

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
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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 Openings	Average Annual Openings	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 Openings	Average Annual Openings	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
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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 CCCCCO Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 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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