** Technical Theater Occupations**

**Labor Market Information Report**

**City College of San Francisco**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

April 2019

# Recommendation

Based on all available data, there appears to be an undersupply of Technical Theater 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.) There is a projected annual gap of about 1,077 students in the Bay region and 496 students in the Mid-Peninsula Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 1006.00 - Technical Theater 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 (CCSF) and in the region.

# Introduction

This report profiles Technical Theater Occupations in the 12 county Bay region and in the Mid-Peninsula sub-region for a proposed new program at City College of San Francisco. Labor market information (LMI) is not available at the eight-digit SOC code level for Technical Directors/Managers (27-2012.05), therefore, the data shown in Tables 1 and 2 is for Producers and Directors(at the six digit SOC level) and likely overstates demand for Technical Directors/Managers. Tables 3, 4, 6, 9, and 10 use job postings data from Burning Glass at the eight-digit SOC code level for Technical Directors/Managers (27-2012.05).

|  |
| --- |
| * **Costume Attendants (SOC 39-3092**): Select, fit, and take care of costumes for cast members, and aid entertainers. May assist with multiple costume changes during performances. |
| *Entry-Level Educational Requirement: High school diploma or equivalent* |
| *Training Requirement: Short-term on-the-job training* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 36%* |
| * **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%* |
| * **Set and Exhibit Designers (SOC 27-1027):** Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles. |
| *Entry-Level Educational Requirement: Bachelor's degree* |
| *Training Requirement: None* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 29%* |
| * **Producers and Directors (SOC 27-2012):** Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of actors or guests, set design, sound, special effects, and choreography. |
| *Entry-Level Educational Requirement: Bachelor's degree* |
| *Training Requirement: None* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 18%* |

# Occupational Demand

**Table 1. Employment Outlook for Technical Theater Occupations 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 |
| Costume Attendants | 210 | 231 | 21 | 10% | 267 | 53 | $10.91 | $18.87 |
| Audio and Video Equipment Technicians | 3,435 | 3,700 | 265 | 8% | 1,886 | 377 | $15.41 | $22.67 |
| Set and Exhibit Designers | 614 | 631 | 16 | 3% | 313 | 63 | $15.47 | $23.52 |
| Producers and Directors | 5,395 | 5,891 | 496 | 9% | 2,979 | 596 | $20.28 | $33.77 |
| **Total** | **9,654** | **10,453** | **799** | **8%** | **5,445** | **1,089** | **$18.04** | **$28.84** |

*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 Technical Theater Occupations 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 |
| Costume Attendants | 55 | 59 | 5 | 8% | 68 | 14 | $12.07 | $20.73 |
| Audio and Video Equipment Technicians | 1,306 | 1,388 | 82 | 6% | 691 | 138 | $15.95 | $23.33 |
| Set and Exhibit Designers | 198 | 200 | 1 | 1% | 96 | 19 | $19.13 | $33.30 |
| Producers and Directors | 3,178 | 3,370 | 192 | 6% | 1,626 | 325 | $21.65 | $38.59 |
| **4,737** | **4,737** | **5,017** | **280** | **6%** | **2,481** | **496** | **$19.86** | **$33.96** |

*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 (April 2018 - March 2019)**

| Occupation | Bay Region | Mid-Peninsula |
| --- | --- | --- |
| Audio and Video Equipment Technicians (27-4011.00) | 769 | 347 |
| Set and Exhibit Designers (27-1027.00) | 45 | 18 |
| Costume Attendants (39-3092.00) | 12 | 0 |
| Technical Directors/Managers (27-2012.05) | 2 | 2 |
| **Total** | **828** | **367** |

*Source: Burning Glass*

**Table 4. Top Job Titles for Technical Theater Occupations for latest 12 months (April 2018 - March 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | Mid-Peninsula | Common Title | Bay | Mid-Peninsula |
| Audio Visual Technician | 297 | 143 | Production Technician | 9 | 3 |
| Video Technician | 25 | 13 | Audio Visual Specialist | 8 | 6 |
| Director of Event Technology | 23 | 3 | Event Team Member | 8 | 4 |
| Field Service Technician | 17 | 4 | Technician | 8 |  |
| Technical Lead, Audio Visual | 16 | 15 | Video Production Specialist | 8 | 0 |
| Stage Technician | 15 | 1 | Installation Technician | 7 | 0 |
| Technology Manager | 15 | 7 | Wardrobe Attendant | 7 | 3 |
| Systems Engineer | 12 | 1 | Exhibit Designer | 6 | 3 |
| Systems Specialist | 11 | 1 | Technical Supervisor, Audio Visual | 6 | 0 |
| Video Specialist | 10 | 4 | Audio Visual Crew | 5 | 5 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Technical Theater 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) |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 952 | 1,264 | 13% | 1.1% |
| Motion Picture and Video Production (512110) | 839 | 869 | 11% | 22.1% |
| Television Broadcasting (515120) | 666 | 685 | 9% | 25.4% |
| Theater Companies and Dinner Theaters (711110) | 367 | 382 | 5% | 15.2% |
| Cable and Other Subscription Programming (515210) | 366 | 326 | 5% | 8.6% |
| Teleproduction and Other Postproduction Services (512191) | 294 | 304 | 4% | 25.5% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 179 | 173 | 2% | 0.3% |
| Advertising Agencies (541810) | 167 | 175 | 2% | 2.3% |
| Independent Artists, Writers, and Performers (711510) | 167 | 145 | 2% | 11.6% |
| Promoters of Performing Arts, Sports, and Similar Events with Facilities (711310) | 159 | 175 | 2% | 5.3% |
| Custom Computer Programming Services (541511) | 154 | 177 | 2% | 0.2% |
| Radio Stations (515112) | 153 | 142 | 2% | 12.9% |
| Colleges, Universities, and Professional Schools (611310) | 132 | 143 | 2% | 0.4% |
| Other Commercial and Industrial Machinery and Equipment Rental and Leasing (532490) | 130 | 149 | 2% | 6.2% |
| Local Government, Excluding Education and Hospitals (903999) | 130 | 136 | 2% | 0.1% |

*Source: EMSI 2019.1*

**Table 6. Top Employers Posting Technical Theater Occupations in Bay Region and Mid-Peninsula Sub-Region (April 2018 - March 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Mid-Peninsula |
| Psav | 71 | Compass Group | 5 | Psav | 38 |
| Psav Presentation Services | 46 | Fortinet Incorporated | 5 | Psav Presentation Services | 28 |
| Apple Inc. | 18 | Freeman Company | 5 | Av Services Incorporated | 13 |
| Outsource | 18 | Palermitano Solutions | 5 | Encore Event Technologies | 9 |
| Audio Visual Management Solutions | 15 | Allied Digital Services, Llc | 4 | Audio Visual Management Solutions | 6 |
| Diversified | 14 | Amazon | 4 | Freeman | 6 |
| Av Services Incorporated | 13 | Audiovisions | 4 | Freeman Company | 5 |
| Encore Event Technologies | 13 | Avidex | 4 | Herman Integration Services | 5 |
| Whitlock | 12 | California State University | 4 | Outsource | 5 |
| Facebook | 6 | Compass Group Plc United States | 4 | Facebook | 4 |
| Freeman | 6 | Conference Technologies | 4 | Herman Av Group | 4 |
| Herman Integration Services | 6 | Dublin Unified School District | 4 | Regent5 | 4 |
| Stanford University | 6 | Emr Cpr | 4 | Anderson Av Rentals & Productions | 3 |
| Chabot College | 5 | Excell | 4 | Compass Group Plc United States | 3 |
| Chabot Las Positas Community College District | 5 | Google Inc. | 4 | Cruise Automation | 3 |

*Source: Burning Glass*

# Educational Supply

There are six community colleges in the Bay Region issuing 12 awards on average annually (last 3 years) on TOP 1006.00 - Technical Theater. There are no colleges in the Mid-Peninsula Sub-Region issuing awards on this TOP code.

**Table 7. Awards on TOP 1006.00 - Technical Theater in the Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Headcount | Associates | Certificates | Total |
| **Chabot** | East Bay | 26 |  |  |  |
| **Diablo Valley** | East Bay | 152 | 1 | 1 | 2 |
| **Foothill** | Silicon Valley | 82 | 3 |  | 3 |
| **Las Positas** | East Bay | 27 |  |  |  |
| **Marin** | North Bay | 41 |  |  |  |
| **Monterey** | Santa Cruz & Monterey | 11 | 0 | 1 | 1 |
| **Ohlone** | East Bay | 113 |  |  |  |
| **San Francisco** | Mid-Peninsula | 36 |  |  |  |
| **Santa Rosa** | North Bay | 86 |  |  |  |
| **Solano** | North Bay | 47 |  |  |  |
| **West Valley** | Silicon Valley | 50 | 1 |  | 1 |
| **Chabot** | East Bay | 26 |  |  |  |
| **Diablo Valley** | East Bay | 152 | 1 | 1 | 2 |
| **Foothill** | Silicon Valley | 82 | 3 |  | 3 |
| **Total Bay Region** | | **671** | **9** | **3** | **12** |
| **Total Mid-Peninsula Sub-Region** | | **36** | **-** | **-** | **-** |

# *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 1,089 annual openings for the Technical Theater occupational cluster and 12 annual (3-year average) awards for an annual undersupply of 1,077 students. In the Mid-Peninsula Sub-Region, there is also a gap with 496 annual openings and no annual (3-year average) awards for an annual undersupply of 496 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1006.00 - Technical Theater**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | CCSF  (All CTE Programs) | State (1006.00) | Bay (1006.00) | Mid-Peninsula (1006.00) | CCSF (1006.00) |
| % Employed Four Quarters After Exit | 74% | 73% | 66% | 70% | n/a | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $10,170 | $7,691 | $11,275 | n/a | n/a |
| Median % Change in Earnings | 46% | 50% | 117% | 150% | n/a | n/a |
| % of Students Earning a Living Wage | 63% | 55% | n/a | n/a | n/a | n/a |

*Source: Launchboard Pipeline (version available on 4/18/19)*

# Skills and Education

**Table 9. Top Skills for Technical Theater Occupations in Bay Region (April 2018 - March 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Video Conferencing | 182 | Audio Systems | 66 | Schematic Diagrams | 36 |
| Customer Service | 167 | Video Production | 65 | Budgeting | 35 |
| Technical Support | 123 | Project Management | 61 | Staff Management | 35 |
| Repair | 120 | Wiring | 56 | Hand Tools | 33 |
| Operations Management | 113 | Predictive / Preventative Maintenance | 55 | Test Equipment | 33 |
| Sales | 98 | Multimedia | 51 | Quality Assurance and Control | 32 |
| Equipment Operation | 97 | Event Planning | 49 | Cisco Telepresence | 30 |
| Scheduling | 90 | Power Tools | 48 | Occupational Health and Safety | 30 |
| Audio / Visual Knowledge | 87 | Troubleshooting Technical Issues | 45 | Site Surveys | 29 |
| Customer Contact | 87 | Inventory Management | 43 | Sales Management | 28 |
| Cisco | 82 | Inventory Control | 42 | System Design | 28 |
| Upselling Products and Services | 82 | Adobe Photoshop | 38 | Video Editing | 28 |
| Software Issue Resolution | 79 | Broadcast Industry Knowledge | 38 | Equipment Maintenance | 27 |
| Satisfaction Failure Correction | 75 | Music | 37 | Linux | 27 |
| Cabling | 69 | Lifting Ability | 36 | Audio mixing | 26 |

*Source: Burning Glass*

**Table 10. Education Requirements for Technical Theater Occupations in Bay Region**

Note: 53% 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 | 207 (52%) |
| Associate Degree | 16 (4%) |
| Bachelor’s Degree or Higher | 172 (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

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