** Entertainment** **Design Technology Occupations**

**Labor Market Information Report**

**West Valley College**

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 Entertainment Design Technology workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County.) There is a projected annual gap of about 551 students in the Bay region and 106 students in the Silicon Valley 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 West Valley College and in the region.

# Introduction

This report profiles Entertainment Design Technology Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at West Valley College.

|  |
| --- |
| * **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% |
|  |
| * **Media and Communication Workers, All Other (SOC 27-3099):** All media and communication workers not listed separately.
 |
| 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: 32*%* |
|  |
| * **Riggers (SOC 49-9096):** Set up or repair rigging for construction projects, manufacturing plants, logging yards, ships and shipyards, or for the entertainment industry.
 |
| 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: 29*%* |

# Occupational Demand

**Table 1. Employment Outlook for Entertainment Design Technology Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Audio and Video Equipment Technicians |  3,529  |  3,798  | 269 | 8% |  1,927  |  385  | $18.91 | $25.63 |
| Media and Communication Workers, All Other |  1,151  |  1,222  | 72 | 6% |  605  |  121  | $14.74 | $19.61 |
| Riggers |  460  |  478  | 18 | 4% |  256  |  51  | $11.30 | $15.83 |
| **Total** |  **5,140**  |  **5,499**  | **359** | **7%** |  **2,788**  |  **558**  | **$17.30** | **$23.41** |

*Source: EMSI 2019.3*

**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 Entertainment Design Technology Occupations in Silicon Valley Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Audio and Video Equipment Technicians |  651  |  715  | 64 | 10% |  369  |  74  | $18.39 | $24.19 |
| Media and Communication Workers, All Other |  223  |  245  | 22 | 10% |  125  |  25  | $14.60 | $20.97 |
| Riggers |  112  |  110  | -2 | -2% |  55  |  11  | $11.04 | $11.71 |
| **TOTAL** |  **986**  |  **1,071**  | **84** | **9%** |  **549**  |  **110**  | **$16.70** | **$22.04** |

*Source: EMSI 2019.3*

**Silicon Valley Sub-Region** includes Santa Clara County

### Job Postings in Bay Region and Silicon Valley Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (January 2019 - December 2019)**

| Occupation | Bay Region | Silicon Valley |
| --- | --- | --- |
|  Audio and Video Equipment Technicians | 783 | 226 |
|  Riggers | 43 | 21 |
|  **Total** | **826** | **247** |

*Source: Burning Glass*

**Table 4a. Top Job Titles for Entertainment Design Technology Occupations for latest 12 months (January 2019 - December 2019) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Audio Visual Technician | 293 | Digital Media Technician | 7 |
| Director of Event Technology | 36 | Audio Visual Installer | 7 |
| Video Technician | 32 | Service Technician | 6 |
| Technology Manager | 20 | Senior Technician | 6 |
| Rigger | 18 | Production Technician | 6 |
| Event Technician | 17 | Audio Technician | 6 |
| Stage Technician | 16 | Video Installer | 5 |
| Technical Lead, Audio Visual | 14 | Video Systems Manager | 4 |
| Video Specialist | 9 | Video Support Technician, Information And Technology Industry | 4 |
| Test Technician | 8 | Video Production Specialist | 4 |
| Installation Technician | 8 | Technician | 4 |
| Desktop Support | 8 | Staff Media Technician | 4 |
| Audio Visual Specialist | 8 | Online Operator | 4 |
| Lead Rigger | 7 | Media Technician | 4 |

**Table 4b. Top Job Titles for Entertainment Design Technology Occupations for latest 12 months (January 2019 - December 2019) Silicon Valley Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Silicon Valley | Common Title | Silicon Valley |
| Audio Visual Technician | 69 | Test Technician | 3 |
| Director of Event Technology | 13 | Technician | 3 |
| Video Technician | 11 | Audio Visual Specialist | 3 |
| Rigger | 8 | Audio Visual Installer | 3 |
| Lead Rigger | 7 | Antenna Rigger | 3 |
| Event Technician | 7 | Video Studio Specialist | 2 |
| Technology Manager | 5 | Video Content Creation | 2 |
| Video Installer | 4 | Video Administrator | 2 |
| Technical Lead, Audio Visual | 4 | Technician/Engineer | 2 |
| Installation Technician | 4 | Systems Engineer | 2 |
| Warehouse Rigger | 3 | Systems Architect | 2 |
| Video Specialist | 3 | Stagehand I/II | 2 |
| Video Production Specialist | 3 | Senior Field Services Technician, Telemedicine, Video | 2 |
| Video Analyst | 3 | Python With Audio | 2 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Entertainment Design Technology Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2018) | Jobs in Industry (2022) | % Change (2018-22) | % in Industry (2018) |
| Motion Picture and Video Production (512110) | 392 | 405 | 3% | 7% |
| All Other Professional, Scientific, and Technical Services (541990) | 324 | 335 | 3% | 6% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 283 | 366 | 29% | 5% |
| Colleges, Universities, and Professional Schools (611310) | 267 | 305 | 14% | 5% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 247 | 268 | 9% | 5% |
| Promoters of Performing Arts, Sports, and Similar Events with Facilities (711310) | 160 | 205 | 28% | 3% |
| Religious Organizations (813110) | 178 | 186 | 4% | 3% |
| Independent Artists, Writers, and Performers (711510) | 162 | 150 | -7% | 3% |
| Colleges, Universities, and Professional Schools (Local Government) (903612) | 151 | 134 | -11% | 3% |
| Other Commercial and Industrial Machinery and Equipment Rental and Leasing (532490) | 135 | 165 | 22% | 3% |
| All Other Consumer Goods Rental (532289) | 140 | 148 | 6% | 3% |
| Theater Companies and Dinner Theaters (711110) | 108 | 114 | 6% | 2% |
| Local Government, Excluding Education and Hospitals (903999) | 106 | 112 | 6% | 2% |
| Custom Computer Programming Services (541511) | 95 | 118 | 24% | 2% |
| Temporary Help Services (561320) | 97 | 104 | 7% | 2% |
| Teleproduction and Other Postproduction Services (512191) | 98 | 82 | -16% | 2% |
| Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing (532412) | 90 | 98 | 9% | 2% |
| Television Broadcasting (515120) | 90 | 92 | 2% | 2% |
| Cable and Other Subscription Programming (515210) | 86 | 76 | -12% | 1% |
| Electrical Contractors and Other Wiring Installation Contractors (238210) | 75 | 85 | 13% | 1% |
| Federal Government, Military (901200) | 62 | 59 | -5% | 1% |

*Source: EMSI 2019.3*

**Table 6. Top Employers Posting Entertainment Design Technology Occupations in Bay Region and Silicon Valley Sub-Region (January 2019 - December 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Silicon Valley |
| Psav Presentation Services | 57 | Palermitano Solutions | 6 | Psav Presentation Services | 15 |
| Audio Visual Services Group | 34 | Oakland Museum California | 6 | Psav | 9 |
| Psav | 24 | Madison Square Garden | 6 | Apple Inc. | 7 |
| Audio Visual Management Solutions | 20 | Herman Integration Services | 6 | Whitlock | 6 |
| Whitlock | 16 | Freeman Company | 6 | Audio Visual Services Group | 6 |
| Zimory | 9 | Amazon | 6 | Astreya | 5 |
| Outsource | 9 | Rentex Computer & Audio Visual Rentals | 5 | Amazon | 5 |
| Encore Event Technologies | 9 | Pebble Beach Resorts | 5 | Palermitano Solutions | 4 |
| Av Services Incorporated | 8 | Dublin Unified School District | 5 | Zimory | 3 |
| Astreya | 8 | Compass Group | 5 | Stanford University | 3 |
| US Army | 7 | University Pacific | 4 | Stanford Health Care | 3 |
| Got Light | 7 | Sonoma State University | 4 | Rf Coverage | 3 |
| Freeman | 7 | Sodexo | 4 | Outsource | 3 |
| Compass Group Plc United States | 7 | Regent5 | 4 | Lockheed Martin Corporation | 3 |
| California State University | 7 | Google Inc. | 4 | Home Theater Satellite | 3 |
| Apple Inc. | 7 | Five Star Audiovisual | 4 | Google Inc. | 3 |
| University Of California Berkeley | 6 | Five Star | 4 | Compass Group Plc United States | 3 |

*Source: Burning Glass*

# Educational Supply

There are four (4) community colleges in the Bay Region issuing 7 awards on average annually (last 3 years) on TOP 1006.00 - Technical Theater. There are two colleges in the Silicon Valley Sub-Region issuing 4 awards on average annually (last 3 years) on this TOP code.

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate 18+ units | Certificate Low unit |
| **Diablo Valley** | East Bay | 1 | 1 | 2 |
| **Foothill** | Silicon Valley | 3 |  | 3 |
| **Monterey** | Santa Cruz-Monterey |  | 1 | 1 |
| **West Valley** | Silicon Valley | 1 |  | 1 |
| **Total Bay Region** | **5** | **2** | **7** |
| **Total Silicon Valley Sub-Region** | **4** | **0** | **4** |

# *Source: Data Mart*

Note: The annual average for awards is 2015-16 to 2017-18.

# Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 558 annual openings for the Entertainment Design Technology occupational cluster and 7 annual (3-year average) awards for an annual undersupply of 551 students. In the Silicon Valley Sub-Region, there is also a gap with 110 annual openings and 4 annual (3-year average) awards for an annual undersupply of 106 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) | West Valley College (All CTE Programs) | State (1006.00) | Bay (1006.00) | Silicon Valley (1006.00) | West Valley College (1006.00) |
| % Employed Four Quarters After Exit | 74% | 68% | 66% | 70% | n/a | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $9,771 | $7,691 | $11,275 | n/a | n/a |
| Median % Change in Earnings | 46% | 41% | 117% | 150% | n/a | n/a |
| % of Students Earning a Living Wage | 63% | 57% | n/a | n/a | n/a | n/a |

*Source: Launchboard Pipeline (version available on 1/27/20)*

# Skills, Certifications and Education

**Table 9. Top Skills for Entertainment Design Technology Occupations in Bay Region (January 2019 - December 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Customer Service | 184 | Audio Systems | 62 | Predictive / Preventative Maintenance | 40 |
| Technical Support | 148 | Cabling | 58 | Inventory Control | 39 |
| Video Conferencing | 138 | Wiring | 56 | Conflict Management | 38 |
| Scheduling | 126 | Digital Signal Processing (DSP) | 53 | Budgeting | 35 |
| Repair | 121 | Power Tools | 51 | Commissioning | 35 |
| Operations Management | 103 | Lifting Ability | 48 | Calibration | 33 |
| Audio / Visual Knowledge | 101 | Multimedia | 48 | MacIntosh OS | 31 |
| Sales | 91 | Event Planning | 47 | Sales Management | 31 |
| Equipment Operation | 88 | Occupational Health and Safety | 46 | Schematic Diagrams | 31 |
| Upselling Products and Services | 86 | Troubleshooting Technical Issues | 44 | Audio mixing | 30 |
| Software Issue Resolution | 84 | Staff Management | 43 | Broadcast Industry Knowledge | 30 |
| Customer Contact | 80 | Inventory Management | 42 | Inventory Maintenance | 29 |
| Project Management | 70 | Music | 42 | Customer Billing | 28 |
| Cisco | 69 | Video Production | 42 | People Development | 28 |
| Satisfaction Failure Correction | 66 | Soldering | 41 | Performance Management | 28 |

*Source: Burning Glass*

**Table 10. Certifications for Entertainment Design Technology Occupations in Bay Region (January 2019 - December 2019)** Note: 75% 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 | 170 | Project Management Certification | 1 |
| Occupational Safety and Health Administration Certification | 23 | Phlebotomy Certification | 1 |
| Audiovisual (AV) Certification | 7 | OSHA Safety 10 Hour | 1 |
| Security Clearance | 4 | Mobile Crane Operator | 1 |
| Electronic Technician Certification | 3 | Microsoft Certified Desktop Support Technician (Legacy) | 1 |
| Certified A+ Technician | 3 | Information Technology Certification | 1 |
| Bloodborne Pathogens Certification | 3 | IT Infrastructure Library (ITIL) Certification | 1 |
| Security Certified Network Specialist | 2 | Forklift Operator Certification | 1 |
| Microsoft Technology Associate (MTA) | 2 | Cisco Certified Network Associate (CCNA) | 1 |
| Cisco Certified Entry Networking Technician (CCENT) | 2 | Certified Teacher | 1 |
| Public Safety Certificate | 1 | Certified Crestron Programmer | 1 |
| Project Management Professional (PMP) | 1 | Certified Composite Technician | 1 |

*Source: Burning Glass*

**Table 11. Education Requirements for Entertainment Design Technology Occupations in Bay Region**

Note: 54% 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 | Percent 12 Mos. Postings |
| High school or vocational training | 235 | 64% |
| Associate Degree | 21 | 6% |
| Bachelor’s Degree or Higher | 111 | 30% |

*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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