** Audio and Video Equipment Technicians**

**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 an undersupply of Audio and Video Equipment Technicians compared to the demand for this occupation in the Bay region and in the Mid-Peninsula sub-region (San Francisco and San Mateo Counties). There is a projected annual gap of about 360 students in the Bay region and 124 students in the Mid-Peninsula Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0612.20 - Film Production 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 City College of San Francisco and in the region.

# Introduction

This report profiles Audio and Video Equipment Technicians in the 12 county Bay region and in the Mid-Peninsula sub-region for a proposed new Cinema Foundations Certificate at City College of San Francisco.

|  |
| --- |
| * **Audio and Video Equipment Technicians (SOC 27-4011):** Set up, or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems. Excludes "Sound Engineering Technicians" (27-4014). |
| *Entry-Level Educational Requirement: Postsecondary nondegree award* |
| *Training Requirement: Short-term on-the-job training* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 46%* |

# Occupational Demand

**Table 1. Employment Outlook for Audio and Video Equipment Technicians in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Audio and Video Equipment Technicians | 3,435 | 3,700 | 265 | 8% | 1,886 | 377 | $15.41 | $22.67 |

*Source: EMSI 2019.1*

**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 Audio and Video Equipment Technicians in Mid-Peninsula Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Audio and Video Equipment Technicians | 1,306 | 1,388 | 82 | 6% | 691 | 138 | $15.95 | $23.33 |

*Source: EMSI 2019.1*

**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 (Feb 2018 - Jan 2018)**

| Occupation | Bay Region | Mid-Peninsula |
| --- | --- | --- |
| Audio and Video Equipment Technicians | 723 | 330 |

*Source: Burning Glass*

**Table 4. Top Job Titles for Audio and Video Equipment Technicians for latest 12 months (Feb 2018 - Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | Mid-Peninsula | Common Title | Bay | Mid-Peninsula |
| Audio Visual Technician | 272 | 127 | Technical Specialist, Audio Visual | 7 | 6 |
| Video Technician | 23 | 14 | Installation Technician | 6 | 0 |
| Director of Event Technology | 20 | 3 | Systems Integrator | 6 | 0 |
| Technical Lead, Audio Visual | 19 | 0 | Technical Supervisor, Audio Visual | 6 | 6 |
| Field Service Technician | 17 | 0 | Audio Visual Crew | 5 | 5 |
| Systems Engineer | 14 | 0 | Event Technician | 5 | 0 |
| Stage Technician | 13 | 1 | Laboratory Technician | 5 | 0 |
| Technology Manager | 13 | 5 | Service Technician | 5 | 1 |
| Systems Specialist | 11 | 0 | Technical Supervisor, Audio Visual, Accommodation/Hotels Industry | 5 | 5 |
| Video Production Specialist | 11 | 8 | Video Specialist/Filmmaker | 5 | 2 |
| Production Technician | 9 | 3 | Audio Products Systems Epm | 4 | 0 |
| Video Specialist | 9 | 3 | Audio Visual Coordinator | 4 | 1 |
| Technician | 8 | 3 | Audio Visual Specialist | 4 | 2 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Audio and Video Equipment Technicians 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) |
| Motion Picture and Video Production (512110) | 294 | 295 | 8% | 8.5% |
| Colleges, Universities, and Professional Schools (611310) | 189 | 196 | 15% | 5.6% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 161 | 167 | 12% | 4.8% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 158 | 165 | 33% | 4.7% |
| Religious Organizations (813110) | 136 | 137 | 4% | 3.9% |
| All Other Consumer Goods Rental (532289) | 120 | 125 | 16% | 3.6% |
| Other Commercial and Industrial Machinery and Equipment Rental and Leasing (532490) | 122 | 124 | 16% | 3.6% |
| Independent Artists, Writers, and Performers (711510) | 119 | 113 | (10%) | 3.2% |
| Theater Companies and Dinner Theaters (711110) | 104 | 102 | 6% | 2.9% |
| Promoters of Performing Arts, Sports, and Similar Events with Facilities (711310) | 95 | 96 | 12% | 2.8% |
| Cable and Other Subscription Programming (515210) | 84 | 90 | 1% | 2.6% |
| Colleges, Universities, and Professional Schools (Local Government) (903612) | 89 | 86 | (9%) | 2.5% |
| Television Broadcasting (515120) | 77 | 77 | 1% | 2.2% |
| Teleproduction and Other Postproduction Services (512191) | 77 | 76 | 3% | 2.2% |
| Temporary Help Services (561320) | 74 | 74 | 8% | 2.1% |
| Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing (532412) | 71 | 74 | 13% | 2.1% |
| Electrical Contractors and Other Wiring Installation Contractors (238210) | 72 | 72 | 11% | 2.1% |
| Custom Computer Programming Services (541511) | 70 | 72 | 20% | 2.1% |
| Local Government, Excluding Education and Hospitals (903999) | 64 | 65 | 6% | 1.9% |
| Federal Government, Military (901200) | 56 | 55 | (5%) | 1.6% |
| Hotels (except Casino Hotels) and Motels (721110) | 44 | 45 | 2% | 1.3% |
| Recreational Goods Rental (532284) | 37 | 41 | 35% | 1.2% |

*Source: EMSI 2019.1*

**Table 6. Top Employers Posting Jobs for Audio and Video Equipment Technicians in Bay Region and Mid-Peninsula Sub-Region (Feb 2018 - Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Mid-Peninsula |
| Psav | 70 | Freeman | 5 | Psav | 38 |
| Psav Presentation Services | 57 | One Workplace | 5 | Psav Presentation Services | 36 |
| Apple Inc. | 20 | Allied Digital Services, Llc | 4 | Av Services Incorporated | 9 |
| Outsource | 15 | Amazon | 4 | Encore Event Technologies | 6 |
| Diversified | 14 | Compass Group | 4 | Audio Visual Management Solutions | 5 |
| Audio Visual Management Solutions | 11 | Conference Technologies | 4 | Freeman | 5 |
| Encore Event Technologies | 10 | Dublin Unified School District | 4 | Facebook | 4 |
| Whitlock | 10 | Excell | 4 | Freeman Company | 4 |
| Av Services Incorporated | 9 | Freeman Company | 4 | Herman Integration Services | 4 |
| Chabot College | 6 | Herman Integration Services | 4 | Anderson Av Rentals & Productions | 3 |
| Facebook | 6 | Milestone Technologies | 4 | Herman Av Group | 3 |
| Avidex | 5 | Security Industry Specialists, Inc | 4 | Infotech Global Services | 3 |
| Chabot Las Positas Community College District | 5 | Swiss Post Solutions | 4 | Merchants Exchange Productions | 3 |
| Fortinet Incorporated | 5 | Video Technical Services | 4 | Outsource | 3 |

*Source: Burning Glass*

# Educational Supply

There are four community colleges in the Bay Region issuing 17 awards on average annually (last 3 years) on TOP 0612.20 - Film Production. There are two colleges in the Mid-Peninsula Sub-Region issuing 14 awards on average annually (last 3 years) on this TOP code.

**Table 7. Awards on TOP 0612.20 - Film Production in the Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Headcount | Associates | Certificates | Total |
| Canada | Mid-Peninsula | 24 |  |  |  |
| Chabot | East Bay | 32 |  |  |  |
| City College of San Francisco | Mid-Peninsula | 99 |  | 7 | 7 |
| Diablo Valley | East Bay | 92 |  |  |  |
| Foothill | Silicon Valley | 11 | 2 |  | 2 |
| Monterey Peninsula | Santa Cruz & Monterey | 12 | 1 |  | 1 |
| San Jose City | Silicon Valley | 14 |  |  |  |
| Skyline | Mid-Peninsula | 195 | 1 | 6 | 7 |
| **Total Bay Region** | | **479** | **4** | **13** | **17** |
| **Total Mid-Peninsula Sub-Region** | | **318** | **1** | **13** | **14** |

# *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 labor market gap in the Bay region with 377 annual openings for Audio and Video Equipment Technicians and 17 annual (3-year average) awards for an annual undersupply of 360 students. In the Mid-Peninsula Sub-Region, there is also a gap with 138 annual openings and 14 annual (3-year average) awards for an annual undersupply of 124 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0612.20 - Film Production**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | City College of San Francisco (All CTE Programs) | State (0612.20) | Bay (0612.20) | Mid-Peninsula (0612.20) | City College of San Francisco (0612.20) |
| % Employed Four Quarters After Exit | 74% | 73% | 68% | 63% | 67% | 67% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $10,170 | $9,555 | $6,796 | $8,139 | $5,975 |
| Median % Change in Earnings | 46% | 50% | 19% | 32% | 29% | 29% |
| % of Students Earning a Living Wage | 63% | 55% | 54% | 39% | 36% | 30% |

*Source: Launchboard Pipeline (version available on 2/13/19)*

# Skills, Certifications and Education

**Table 9. Top Skills for Audio and Video Equipment Technicians in Bay Region (Feb 2018 - Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Video Conferencing | 168 | Digital Signal Processing (DSP) | 63 | Hand Tools | 31 |
| Customer Service | 152 | Cabling | 62 | Inventory Control | 31 |
| Equipment Operation | 112 | Project Management | 59 | Test Equipment | 31 |
| Sales | 112 | Predictive / Preventative Maintenance | 54 | Video Editing | 31 |
| Operations Management | 111 | Audio Systems | 48 | Quality Assurance and Control | 30 |
| Repair | 109 | Troubleshooting Technical Issues | 47 | Music | 29 |
| Technical Support | 104 | Wiring | 47 | Staff Management | 29 |
| Upselling Products and Services | 93 | Event Planning | 45 | Equipment Maintenance | 28 |
| Software Issue Resolution | 90 | Broadcast Industry Knowledge | 44 | Lifting Ability | 28 |
| Customer Contact | 83 | Multimedia | 40 | System Design | 28 |
| Satisfaction Failure Correction | 74 | Power Tools | 38 | Audio mixing | 26 |
| Cisco | 73 | Digital Video | 33 | Linux | 26 |
| Scheduling | 73 | Inventory Management | 33 | Schematic Diagrams | 26 |
| Audio / Visual Knowledge | 69 | Adobe Photoshop | 32 | Budgeting | 24 |
| Video Production | 64 | Cisco Telepresence | 32 | Occupational Health and Safety | 24 |

*Source: Burning Glass*

**Table 10. Certifications for Audio and Video Equipment Technicians in the Bay Region (Feb 2018 - Jan 2018)**

Note: 69% 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 | 205 | Microsoft Certified Professional (MCP) | 3 |
| Certified Career Development Facilitator | 18 | Security Clearance | 3 |
| Occupational Safety and Health Administration Certification | 16 | Certified Medical Laboratory Technician | 2 |
| Audiovisual (AV) Certification | 5 | Assistive Technology Professional | 1 |
| Certified A+ Technician | 4 | Bloodborne Pathogens Certification | 1 |
| BICSI Certification | 3 | Cdl Class C | 1 |
| CompTIA Network+ | 3 | Certified Crestron Programmer | 1 |
| CompTIA Security+ | 3 | Cisco Certified Network Associate (CCNA) | 1 |

*Source: Burning Glass*

**Table 11. Education Requirements for Audio and Video Equipment Technicians in Bay Region**

Note: 50% 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 | 192 (53%) |
| Associate Degree | 11 (3%) |
| Bachelor’s Degree or Higher | 156 (44%) |

*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

For more information, please contact:

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