



# Labor Market Analysis for Program Recommendation

## Virtual Production Occupations

### Santa Rosa Junior 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 Virtual Production workers compared to the demand for this cluster of occupations in the Bay region and in the North Bay sub-region (Marin, Napa, Solano, Sonoma counties). There is a projected annual gap of about 1,286 students in the Bay region and 101 students in the North Bay Sub-Region.

#### Introduction

This report provides student outcomes data on employment and earnings for TOP 0699.00 Other Media and Communications 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 Santa Rosa Junior College and in the region.

This report profiles Virtual Production Occupations in the 12 county Bay region and in the North Bay sub-region for a proposed new Virtual Production Fundamentals program at Santa Rosa Junior College.

- **Special Effects Artists and Animators (27-1014):** Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.  
Entry-Level Educational Requirement: Bachelor’s degree  
Training Requirement: None  
Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
- **Producers and Directors (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: 20%
- **Camera Operators, Television, Video, and Film (27-4031):** Operate television, video, or motion picture camera to record images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.  
Entry-Level Educational Requirement: Bachelor’s degree  
Training Requirement: None  
Percentage of Community College Award Holders or Some Postsecondary Coursework: 24%

## Occupational Demand

**Table 1. Employment Outlook for Virtual Production Occupations in Bay Region**

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Special Effects Artists and Animators	3,664	2,976	-688	-19%	1,701	340	\$27	\$46
Producers and Directors	5,433	6,920	1,487	27%	4,246	849	\$32	\$47
Camera Operators, Television, Video, and Film	859	969	110	13%	584	117	\$19	\$27
<b>Total</b>	<b>9,955</b>	<b>10,864</b>	<b>909</b>	<b>9%</b>	<b>6,531</b>	<b>1,306</b>		

Source: EMSI 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 Virtual Production Occupations in North Bay Sub-region**

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Special Effects Artists and Animators	272	279	7	3%	169	34	\$13	\$33
Producers and Directors	389	525	136	35%	342	68	\$22	\$35
Camera Operators, Television, Video, and Film	94	123	29	31%	88	18	\$16	\$26
<b>Total</b>	<b>754</b>	<b>927</b>	<b>173</b>	<b>23%</b>	<b>599</b>	<b>120</b>		

Source: EMSI 2022.3

**North Bay Sub-Region includes:** Marin, Napa, Solano, Sonoma Counties

## Job Postings in Bay Region and North Bay Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Nov. 2021 – Oct. 2022)**

Occupation	Bay Region	North Bay
Producers	1,493	79
Multimedia Artists and Animators	778	22
Camera Operators, Television, Video, and Motion Picture	356	39
Directors- Stage, Motion Pictures, Television, and Radio	98	8
Program Directors	65	2
Talent Directors	15	2
Technical Directors/Managers	11	2

Source: Burning Glass

**Table 4a. Top Job Titles for Virtual Production Occupations for latest 12 months (Nov. 2021 – Oct. 2022)  
Bay Region**

Title	Bay	Title	Bay
Producer	94	Creative Producer	33
Interaction Designer	58	Executive Producer & Streaming	32
Associate Producer	54	Wedding Videographer	31
Kgo-Tv/Abc Executive Producer	50	Producer IV	20
Videographer	50	Videographer/Editor	19
Motion Graphic Designer	45	News Producer	18
Executive Producer	44	Senior Interaction Designer	18
Digital Producer	40	Stage Manager	17
Video Producer	37	Interactive Designer	16

Source: Burning Glass

**Table 4b. Top Job Titles for Virtual Production Occupations for latest 12 months (Nov. 2021 – Oct. 2022)  
North Bay Sub-Region**

Title	North Bay	Title	North Bay
Kgo-Tv/Abc Executive Producer	12	Videographer	4
Producer	9	Animation Art Producer	3
Sales Enablement Videographer	6	Freelance Videographer	3
Associate Radio Producer	5	In-House Videographer/Editor	3
Cctv Operator Sewer Camera Inspector	5	Animator, Facial	2
Kgo-Tv/Abc Executive Producer & Streaming	5	Creative Content Producer	2
Associate Producer	4	Digital Content Producer Remote	2
Gas Station Assistant Manager	4	Executive Producer	2
Gas Station Manager	4	Gameplay Animator	2

Source: Burning Glass

## Industry Concentration

**Table 5. Industries hiring Virtual Production Workers in Bay Region**

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2020)	Jobs in Industry (2025)	% Change (2020-25)	% Occupation Group in Industry (2020)
Internet Publishing and Broadcasting and Web Search Portals	1,832	1,757	-4%	18%
Motion Picture and Video Production	778	959	23%	11%
Software Publishers	1,256	844	-33%	10%
Television Broadcasting	578	504	-13%	7%
Independent Artists, Writers, and Performers	257	503	96%	6%
Cable and Other Subscription Programming	265	311	17%	5%
Custom Computer Programming Services	275	321	17%	4%
Teleproduction and Other Postproduction Services	213	357	68%	3%
Theater Companies and Dinner Theaters	121	304	150%	3%
Advertising Agencies	155	158	2%	2%

Source: EMSI 2022.3

**Table 6. Top Employers Posting Virtual Production Occupations in Bay Region and North Bay Sub-Region (Nov. 2021 – Oct. 2022)**

Employer	Bay	Employer	North Bay
Apple Inc.	91	Abc Owned Tv Stations	12
Disney	75	Loop Neighborhood Marketplace	8
Google Inc.	71	Iheart Media	8
Abc Owned Tv Stations	56	Disney	8
Facebook	55	Ascendant Studios	7
Electronic Arts Incorporated	39	Visual Concepts	6

Source: Burning Glass

## Educational Supply

There is one (1) community college in the Bay Region issuing one (1) award on average annually (last 3 years ending 2019-20) on TOP 0699.00 Other Media and Communications. In the North Bay Sub-Region, there are no community colleges that issued awards on average annually (last 3 years) on this TOP code.

There is one (1) other educational institution in the Bay Region and the North Bay Sub-Region issuing 19 Bachelor's degrees on average annually (last 3 years ending 2019-20) on TOP 0699.00 Other Media and Communications.

**Table 7a. Community College Awards on TOP 0699.00 - Other Media and Communications in Bay Region**

College	Subregion	Associate Degree	Total
San Jose City	Silicon Valley	1	1
<b>Total</b>		<b>1</b>	<b>1</b>

Source: Data Mart

Note: The annual average for awards is 2017-18 to 2019-20.

**Table 7b. Other Educational Institutions Awards on TOP 0699.00 - Other Media and Communications in Bay Region**

College	Subregion	Bachelor's degree	Total
Dominican University of California	North Bay	19	19
<b>Total</b>		<b>19</b>	<b>19</b>

Source: Data Mart

Note: The annual average for awards is 2017-18 to 2019-20.

## Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 1,306 annual openings for the Virtual Production occupational cluster and 20 annual (3-year average) awards for an annual undersupply of 1,286 students. In the North Bay Sub-Region, there is also a gap with 120 annual openings and 19 annual (3-year average) awards for an annual undersupply of 101 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0699.00 Other Media and Communications**

Metric Outcomes	Bay All CTE Programs	SRJC All CTE Programs	State 0699.00	Bay 0699.00	North Bay 0699.00	SRJC 0699.00
Students with a Job Closely Related to Their Field of Study	74%	74%	71%	N/A	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$47,419	\$42,405	\$32,878	N/A	N/A	N/A
Median Change in Earnings for SWP Exiting Students	23%	29%	10%	N/A	N/A	N/A
Exiting Students Who Attained the Living Wage	52%	58%	45%	N/A	N/A	N/A

Source: Launchboard Strong Workforce Program Median of 2017 to 2020.

## Skills and Education

**Table 9. Top Skills for Virtual Production Occupations in Bay Region (Nov. 2021 – Oct. 2022)**

Skill	Posting	Skill	Posting
Project Management	627	Maya	247
Budgeting	619	Journalism	243
Scheduling	602	Content Management	224
Adobe Photoshop	568	Video Editing	215
Social Media	394	Vaccination	208
Animation	354	Adobe Premiere	196
Video Production	354	Photography	193
Adobe Indesign	336	Media Production	190
Adobe Illustrator	332	Graphic Design	176
Adobe Acrobat	317	Music	164
Adobe Aftereffects	311	Atlassian JIRA	160
Adobe Creative Suite	310	Quality Assurance and Control	157
Broadcast Industry Knowledge	303	Motion Graphics	154
Videography	288	Marketing Communications	151

Source: Burning Glass

**Table 11. Education Requirements for Virtual Production Occupations in Bay Region**

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	220	15%
Associate's degree	30	2%
Bachelor's degree and higher	1,170	83%

Source: Burning Glass

Note: 50% 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 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/](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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