

Labor Market Analysis: 0614.40/Animation

Visual Effects

Associate of Arts (A.A.) degree; Certificate requiring 30 to <60 semester units

Los Angeles Center of Excellence, April 2023

Summary

Program Endorsement:	Endorsed: All Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some Criteria Met <input type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Living Wage: (Entry-Level, 25th)	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Education:	Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>
Emerging Occupation(s)			
	Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>

The Los Angeles Center of Excellence for Labor Market Research (LA COE) prepared this report to provide regional labor market supply and demand data related to five middle-skill occupations:

- **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.¹
- **Graphic Designers (27-1024)** Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.²
- **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.³
- **Sound Engineering Technicians (27-4014)** Assemble and operate equipment to record, synchronize, mix, edit, or reproduce sound, including music, voices, or sound effects, for theater, video, film, television, podcasts, sporting events, and other productions.⁴
- **Film and Video Editors (27-4032)** 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.⁵

¹ [Special Effects Artists and Animators : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics \(bls.gov\)](#)

² [Graphic Designers : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics \(bls.gov\)](#)

³ [Producers and Directors : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics \(bls.gov\)](#)

⁴ [Sound Engineering Technicians \(bls.gov\)](#)

⁵ [Film and Video Editors \(bls.gov\)](#)

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.⁶ Although four of the occupations in this report typically require a bachelor's degree, they are considered middle-skill because approximately one-third of workers in the field have completed some college or an associate degree. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data, there appears to be a supply gap for these middle-skill visual effects occupations in the region. Furthermore, entry-level wages exceed the self-sufficiency standard wage in Los Angeles County, and four of the five occupations have 33% or more current workers in the field who have completed some college/associate degree or less education.

Therefore, due to all the criteria being met, the LA COE endorses this proposed program.

Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, **12,695 jobs are projected to be available annually** in the region due to new job growth and replacements, **which is more than the three-year average of 3,860 awards conferred** by educational institutions in the region.
 - Over the past 12 months, there were **2,090 online job postings for visual effects and/or animation occupations** in the region. The highest number of job postings were for graphic designers, VFX artists, motion graphics designers, video editors, and animators.
- **Living Wage Criteria** –Within Los Angeles County, all five occupations in this report have **entry-level wages above the self-sufficiency standard hourly wage** (\$18.10/hour).⁷
- **Educational Criteria** –Within the greater LA/OC region, **95% of the annual job openings** for occupations related to visual effects and/or animation **typically require a bachelor's degree**.
 - The national-level educational attainment data indicates between 25% and 54% of workers in the field have completed some college/associate degree or less education. **Four of the five occupations in this report have at least 33% of workers in the field who have completed some college/associate degree or less education:** *sound engineering technicians, special effects artists and animators, film and video editors, and graphic designers.*

⁶ The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

⁷ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

Supply:

- There are **26 community colleges** in the greater LA/OC region that issue awards related to visual effects and/or animation, conferring an average of **1,319 awards annually** between 2018 and 2021.
- Between 2017 and 2020, there was an average of **2,541 awards conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these middle-skill visual effects occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to increase by 14% through 2026. There will be nearly 12,700 job openings per year through 2026 due to job growth and replacements.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁸

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	90,294	103,751	13,457	15%	11,990
Orange	6,333	6,789	457	7%	704
Total	96,627	110,541	13,914	14%	12,695

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill visual effects occupations in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

All five occupations in this report have entry-level wages above the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$18.30 and \$34.17. Experienced workers can expect to earn wages between \$40.32 and \$95.58.

Exhibit 2: Earnings for Occupations in LA County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Special Effects Artists and Animators (27-1014)	\$20.30	\$34.14	\$47.50	\$71,000

⁸ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Graphic Designers (27-1024)	\$18.30	\$27.79	\$40.32	\$57,800
Producers and Directors (27-2012)	\$34.17	\$56.17	\$95.58	\$116,800
Sound Engineering Technicians (27-4014)	\$26.86	\$30.85	\$45.27	\$64,200
Film and Video Editors (27-4032)	\$21.53	\$30.29	\$50.36	\$63,000

*rounded to the nearest \$100

Orange County

The majority (86%) of annual openings for these middle-skill visual effects occupations have entry-level wages above the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages are in a range between \$19.09 and \$32.85. Three occupations in this report have typical entry-level wages above the county's self-sufficiency standard wage: *producers and directors* (\$32.85), *sound engineering technicians* (\$25.92), and *graphic designers* (\$22.34). Experienced workers can expect to earn wages between \$35.76 and \$87.95, which are higher than the self-sufficiency standard.

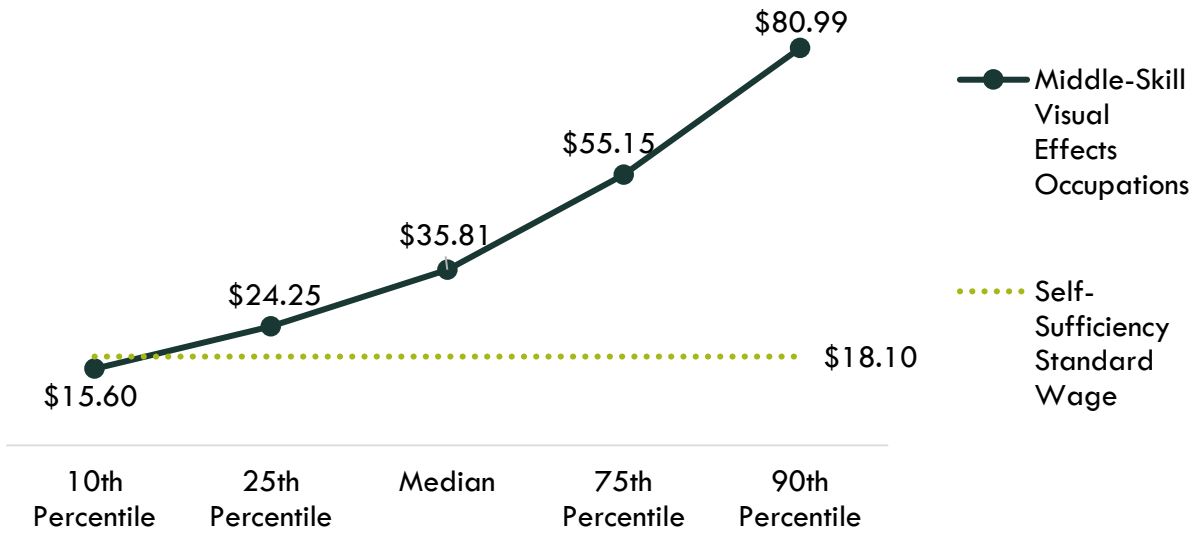
Exhibit 3: Earnings for Occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Special Effects Artists and Animators (27-1014)	\$19.09	\$31.88	\$43.89	\$66,300
Graphic Designers (27-1024)	\$22.34	\$29.03	\$37.93	\$60,400
Producers and Directors (27-2012)	\$32.85	\$54.07	\$87.95	\$112,500
Sound Engineering Technicians (27-4014)	\$25.92	\$27.65	\$35.76	\$57,500
Film and Video Editors (27-4032)	\$20.00	\$28.04	\$46.92	\$58,300

*rounded to the nearest \$100

On average, the entry-level earnings for the occupations in this report are \$24.25; this is above the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

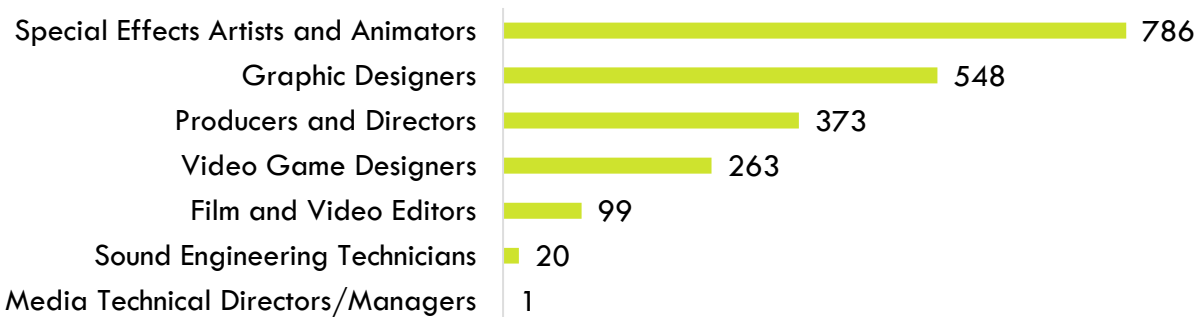
Exhibit 4: Average Hourly Earnings for Middle-Skill Visual Effects Occupations in LA/OC



Job Postings

There were 2,090 online job postings related to visual effects and/or animation listed in the past 12 months. Exhibit 5 displays the number of job postings by occupation. The majority of job postings (38%) were for *special effects artists and animators*, followed by *graphic designers* (26%) and *producers and directors* (18%). The highest number of job postings were for graphic designers, VFX artists, motion graphics designers, video editors, and animators. The top skills were animations, Adobe Photoshop, visual effects, marketing, and Adobe After Effects. The top three employers, by number of job postings, in the region were Disney, Canteen Vending, and Activision Blizzard.

Exhibit 5: Job postings by occupation (last 12 months)



Educational Attainment

The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

- **Bachelor’s degree:** *Special effects artists and animators; graphic designers; producers and directors; film and video editors*
- **Postsecondary non-degree award:** *Sound engineering technicians*

In the greater LA/OC region, the majority of annual job openings (95%) typically require a bachelor's degree. The national-level educational attainment data indicates between 25% and 54% of workers in the field have completed some college/associate degree or less education. Four of the five occupations in this report have at least 33% of workers in the field who have completed some college/associate degree or less education: *sound engineering technicians, special effects artists and animators, film and video editors, and graphic designers*. Of the 37% of visual effects and/or animation job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 8% (65) requested high school or vocational training, 3% (22) requested an associate degree, and 89% (682) requested a bachelor's degree.

Educational Supply

Community College Supply

Exhibit 6 shows the annual and three-year average number of awards conferred by community colleges in programs that have historically trained for the occupations of interest. The colleges with the most completions in the region are Saddleback, Santa Monica, and Mt. San Antonio.

Exhibit 6: Regional community college awards (certificates and degrees), 2018-2021

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
0604.00	Radio and Television	LA Valley	16	17	12	15
		Long Beach	4	2	2	3
		Mt San Antonio	2	-	-	1
		Santa Monica	8	29	16	18
		LA Subtotal	30	48	30	36
		Fullerton	3	-	2	2
		Saddleback	206	136	98	147
		Santa Ana	5	-	-	2
		OC Subtotal	214	136	100	150
Supply Subtotal/Average			244	184	130	186
060420	Television (including combined TV/Film/Video)	Cerritos	-	-	5	2
		El Camino	20	22	27	23
		Glendale	8	14	17	13
		LA City	39	34	45	39
		LA Pierce	11	26	29	22
		LA Valley	29	31	42	34
		Long Beach	39	35	42	39
		Mt San Antonio	48	54	34	45

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
		Pasadena	25	45	65	45
		LA Subtotal	219	261	306	262
		Cypress	3	15	16	11
		Fullerton	56	48	52	52
		Orange Coast	19	40	22	27
		Saddleback	2	2	-	1
		Santa Ana	14	17	6	12
		OC Subtotal	94	122	96	104
		Supply Subtotal/Average	313	383	402	366
0612.20	Film Production	Cerritos	10	8	11	10
		LA City	61	62	45	56
		LA Valley	42	31	35	36
		Long Beach	3	-	-	1
		Santa Monica	40	59	41	47
		West LA	33	7	28	23
		LA Subtotal	189	167	160	172
		Orange Coast	49	48	26	41
		Saddleback	7	3	-	3
		OC Subtotal	56	51	26	44
		Supply Subtotal/Average	245	218	186	216
0614.00	Digital Media	Glendale	-	1	-	0
		LA Mission	1	4	5	3
		LA Trade-Tech	19	11	18	16
		Pasadena	-	-	3	1
		Rio Hondo	-	2	1	1
		LA Subtotal	20	18	27	22
		Coastline	3	-	3	2
		Cypress	-	-	2	1
		Golden West	10	10	7	9
		Irvine	9	1	6	5
		Saddleback	-	-	1	0
		Santa Ana	-	1	6	2

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
		OC Subtotal	22	12	25	20
		Supply Subtotal/Average	42	30	52	41
0614.10	Multimedia	East LA	-	2	-	1
		LA Mission	21	18	23	21
		Pasadena	6	1	-	2
		Santa Monica	5	5	9	6
		LA Subtotal	32	26	32	30
		Cypress	-	1	1	1
		Orange Coast	1	2	4	2
		Santiago Canyon	9	3	4	5
		OC Subtotal	10	6	9	8
		Supply Subtotal/Average	42	32	41	38
0614.20	Electronic Game Design	Pasadena	-	1	1	1
		LA Subtotal	-	1	1	1
		Golden West	3	2	-	2
		OC Subtotal	3	2	-	2
		Supply Subtotal/Average	3	3	1	2
0614.40	Animation	Cerritos	7	13	4	8
		East LA	14	12	12	13
		El Camino	5	5	4	5
		Glendale	2	6	2	3
		LA City	-	-	1	0
		LA Mission	8	11	5	8
		Mt San Antonio	67	58	43	56
		Pasadena	2	1	6	3
		Rio Hondo	11	9	9	10
		Santa Monica	9	19	69	32
		LA Subtotal	125	134	155	138
		Coastline	-	-	1	0
		Cypress	7	1	-	3
		Fullerton	-	1	-	0
		Irvine	1	1	3	2

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
		Orange Coast	-	1	-	0
		Santa Ana	15	-	-	5
		OC Subtotal	23	4	4	10
		Supply Subtotal/Average	148	138	159	148
0614.60	Computer Graphics and Digital Imagery	Citrus	13	12	26	17
		East LA	16	1	2	6
		Mt San Antonio	-	-	1	0
		LA Subtotal	29	13	29	24
		Coastline	5	1	-	2
		Cypress	7	5	-	4
		Fullerton	2	1	3	2
		N. Orange Adult	9	3	-	4
		Orange Coast	38	21	31	30
		Saddleback	4	4	2	3
		Santa Ana	-	11	3	5
		OC Subtotal	65	46	39	50
				Supply Subtotal/Average	94	59
1030.00	Graphic Art and Design	Cerritos	11	11	14	12
		East LA	18	3	8	10
		El Camino	-	1	-	0
		Glendale	6	4	9	6
		LA City	6	22	8	12
		LA Pierce	22	15	13	17
		LA Valley	2	5	1	3
		Long Beach	1	2	8	4
		Mt San Antonio	15	11	20	15
		Pasadena	9	7	15	10
		Rio Hondo	30	20	28	26
		Santa Monica	31	50	43	41
		LA Subtotal	151	151	167	156
		Cypress	-	-	4	1
		Fullerton	12	12	14	13

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
		Golden West	57	32	20	36
		Irvine	5	16	21	14
		Saddleback	23	15	19	19
		Santa Ana	4	3	3	3
		Santiago Canyon	5	1	4	3
		OC Subtotal	106	79	85	90
		Supply Subtotal/Average	257	230	252	246
		Supply Total/Average	1,388	1,277	1,291	1,319

Non-Community College Supply

For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for visual effects and/or animation occupations. Exhibit 7 shows the annual and three-year average number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, non-community college institutions in the region conferred an average of 2,541 sub-baccalaureate and bachelor's awards. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards. Bachelor's awards are included in this exhibit since four of the five occupations in this report typically require a bachelor's degree.

Exhibit 7: Regional non-community college awards, 2017-2020

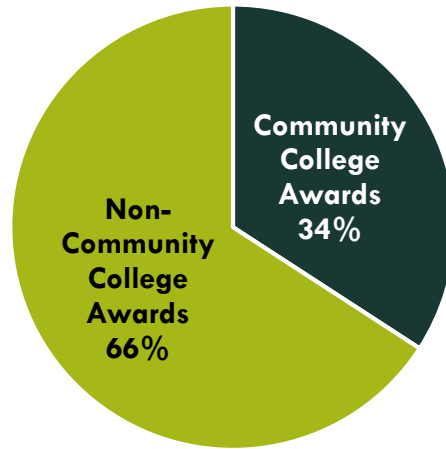
CIP	Program	Institution	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
09.0701	Radio and Television	CSU-Fullerton	174	205	189	189
		CSU-Long Beach	-	1	-	0
		CSU-Los Angeles	174	158	154	162
		CSU-Northridge	414	399	396	403
		Pepperdine University	26	25	20	24
		University of La Verne	11	22	7	13
09.0702	Digital Communication and Media/Multimedia	CSU-Dominguez Hills	41	58	41	47
		Fremont College	1	1	1	1
		Marymount California University	-	3	10	4
		Vanguard University of Southern California	7	8	2	6

CIP	Program	Institution	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
10.0202	Radio and Television Broadcasting Technology/ Technician	East San Gabriel Valley ROP	18	1	-	6
		Hollywood Cultural College	-	-	20	7
10.0301	Graphic Communications, General	CSU-Los Angeles	5	10	9	8
10.0304	Animation, Interactive Technology, Video Graphics, and Special Effects	Art Center College of Design	9	18	36	21
		CA Institute of the Arts	-	-	39	13
		Chapman University	-	-	20	7
		Gnomon	36	40	66	47
		Laguna College of Art and Design	11	37	33	27
		Los Angeles Film School	44	51	47	47
		Loyola Marymount Univ.	20	15	21	19
		New York Film Academy	14	19	24	19
11.0803	Computer Graphics	ABC Adult School	5	4	4	4
		LA Pacific College	-	33	-	11
11.0899	Computer Software and Media Applications, Other	Art Center College of Design	8	12	20	13
		CA Institute of the Arts	-	7	8	5
		Learnet Academy	14	-	10	8
50.0102	Digital Arts	Los Angeles Academy of Figurative Art	-	3	4	2
		LA Pacific College	-	-	4	1
		Marymount California University	17	15	3	12
		Otis College of Art and Design	92	69	48	70
		USC	16	14	15	15
		Woodbury University	4	1	2	2
50.0409	Graphic Design	Art Center College of Design	50	73	67	63
		CA Institute of the Arts	11	9	12	11
		California State Poly. University-Pomona	128	92	89	103
		Chapman University	19	17	27	21
		Concordia Univ.-Irvine	9	7	10	9

CIP	Program	Institution	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
		Fashion Institute of Design & Merch.-LA	36	38	38	37
		Laguna College of Art and Design	21	24	25	23
		Los Angeles Film School	-	3	28	10
		LA Pacific College	-	1	8	3
		New York Film Academy	3	3	-	2
		Otis College of Art and Design	-	1	-	0
		Platt College-LA	3	-	-	1
50.0411	Game and Interactive Media Design	Chapman University	-	1	-	0
		Laguna College of Art and Design	29	20	34	28
		Los Angeles Film School	27	9	-	12
		New York Film Academy	4	4	7	5
		USC	23	30	28	27
		Woodbury University	1	3	6	3
50.0602	Cinematography and Film/ Video Production	Art Center College of Design	28	18	18	21
		Biola University	42	62	56	53
		CA Institute of the Arts	10	11	14	12
		Chapman University	160	174	146	160
		Fashion Institute of Design & Merch.-LA	13	14	12	13
		Los Angeles Film School	145	220	245	203
		Loyola Marymount Univ.	71	69	79	73
		Mount Saint Mary's Univ.	7	11	14	11
		New York Film Academy	230	205	215	217
		USC	100	104	114	106
		Woodbury University	16	13	15	15
50.0699	Film/ Video and Photographic Arts, Other	CA Institute of the Arts	45	41	-	29
		Los Angeles Film School	30	34	49	38
		Woodbury University	18	24	10	17
Supply Total/Average			2,440	2,564	2,619	2,541

Exhibit 8 shows the proportion of community college awards conferred in LA/OC compared to the number of non-community college awards for the programs in this report. Two-thirds of awards conferred in these programs are awarded by non-community colleges in the LA/OC region.

Exhibit 8: Community College Awards Compared to Non-Community College Awards in LA/OC Region, 3-Year Average



Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Special Effects Artists and Animators (27-1014)	7,148	8,329	1,181	17%	1,059	\$20.30	\$34.14	\$47.50
Graphic Designers (27-1024)	21,158	22,393	1,235	6%	2,217	\$18.30	\$27.79	\$40.32
Producers and Directors (27-2012)	44,237	51,841	7,604	17%	6,119	\$34.17	\$56.17	\$95.58
Sound Engineering Technicians (27-4014)	4,507	5,209	702	16%	607	\$26.86	\$30.85	\$45.27
Film and Video Editors (27-4032)	13,244	15,979	2,736	21%	1,989	\$21.53	\$30.29	\$50.36
Total	90,294	103,751	13,457	15%	11,990	-	-	-

Exhibit 10. Orange County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Special Effects Artists and Animators (27-1014)	539	559	21	4%	62	\$19.09	\$31.88	\$43.89
Graphic Designers (27-1024)	3,658	3,801	144	4%	367	\$22.34	\$29.03	\$37.93
Producers and Directors (27-2012)	1,632	1,861	229	14%	211	\$32.85	\$54.07	\$87.95
Sound Engineering Technicians (27-4014)	220	248	28	13%	28	\$25.92	\$27.65	\$35.76
Film and Video Editors (27-4032)	284	320	36	13%	36	\$20.00	\$28.04	\$46.92
Total	6,333	6,789	457	7%	704	-	-	-

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	% Age 55 and older*	Typical Entry-Level Education
Special Effects Artists and Animators (27-1014)	7,687	8,888	1,202	16%	1,121	27%	Bachelor's degree
Graphic Designers (27-1024)	24,816	26,194	1,378	6%	2,584	23%	Bachelor's degree
Producers and Directors (27-2012)	45,869	53,702	7,833	17%	6,330	24%	Bachelor's degree
Sound Engineering Technicians (27-4014)	4,728	5,457	729	15%	635	19%	Postsecondary non-degree award
Film and Video Editors (27-4032)	13,528	16,299	2,772	20%	2,025	22%	Bachelor's degree
Total	96,627	110,541	13,914	14%	12,695	-	-

*The average percentage of workers age 55 and older across all occupations in the greater LA/OC region is 27%. These occupations combined have a smaller share of older workers, which typically indicates fewer replacements needs to offset the amount of impending retirements.

Appendix B: Sources

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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