



Virtual Production (Virtual Production - TOP 0699.00)

October 2023

Prepared by the South Central Coast Center of Excellence for
Labor Market Research

Program Recommendation

This report was compiled by the South Central Coast¹ Center of Excellence to provide regional labor market data for the program recommendation – Virtual Production. This report can help determine whether there is demand in the local labor market that is not being met by the supply from programs of study (CCC and non-CCC) that align with this occupation group.

Key Findings

- In the South Central Coast region, **the number of jobs related to Virtual Production are expected to remain steady** for Special Effects Artists and Animators, Camera Operators, Television, Video, and Film and Film and Video Editors and **increase** for Web and Digital Interface Designers and Producers and Directors.
- Virtual Production is anticipated to experience a **medium risk of automation** for Camera Operators, Television, Video, and Film and a **low risk** for the other four related occupations.
- In 2021 there were 607 regional completions in programs related to the occupations identified as aligned with Virtual Production and 635 openings, indicating **supply is meeting demand**.
- Typical entry-level education is a **bachelor's degree** for all five related occupations.
- Completers of Virtual Production programs from the 2019-2020 academic year in the South Central Coast region had a **median annual wage upon completion of \$31,012**.
- 76% of students are **employed within a year** after completing a program.
- Completers experienced an average of +2% **change in earnings after exiting**. (statewide)
- 80% of students were **part-time**, 15% **skill builders**, 23% **first-generation**, and 61% **economically disadvantaged**.

¹ The South Central Coast Region consists of San Luis Obispo County, Santa Barbara County, Ventura County, and the following cities from North Los Angeles County: Canyon Country, Castaic, Lake Hughes, Lancaster, Littlerock, Llano, Newhall, Palmdale, Pearblossom, Santa Clarita, Stevenson Ranch, and Valenc

Occupation Codes and Descriptions

There are five occupations in the standard occupational classification (SOC) system that were identified as related to Virtual Production for this analysis. The occupation titles and descriptions, as well as reported job titles, are included in Exhibit 1.

Exhibit 1 – Occupation, Description, and Sample Job Titles

SOC Code	Title	Description	Sample of Reported Job Titles
15-1255	Web and Digital Interface Designers	Design digital user interfaces or websites. Develop and test layouts, interfaces, functionality, and navigation menus to ensure compatibility and usability across browsers or devices. May use web framework applications as well as client-side code and processes. May evaluate web design following web and accessibility standards, and may analyze web use metrics and optimize websites for marketability and search engine ranking. May design and test interfaces that facilitate the human-computer interaction and maximize the usability of digital devices, websites, and software with a focus on aesthetics and design. May create graphics used in websites and manage website content and links.	--
27-1014	Special Effects Artists and Animators	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.	3D Animator (Three Dimensional Animator), 3D Artist, Animator, Artist, Digital Artist, Graphic Artist, Illustrator, Motion Graphics Artist, Multimedia Producer
27-2012	Producers and Directors	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.	Artistic Director, Director, Executive Producer, Multimedia Producer, News Producer, Producer, Production Director, Radio Producer, Television News Producer (TV News Producer), Television Producer (TV Producer)

SOC Code	Title	Description	Sample of Reported Job Titles
27-4031	Camera Operators, Television, Video, and Film	Operate television, video, or film camera to record images or scenes for television, video, or film productions.	Camera Operator, Cameraman, Master Control Operator (MCO), News Videographer, Production Technician, Studio Camera Operator, Television News Photographer, Videographer
27-4032	Film and Video Editors	Edit moving images on film, video, or other media. May work with a producer or director to organize images for final production. May edit or synchronize soundtracks with images.	Editor, Film Editor, News Editor, News Video Editor, News Videotape Editor, Non-Linear Editor, Online Editor, Tape Editor, Television News Video Editor, Video Editor

Source: O*NET Online

Current and Future Employment

In the South Central Coast region, the number of jobs related to Virtual Production are expected to remain steady for Special Effects Artists and Animators, Camera Operators, Television, Video, and Film and Film and Video Editors and increase for Web and Digital Interface Designers and Producers and Directors.

Exhibit 2 – Five-Year Projections for Virtual Production in the South Central Coast Region

SOC	Occupation	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change
15-1255	Web and Digital Interface Designers	770	832	62	8%
27-1014	Special Effects Artists and Animators	439	446	7	2%
27-2012	Producers and Directors	1,232	1,303	71	6%
27-4031	Camera Operators, Television, Video, and Film	168	174	6	4%
27-4032	Film and Video Editors	367	381	14	4%

Source: Lightcast™ Analyst 2022

Earnings

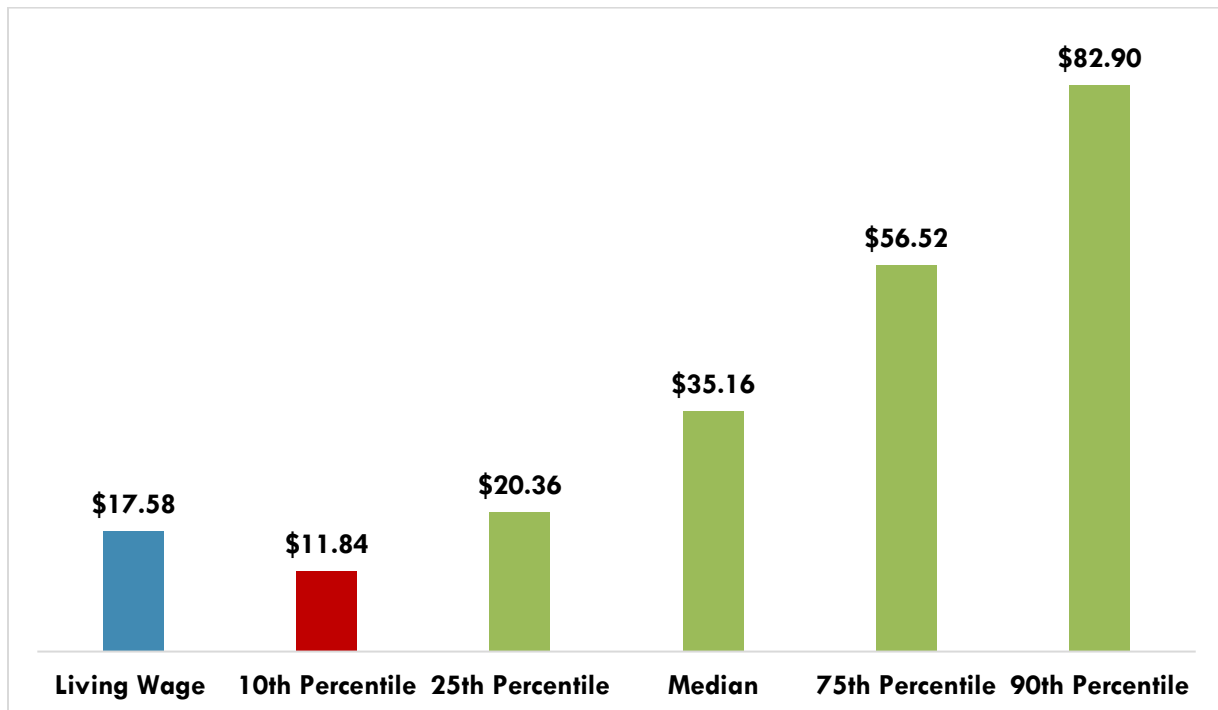
Exhibit 3 contains hourly wages and annual average earnings for these occupations. Entry-level hourly earnings are represented by the 25th percentile of wages, median hourly earnings are represented by the 50th percentile of wages, and experienced hourly earnings are represented by the 75th percentile of wages, demonstrating various levels of employment.

Exhibit 3 – Earnings for Virtual Production in the South Central Coast Region

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
15-1255	Web and Digital Interface Designers	\$21.37	\$34.79	\$59.13
27-1014	Special Effects Artists and Animators	\$16.63	\$37.49	\$63.31
27-2012	Producers and Directors	\$24.11	\$41.26	\$60.00
27-4031	Camera Operators, Television, Video, and Film	\$17.83	\$29.89	\$44.56
27-4032	Film and Video Editors	\$21.84	\$32.36	\$55.60

Source: Lightcast™ Analyst 2022

Exhibit 3b – Earnings for Virtual Production in the South Central Coast Region



Source: Family Needs Calculator (Living wage is based on Single Adult households with no children); Lightcast™ Analyst 2022

Employer Job Postings

In this research brief, real-time labor market information is used to provide a more nuanced view of the current job market, as it captures job advertisements for occupations relevant to the field of study. Employer job postings are consulted to understand who is looking for video media workers, and what they are looking for in potential candidates. To identify job postings related to Virtual Production the following standard occupational classifications were used:

15-1255	Web and Digital Interface Designers
27-1014	Special Effects Artists and Animators
27-2012	Producers and Directors
27-4031	Camera Operators, Television, Video, and Film
27-4032	Film and Video Editors

Top Occupations

In 2022, there were 334 employer postings for the occupations related to Virtual Production.

Exhibit 4 – Top Occupations by Job Postings

SOC Code	Occupation	Job Postings, Full Year 2022
27-2012	Producers and Directors	103
27-4031	Camera Operators, Television, Video, and Film	97
15-1255	Web and Digital Interface Designers	56
27-1014	Special Effects Artists and Animators	44
27-4032	Film and Video Editors	34

Source: Lightcast™ Analyst 2022

Exhibit 4b – Top Occupations and Risk of Automation

SOC Code	Occupation	Risk of Automation
27-2012	Producers and Directors	Low
27-4031	Camera Operators, Television, Video, and Film	Medium
15-1255	Web and Digital Interface Designers	Low
27-1014	Special Effects Artists and Animators	Low
27-4032	Film and Video Editors	Low

Source: Lightcast™ Analyst 2022

Top Titles

The top job titles for employers posting ads for jobs related to Virtual Production are listed in Exhibit 5. Videographers is mentioned as the job title in 20% of all relevant job postings (48 postings).

Exhibit 5 – Job Titles

Title	Job Postings, Full Year 2022
Videographers	48
Video Editors	23
Producers	14
News Producers	13
Environmental Artist	9

Source: Lightcast™ Analyst 2022

Top Employers

Exhibit 6 lists the major employers hiring professionals in the Virtual Production field. The top employer posting job ads was First Contact Entertainment. The top worksite cities for these occupations were Santa Barbara, Santa Clarita, Westlake Village, Thousand Oaks, and San Luis Obispo.

Exhibit 6 – Top Employers (n=147)

Employer	Job Postings, Full Year 2022
First Contact Entertainment	17
News-Press & Gazette Company	13
E.W. Scripps	11
Wayforward Technologies	7
2K Corporation	6

Source: Lightcast™ Analyst 2022

Skills

The tables in Exhibit 7 list employers' most commonly requested skills in job postings related to Virtual Production. Adobe Photoshop is the most sought-after specialized skill for employers, followed by Marketing and Adobe Premier Pro. Communications, Editing, and Self-Motivation were the most requested baseline skills. Adobe Photoshop, Adobe Premier Pro, and Adobe After Effects were the most commonly requested software and programming skills.

Exhibit 7 – Specialized Skills (n= 924)

Skills	Job Postings, Full Year 2022
Adobe Photoshop	53
Marketing	43
Adobe Premier Pro	41
Video Production	41
Post-Production	39
Adobe After Effects	35
Animations	35
Scripting	29
Journalism	23
Workflow Management	22
Adobe Illustrator	21
Project Management	21
Zoom	20
Photography	20
Autodesk Maya	19

Source: Lightcast™ Analyst 2022

Exhibit 7b – Baseline Skills (n= 893)

Skills	Job Postings, Full Year 2022
Communications	88
Editing	79
Self-Motivation	45
Detail Oriented	43
Planning	29
Ability to Meet Deadlines	29
Writing	29
Problem Solving	29
Management	28
Research	24

Source: Lightcast™ Analyst 2022

Exhibit 7c – Software and Programming Skills (n= 479)

Skills	Job Postings, Full Year 2022
Adobe Photoshop	53
Adobe Premier Pro	42
Adobe After Effects	35
Adobe Illustrator	22
Autodesk Maya	20
Zoom	20
Adobe Creative Suite	18
TikTok	18
Instagram	15
Final Cut Pro	13

Source: Lightcast™ Analyst 2022

Industry Concentration

Exhibit 8 shows the industries with the most Virtual Production postings in the South Central Coast region. Note: 57% of records have been excluded because they do not include an industry. As a result, the chart below may not be representative of the full sample.

Exhibit 8 – Industries Employing the Most in the Virtual Production Field, 2022

Industry	Occupation Group Jobs in Industry	% of Occupation Group in Industry
Professional, Scientific, and Technical Services	42	29%
Information	32	22%
Manufacturing	16	11%
Administrative and Support and Waste Management and Remediation Services	10	7%
Finance and Insurance	9	6%

Source: Lightcast™ Analyst 2022

Certifications

Exhibit 9 lists the most in-demand certifications in the Virtual Production field. The top requested certification in job postings was Valid Driver's License.

Exhibit 9 – Certifications (n= 36)

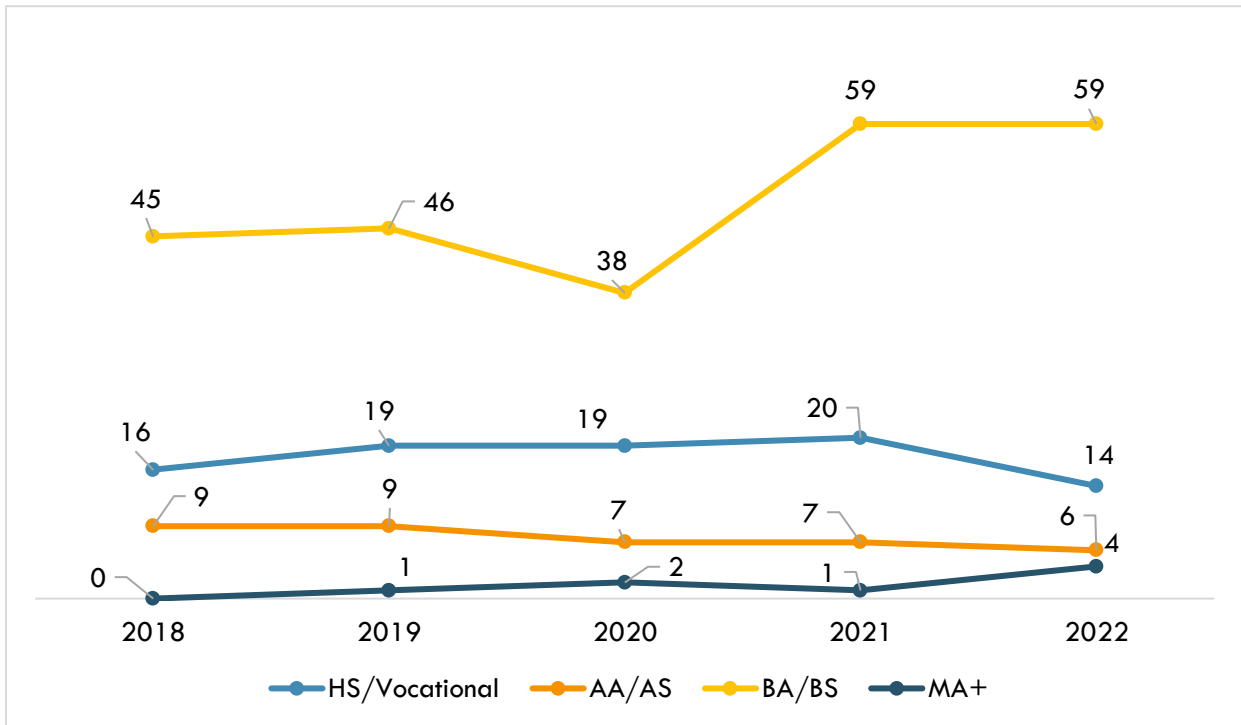
Certifications	Job Postings, Full Year 2022
Valid Driver's License	24
Master Of Business Administration (MBA)	4
Top Secret-Sensitive Compartmented Information (TS/SCI Clearance)	4
Board Certified/Board Eligible	1
American Institute of Certified Planners (AICP) Certification	1
CompTIA A+	1
Project Management Professional Certification	1

Source: Lightcast™ Analyst 2022

Job Postings - Minimum Educational Attainment Over Time

Exhibit 10 displays the change in job advertisements over the last five years for Virtual Production, according to the minimum advertised education. In 2022, there were 83 total job ads posted with a minimum advertised education, with 59 of them requiring a bachelor’s degree.

Exhibit 10 – Educational Demand, Minimum Advertised



Source: Lightcast™ Analyst 2022

Job Postings – Proportion of Job Postings by Minimum Educational Attainment Required

To gauge employer preference for candidates with particular education levels, the proportion of job postings by minimum advertised education appears in Exhibit 11. Employers posting job ads for Virtual Production have frequently sought candidates with a bachelor’s degree.

Exhibit 11 – Occupational Demand by Education, Minimum Advertised

Minimum Education Requirement	2018	2019	2020	2021	2022
HS Diploma / Vocational Training	23%	25%	29%	23%	17%
Associate Degree	13%	12%	11%	8%	7%
Bachelor’s Degree	64%	61%	58%	68%	71%
Graduate Degree	0%	2%	3%	1%	5%

Source: Lightcast™ Analyst 2022

Education and Training

Exhibit 12 shows the typical entry-level education requirement for the occupations of interest, along with the typical on-the-job training needed to attain competency in the occupation.

Exhibit 12 – Education and Training Requirements

SOC	Occupation	Typical entry-level education	Typical on-the-job training
15-1255	Web and Digital Interface Designers	Bachelor's degree	None
27-1014	Special Effects Artists and Animators	Bachelor's degree	None
27-2012	Producers and Directors	Bachelor's degree	None
27-4031	Camera Operators, Television, Video, and Film	Bachelor's degree	None
27-4032	Film and Video Editors	Bachelor's degree	None

Source: Bureau of Labor Statistics Employment Projections (Educational Attainment)

Regional Completions and Openings

There were 607 regional completions (2021) and 635 regional openings (2021) in the South Central Coast region aligned with programs related to the occupations in this report.

Exhibit 13 – Completions and Openings

15 Regional Institutions had Related Programs (2021)	607 Regional Completions (2021)	635 Annual Openings (2021)
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Source: Lightcast™ Analyst 2022

Related Programs

CIP Code	Program	Completions (2021)
50.0601	Film/Cinema/Media Studies	186
10.0304	Animation, Interactive Technology, Video Graphics, and Special Effects	135
09.0701	Radio and Television	114
50.0602	Cinematography and Film/Video Production	73
50.0409	Graphic Design	60
11.0801	Web Page, Digital/Multimedia and Information Resources Design	16
09.0702	Digital Communication and Media/Multimedia	13
11.0804	Modeling, Virtual Environments and Simulation	8
50.0706	Intermedia/Multimedia	2
50.0102	Digital Arts	0

Source: Lightcast™ Analyst 2022

CCC and Non-CCC Awards

Exhibit 14 lists the number of completers from programs related to Virtual Production in the South Central Coast region.

Exhibit 14 – CCC and Non-CCC Awards the South Central Coast, 2021

CCC Programs	Completers
Moorpark College	70
College of the Canyons	62
Santa Barbara City College	49
Antelope Valley Community College District	42
Oxnard College	22
Cuesta College	20
Allan Hancock College	17
Ventura College	0
Non-CCC Programs	Completers
University of California-Santa Barbara	192
California Institute of the Arts	108
Laurus College	16
California Lutheran University	8
Ventura Adult and Continuing Education	1
California State University-Channel Islands	0
Westmont College	0

Source: Lightcast™ Analyst 2022

Student Outcomes

The CTE LaunchBoard provides student outcome data on the effectiveness of CTE programs. The following student outcome information was collected from exiters of the regional Virtual Production Programs (TOP: 0699.00) for the 2019-2020 academic year.

- Completers of Virtual Production programs from the 2019-2020 academic year in the South Central Coast region had a **median annual wage upon completion of \$31,012**.
- 76% of students are **employed within a year** after completing a program.
- Completers experienced an average of +2% **change in earnings after exiting**. (statewide)
- 80% of students were **part-time**, 15% **skill builders**, 23% **first-generation**, and 61% **economically disadvantaged**.

Sources

O*Net Online, Lightcast™ Analyst 2022, MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

Notes

Data included in this analysis represent the labor market demand for relevant positions most closely related to Virtual Production. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study and can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions. All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.