



Labor Market Analysis for Program Recommendation

Virtual Production Occupations

Berkeley City College

Prepared by the Bay Region Center of Excellence for Labor Market Research

January 2025

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 East Bay Sub-Region (Alameda, Contra Costa counties). There is a projected annual gap of about 1,170 students in the Bay Region and 193 students in the East 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 Berkeley City College and in the region.

This report profiles Virtual Production Occupations in the 12 county Bay Region and in the East Bay Sub-Region for New certificate or degree development (for credit) at Berkeley City College.

- **Special Effects Artists and Animators (27-1014):** Create special effects or animations using film, video, computers, or other electronic tools and media for use in products, such as computer games, movies, music videos, and commercials.
Typical Entry-Level Educational: Bachelor’s degree
Typical On-the-Job Training: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 27%
- **Producers and Directors (27-2012):** Produce or direct stage, television, radio, video, or film 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.
Typical Entry-Level Educational: Bachelor’s degree
Typical On-the-Job Training: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 17%
- **Camera Operators, Television, Video, and Film (27-4031):** Operate television, video, or film camera to record images or scenes for television, video, or film productions.
Typical Entry-Level Educational: Bachelor’s degree
Typical On-the-Job Training: None
Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 25%

Occupational Demand

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

Occupation	2023 Jobs	2028 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Wage	Median Hourly Wage
Special Effects Artists and Animators	2,908	3,112	204	7%	1,607	321	\$40	\$57
Producers and Directors	7,351	7,848	497	7%	3,760	752	\$38	\$54
Camera Operators, Television, Video, and Film	1,006	1,085	78	8%	547	109	\$24	\$36
Total	11,265	12,045	780	7%	5,914	1,182	\$37	\$53

Source: Lightcast 2024.3

The 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 the East Bay Sub-Region

Occupation	2023 Jobs	2028 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Wage	Median Hourly Wage
Special Effects Artists and Animators	697	716	20	3%	351	70	\$32	\$50
Producers and Directors	1,213	1,224	11	1%	520	104	\$31	\$45
Camera Operators, Television, Video, and Film	214	219	5	2%	99	20	\$19	\$31
Total	2,124	2,159	35	2%	970	194	\$30	\$45

Source: Lightcast 2024.3

East Bay Sub-Region includes: Alameda, Contra Costa Counties

Job Postings in the Bay Region and East Bay Sub-Region

Table 3. Number of Job Postings by Occupation for the latest 12 months

Occupation	Bay Region	East Bay
Producers and Directors	1,812	282
Special Effects Artists and Animators	437	69
Camera Operators, Television, Video, and Film	244	47

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 4a. Top Job Titles in Job Postings for Virtual Production Occupations in the Bay Region

Title	Bay	Title	Bay
Videographers	102	Executive Producers	25
Producers	68	Commercial Directors	21

Title	Bay	Title	Bay
Production Managers	58	Videographers/Editors	21
Commercial Counsels	53	Associate Producers	20
Video Producers	45	Audio Visual Managers	19
Localization Producers	41	Motion Designers	19
Creative Producers	36	Global Commercial Directors	15
Content Producers	30	Stage Managers	14
News Producers	27	Animators	13

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 4b. Top Job Titles in Job Posting for Virtual Production Occupations in the East Bay Sub-Region

Title	East Bay	Title	East Bay
Commercial Counsels	32	Global Strategy Directors	4
Videographers	28	News Producers	4
Video Producers	11	Photo Producers	4
Production Managers	10	Sports Producers	4
Producers	6	Videographers/Editors	4
Associate Producers	4	Assistant Production Managers	3
Athletic Directors/Head Football Coaches	4	Cinematographers	3
Executive Producers	4	Directors of Analytical Development	3
Global Commercial Directors	4	Directors of People Development	3

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Industry Concentration

Table 5. Industries Hiring for Virtual Production Occupations in the Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2023)	Jobs in Industry (2028)	% Change (2023-28)	% Occupation Group in Industry (2023)
Media Streaming Distribution Services, Social Networks, and Other Media Networks and Content Providers	3,548	3,755	6%	31%
Motion Picture and Video Production	1,586	1,640	3%	14%
Software Publishers	828	900	9%	7%
Independent Artists, Writers, and Performers	626	710	13%	6%

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2023)	Jobs in Industry (2028)	% Change (2023-28)	% Occupation Group in Industry (2023)
Custom Computer Programming Services	457	519	14%	4%
Teleproduction and Other Postproduction Services	392	439	12%	3%
Television Broadcasting Stations	290	315	9%	3%
Web Search Portals and All Other Information Services	273	302	10%	2%
Theater Companies and Dinner Theaters	238	267	12%	2%
Computer Systems Design Services	178	172	-4%	2%

Source: Lightcast 2024.4

Table 6. Top Employers Posting Virtual Production Occupations in the Bay Region and the East Bay Sub-Region

Employer	Bay	Employer	East Bay
Apple	75	California Physicians' Service	34
Meta	59	University of California-Berkeley	16
California Physicians' Service	46	BeiGene	12
Aquent	38	University of California-Merced	7
NBC	33	Abbott Laboratories	6
Gilead Sciences	31	Apex Wheels	6

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Educational Supply

There is one community college in the Bay Region issuing one award on average annually (last 3 years ending 2021 - 23) on TOP 0699.00 - Other Media and Communications. In the East Bay Sub-Region, there are no community colleges that issued awards on average annually (last 3 years) on this TOP code.

There are two four-year institutions in the Bay Region issuing 11 bachelor's degrees on average annually (last 3 years ending 2020-22) on CIP 09.9999- Communication, Journalism and Related Programs, Other. There is one four-year institution in the East Bay Sub-Region issuing one bachelor's degrees on this CIP code.

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

College	Subregion	Associate Degree
San Jose City	Silicon Valley	1
Total	-	1

Source: Data Mart

Note: The annual average for awards is 2020-21 to 2022-23.

Table 7b. Bachelor's Degree Awards on CIP 09.9999- Communication, Journalism and Related Programs, Other in the Bay Region

College	Subregion	Bachelor's degree	Total
Dominican University of California	North Bay	10	10
Saint Mary's College of California	East Bay	1	1
Total	-	11	11

Source: Data Mart

Note: The annual average for awards is 2019-20 to 2021 -22.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay Region with 1,182 annual openings for the Virtual Production occupational cluster and 12 annual (3-year average) awards for an annual undersupply of 1,170 students. In the East Bay Sub-Region, there is also a gap with 194 annual openings and 1 annual (3-year average) awards for an annual undersupply of 193 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 Program	Berkeley City College All CTE Program	State 0699.00	Bay 0699.00	East Bay 0699.00	Berkeley City College 0699.00
Students with a Job Closely Related to Their Field of Study	74%	60%	62%	NA	NA	NA
Median Annual Earnings for SWP Exiting Students	\$53,090	\$38,994	\$35,050	\$34,775	NA	NA
Median Change in Earnings for SWP Exiting Students	24%	12%	13%	19%	NA	NA
Exiting Students Who Attained the Living Wage	54%	43%	46%	NA	NA	NA

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

Skills, Certifications and Education

Table 9. Top Skills in Job Postings for Virtual Production Occupations in the Bay Region

Skill	Posting	Skill	Posting
Marketing	614	Production Process	143
Project Management	477	Adobe After Effects	140
Workflow Management	331	Adobe Creative Suite	139

Skill	Posting	Skill	Posting
Animations	197	Production Management	139
Content Creation	189	New Product Development	132
Video Production	183	Adobe Premiere Pro	130
Post-Production	181	Finance	129
Social Media	175	Graphic Design	125
Adobe Photoshop	163	Continuous Improvement Process	119
Journalism	146	Motion Graphics	117

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 10. Certifications in Job Postings for Virtual Production Occupations in the Bay Region

Certification	Posting	Certification	Posting
Project Management Professional Certification	17	American Institute Of Certified Planners (AICP) Certification	6
Functional Skills Qualification	11	Project Management Certification	5
Drone Pilot Certificate	10		

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

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

Education Level	Job Postings	% of Total
High school or GED	95	5%
Associate degree	41	2%
Bachelor's degree & higher	1,733	93%

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Note: 48% 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 job descriptions and skills listed in O*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCC Data Mart and CTE Launchboard.

Sources

O*Net Online
 Lightcast
 CTE LaunchBoard www.calpassplus.org
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 CCCC Data Mart

Contacts

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