utilities Commission	3
Bay Alarm Company	7	State of California	2
City Of Berkeley	6	University of California	2
City Of Fremont	6	Commercial Fire Protection	1

Source: Lightcast

Educational Supply

There are four (4) community colleges in the Bay Region issuing 126 awards on average annually (last 3 years ending 2021-22) on TOP 2133.50 - Fire Academy. In the Mid-Peninsula Sub-Region, there are no community colleges that issued awards on average annually (last 3 years) on this TOP code.

Table 7. Community College Awards on TOP 2133.50 - Fire Academy in Bay Region

College	Subregion	High unit Certificate	Low unit Certificate	Total
Las Positas	East Bay	0	25	25
Los Medanos	East Bay	0	9	9
Monterey	SC-Monterey	6	21	27
Santa Rosa	North Bay	0	65	65
Total		6	120	126

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 682 annual openings for the Fire Academy occupational cluster and 126 annual (3-year average) awards for an annual undersupply of 556 students. In the Mid-Peninsula Sub-Region, there is also a gap with 160 annual openings and no annual (3-year average) awards for an annual undersupply of 160 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 2133.50 - Fire Academy

Metric Outcomes	Bay All CTE Programs	CSM All CTE Programs	State 2133.50	Bay 2133.50	Mid-Peninsula 2133.50	CSM 2133.50
Students with a Job Closely Related to Their Field of Study	74%	75%	87%	94%	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$53,090	\$61,180	\$97,233	\$87,487	\$59,720	\$48,898
Median Change in Earnings for SWP Exiting Students	24%	21%	31%	12%	27%	N/A
Exiting Students Who Attained the Living Wage	54%	44%	80%	72%	84%	N/A

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

Skills, Certifications and Education

Table 9. Top Skills for Fire Academy Occupations in Bay Region

Skill	Posting	Skill	Posting
Firefighting	130	Emergency Response	31
Fire Prevention	86	Fire And Life Safety	28
Fire Suppression Systems	83	Fire Science	28
Emergency Medical Services	81	Self-Contained Breathing Apparatus	28

Skill	Posting	Skill	Posting
Fire Alarm Systems	77	NFPA (National Fire Protection Association) Codes	24
Fire Protection	57	Fire Investigation	21
Fire Safety	39	Life Support	21
Alarm Devices	37	Sprinkler Systems	19
Fire Service	35	Public Relations	18
Cardiopulmonary Resuscitation (CPR)	33	Construction	17

Source: Lightcast

Table 10. Certifications for Fire Academy Occupations in Bay Region

Certification	Posting	Certification	Posting
Valid Driver's License	115	Advanced Cardiovascular Life Support (ACLS) Certification	21
Firefighter I Certification	71	Pediatric Advanced Life Support (PALS)	20
Emergency Medical Technician (EMT)	59	Firefighter II Certification	19
Paramedic (EMT-P)	57	NICET Level I Certification	18
Advanced Life Support	39	Certified Fire Inspector II	15
Cardiopulmonary Resuscitation (CPR) Certification	27	Emergency Medical Technician - Basic (EMT-B)	15
Basic Life Support (BLS) Certification	27	Nationally Registered Paramedic (NRP)	13
Certified First Responder (CFR)	25	Nationally Registered Emergency Medical Technician (NREMT)	13
Certified Fire Inspector I	22	Basic Trauma Life Support (BTLS)	9
CDL Class C License	21	Automated External Defibrillator (AED) Certification	9

Source: Lightcast

Table 11. Education Requirements for Fire Academy Occupations in Bay Region

Education Level	Job Postings	% of Total
High school or GED	92	63%
Associate degree	24	17%
Bachelor's degree & higher	29	20%

Source: Lightcast

Note: 51% 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.

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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