



Animation Occupational Group

*Inland Empire/Desert Region (Riverside-San Bernardino-Ontario Metropolitan Statistical Area)
& Los Angeles and Orange Counties*

Summary

- The animation occupational group is projected to have **290 job openings** over the next five years (2017-2022) in the Inland Empire/Desert Region.
- The median wage for each occupation in the animation occupational group is **above the MIT Living Wage estimate of \$12.30 per hour** for a single adult living in the Inland Empire/Desert Region.
- There appears to be an **opportunity for program growth** based on the average annual number of program completions for the selected community college program (**10 average annual community college credentials**) and the annual openings for animation occupations in the combined area (**58 annual job openings**).

Introduction

This report details occupational outcomes associated with a community college animation program. Completion of the animation program prepares individuals to create the visual illusion of motion through sequenced images - this includes animation using digital technology.¹ Labor market demand data for Los Angeles and Orange counties are included this report in addition to the Inland Empire/Desert Region. There are over 50 times more job openings for this occupational group in Los Angeles and Orange counties than there are in the Inland Empire/Desert Region. The occupations included in the animation occupational group are:

- Film and Video Editors
- Multimedia Artists and Animators
- Sound Engineers and Technicians

¹ The Taxonomy of Programs, 6th Edition, February 2004

Job Opportunities

In 2017, there were 28,059 animation jobs in the Inland Empire/Desert Region and Los Angeles/Orange County Region combined. This occupational group is projecting to increase employment by 8% over the next five years. Employers in the region will need to hire 15,185 workers over the projection period to backfill jobs that workers are permanently vacating (includes retirements). Appendix A, Tables 1, 2, & 3 show the projected job growth, wages, education, training, and work experience required for each of the occupations in this group for the Inland Empire/Desert region & Los Angeles and Orange counties, as well as both geographies combined.

Exhibit 1: Five-year projections for the animation occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties

Region	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Inland Empire/Desert	579	6%	290	58	21%
Los Angeles and Orange Counties	27,480	8%	14,895	2,979	18%
Total	28,059	8%	15,185	3,037	18%

Source: EMSI 2018.3

Earnings

The median wage for each of the occupations in the animation occupational group is above the Living Wage requirement for the Empire/Desert region at \$12.30 per hour (\$13.96 for Los Angeles and Orange counties). The experienced-level wages are sufficient for two working adults and one child (\$14.50 per hour, per adult or \$30,160 annually for each adult). Exhibit 2 displays wage information by region for this occupational group.

Exhibit 2: Earnings for the animation occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties

Region	Occupation	Entry to Experienced Hourly Earnings Range*	Median Wage*	Avg. Annual Earnings
Inland Empire/Desert	Film and Video Editors	\$24.72 to \$32.35	\$28.34	\$63,800
	Multimedia Artists and Animators	\$11.98 to \$20.77	\$14.20	\$36,000
	Sound Engineering Technicians	\$24.45 to \$31.61	\$28.21	\$61,700
Los Angeles and Orange Counties	Film and Video Editors	\$25.83 to \$52.83	\$32.47	\$100,900
	Multimedia Artists and Animators	\$17.18 to \$45.16	\$31.62	\$70,400
	Sound Engineering Technicians	\$21.55 to \$48.25	\$30.48	\$78,600

Source: EMSI 2018.3

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Job Postings, Employers, Skills, and Education

Exhibit 3 shows the number of job ads posted during the last 12 months along with the regional and national average time to fill for both regions. On average, open positions for the animation occupational group take 48 days to fill in the Inland Empire/Desert Region & Los Angeles and Orange counties combined. This is eight days longer than the national average as a whole, indicating that open positions are somewhat more challenging to fill locally.

Exhibit 3: Job ads by each of the animation occupations in the Inland Empire/Desert Region & Los Angeles and Orange counties and time to fill, November 2017 – October 2018

Occupation	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Multimedia Artists and Animators	842	41	37
Film and Video Editors	334	45	36
Sound Engineering Technicians	249	58	46
Total	1,425	-	-

Source: Burning Glass – Labor Insights

Exhibit 4 displays the employers that have been posting job ads over the last 12 months in the four-county region for the occupations listed in this occupational group.

Exhibit 4: The top employers for the animation occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties, November 2017 – October 2018

Occupation	Top Employers
Multimedia Artists and Animators (n=565)	<ul style="list-style-type: none"> • Activision • Electronic Arts
Film and Video Editors (n=214)	<ul style="list-style-type: none"> • CBS Broadcasting • Yours Truly Media
Sound Engineering Technicians (n=166)	<ul style="list-style-type: none"> • Activision • Extron Electronics

Source: Burning Glass – Labor Insights

Exhibit 5 lists the in-demand skills that employers are seeking when looking for workers to fill animation positions. The skills reported in job postings may be utilized as a helpful guide for curriculum development. Specialized skills are occupation-specific skills employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.”

Exhibit 5: Sample of in-demand skills from employer job ads for animation occupations in the Inland Empire/Desert Region & Los Angeles and Orange counties, November 2017 – October 2018

Occupation	Specialized skills	Employability skills	Software and Programming Skills
Multimedia Artists and Animators (n=726)	<ul style="list-style-type: none"> • Graphic Design • Motion Graphics • Game Development 	<ul style="list-style-type: none"> • Creativity • Teamwork/ Collaboration • Communication Skills 	<ul style="list-style-type: none"> • Adobe Creative Suite • Maya • Cinema 4D
Film and Video Editors (n=290)	<ul style="list-style-type: none"> • Music • Color Editing • Audio Mixing 	<ul style="list-style-type: none"> • Creativity • Teamwork/ Collaboration • Communication Skills 	<ul style="list-style-type: none"> • Adobe Creative Suite • Final Cut Pro • Microsoft Office
Sound Engineering Technicians (n=174)	<ul style="list-style-type: none"> • Broadcast Industry Knowledge • Digital Signal Processing • Music 	<ul style="list-style-type: none"> • Troubleshooting • Communication Skills • Teamwork/ Collaboration 	<ul style="list-style-type: none"> • ProTools • Microsoft Office • Audio Mixing

Exhibit 6 displays the entry-level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

Exhibit 6: Educational attainment and online job ads with minimum advertised education requirements for the animation occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties combined, November 2017 – October 2018

Occupation	Typical Entry-Level Education Requirement	Two-Year Postsecondary Level of Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
			Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Multimedia Artists and Animators	Bachelor's degree	27%	247	2%	5%	93%
Film and Video Editors	Bachelor's degree	28%	97	11%	4%	85%
Sound Engineering Technicians	Postsecondary nondegree	46%	83	11%	6%	83%

Source: EMSI 2018.3, Current Population Survey, Burning Glass – Labor Insights

*Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework

Industry Employment

The industry that captures the majority of employment for animation is the teleproduction and other postproduction services industry (NAICS 512191). Businesses in this industry primarily engage in specialized motion picture or video postproduction services, such as editing, animation, and special effects.² Exhibit 7 displays the results of a staffing pattern of this industry for the Inland Empire/Desert & Los Angeles and Orange counties region combined. Staffing patterns provide the concentration of occupations that work within a given industry. Exhibit 7 displays the employment count for the occupations highlighted in this report that work in this industry, the share of the jobs these occupations represent the total employment in this industry, and the share of these occupations that are employed in this industry.

Exhibit 7: Number of jobs by occupation, percent of total jobs in industry for teleproduction and other postproduction services (NAICS 512191), Inland Empire/Desert region & Los Angeles and Orange counties combined

Occupation	Employed in Industry (2017)	% of Total Jobs in Industry (2017)	% of Occupation working within Industry (2017)
Film and Video Editors	1,060	10.2%	7.1%
Multimedia Artists and Animators	382	3.7%	4.4%
Sound Engineering Technicians	151	1.5%	3.3%

Source: EMSI 2018.3

² North American Industry Classification System, [2017 NAICS Definition](#)

Student Completions

Exhibits 8 shows the annual average regional community college credentials (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code as well as the program titles used at each college, sourced from the Chancellor’s Office Curriculum Inventory (COCI). Please note, a credential is not equivalent to a single person in search of a job opening since a student may earn more than one award, such as an associate degree in addition to a certificate. Community College student outcome information is from the CTE LaunchBoard based on the selected TOP code(s) and region.

Exhibit 8: Annual average community college student completions for animation programs in the Inland Empire/Desert Region

0614.40 – Animation	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – Animation	19	
Crafton Hills – 3D Computer Animation		
Certificate 18 to < 30 semester units		1*
Mt. San Jacinto	50	
Norco	28	
Palo Verde		
Certificate 6 to < 18 semester units		9
Total community college headcount (2016-17)	97	
Total annual average community college credentials		10

Source: LaunchBoard, IPEDS, COCI

*Crafton Hills awarded one 18 to < 30 semester units certificate in 2014-15

0614.40 – Animation program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of course enrollments: 337 (California median: 71) [2016-17]
- Number of students who transferred to a 4-year institution: N/A (CA: 0)
- Employed in the second fiscal quarter after exit: 56% (CA: 60%)
- Median earnings in the second fiscal quarter after exit: \$4,741 (CA: \$5,068)
- Employed in the fourth fiscal quarter after exit: 65% (CA: 59%)
- Median annual earnings: \$13,275 (CA: \$15,517)
- Median change in earnings: 35% (CA: 57%)
- The proportion of students who attained a living wage: 37% (CA: 43%)



Sources

O*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard

MIT Living Wage Calculator

Chancellor's Office Curriculum Inventory (COCI, version 2.0)

The Integrated Postsecondary Education Data System (IPEDS)

Taxonomy of Programs, 6th edition

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Appendix A: Occupation definitions, sample job titles, five-year projections, and earnings for animation occupations

Occupation Definitions (SOC code), Education and Training Requirement, Community College Education Attainment

Multimedia 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.

***Sample job titles:** 3D Animator, 3D Artist, Animation Director, Animator, Art Director, Artist, Creative Director, Graphic Artist, Graphic Designer, Illustrator*

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 27%

Sound Engineering Technicians (27-4014)

Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.

***Sample job titles:** Audio Engineer, Audio Operator, Broadcast Engineer, Broadcast Technician, Master Control Operator, Mixer, Recording Engineer, Sound Engineer, Sound Technician, Studio Engineer*

Entry-Level Educational Requirement: Postsecondary nondegree award

Training Requirement: Less than one-month on-the-job training

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 46%



Film and Video Editors (27-4032)

Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images.

Sample job titles: *Assistant Film Editor, Editor, Film Editor, News Editor, News Video Editor, News Videotape Editor, Non-Linear Editor, Online Editor, Video Editor, Videographer*

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 28%



Table 1. 2017 to 2022 job growth, wages, education, training, and work experience required for the animation occupational group, Inland Empire/Desert Region

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Multimedia Artists and Animators (27-1014)	294	14	5%	26	\$11.98 to \$20.77	\$14.20	\$36,000	Bachelor's degree & none	None
Film and Video Editors (27-4032)	172	18	10%	20	\$24.72 to \$32.35	\$28.34	\$63,800	Bachelor's degree & none	None
Sound Engineering Technicians (27-4014)	112	4	4%	11	\$24.45 to \$31.61	\$28.21	\$61,700	Postsecondary nondegree award & less than 1 month	None
Total	579	35	6%	58	-	-	-	-	-

Source: EMSI 2018.3

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage



Table 2. 2017 to 2022 job growth, wages, education, training, and work experience required for the animation occupational group, Los Angeles and Orange counties

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Film and Video Editors	14,659	1,698	12%	1,776	\$25.83 to \$52.83	\$32.47	\$100,900	Bachelor's degree & none	None
Multimedia Artists and Animators	8,406	544	6%	785	\$17.18 to \$45.16	\$31.62	\$70,400	Bachelor's degree & none	None
Sound Engineering Technicians	4,415	71	2%	418	\$21.55 to \$48.25	\$30.48	\$78,600	Postsecondary nondegree award & less than 1 month	None
Total	27,480	2,314	8%	2,979	-	-	-	-	-

Source: EMSI 2018.3

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage



Table 3. 2017 to 2022 job growth, wages, education, training, and work experience required for the animation occupational group, Inland Empire/Desert Region and & Los Angeles and Orange counties combined

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Film and Video Editors (27-4032)	14,832	1,715	12%	1,796	\$25.80 to \$51.91	\$32.39	\$100,500	Bachelor's degree & none	None
Multimedia Artists and Animators (27-1014)	8,700	558	6%	811	\$16.55 to \$44.81	\$30.84	\$69,200	Bachelor's degree & none	None
Sound Engineering Technicians (27-4014)	4,528	74	2%	430	\$21.57 to \$47.62	\$30.39	\$78,200	Postsecondary nondegree award & less than 1 month	None
Total	28,059	2,348	8%	3,037	-	-	-	-	-

Source: EMSI 2018.3

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage