

**Labor Market Analysis: 0614.60 – Computer Graphics and Digital Imagery
Illustration – Certificate requiring 30 to <60 semester units;
Certificate requiring 16 to fewer than 30 semester units**
Los Angeles Center of Excellence, July 2024

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"/>	

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupations¹ or whether a shortage of workers exists. Labor market demand is measured by annual job openings while education supply is measured by the number of awards (degrees and certificates) conferred on average each year.

Based on the available data, there appears to be a supply gap for the two identified middle-skill occupations in the region. Furthermore, entry-level wages exceed the self-sufficiency standard wage in both Los Angeles and Orange counties, and approximately one-third of workers in the field have completed an associate degree as their highest level of educational attainment.

Recommendation: Due to all three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

Key Findings

Supply Gap

- 2,775 annual job openings are projected in the region through 2027. This number is greater than the three-year average of 1,477 awards conferred by educational institutions in the region.

¹ Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree. 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.

Living Wage

- Both occupations have entry-level wages **above** Los Angeles County's self-sufficiency standard hourly wage (\$18.10/hour).²

Educational Attainment

- A bachelor's degree is the typical entry-level education for the occupations in this report, according to the Bureau of Labor Statistics (BLS).
- 32%-43% of workers in the field have completed an associate degree or less educational attainment, according to national educational attainment data.

Community college supply

- 25 community colleges issued awards related to digital media and/or graphic design in the greater LA/OC region.
- 471 awards (degrees and certificates) were conferred on average each year between 2021 and 2023.

Other postsecondary supply

- 25 educational institutions in the LA/OC region have conferred awards in programs related to digital media and/or graphic design over the past three years.
- 1,006 bachelor's and sub-baccalaureate awards were conferred on average each year by other postsecondary institutions throughout the greater LA/OC region between 2020 and 2022.

TARGET OCCUPATIONS

LA COE prepared this report to provide regional labor market and postsecondary supply data related to two middle-skill occupations. Although 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/associate degree or less educational attainment. [For full occupation descriptions, please see Appendix.](#)

- **Graphic Designers (27-1024)**³
- **Special Effects Artists and Animators (27-1014)**⁴

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for these illustration-related occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to decrease by 12% through 2027. However, there will be nearly 2,800 job openings per year through 2027 due to retirements and workers leaving the field. The majority of jobs in 2022 for these middle-skill occupations (84%) were located in Los Angeles County.

² Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

³ [Graphic Designers \(bls.gov\)](#)

⁴ [Special Effects Artists and Animators \(bls.gov\)](#)

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁵

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	28,926	24,797	(4,128)	(14%)	2,263
Orange	5,552	5,549	(3)	(0%)	512
Total	34,477	30,346	(4,131)	(12%)	2,775

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for each of the target occupations in Los Angeles County. The percentage of workers aged 55+ and automation index are included in order to visualize upcoming replacement demand for these occupations.

Exhibit 2: Current employment, projected occupational demand, percentage of workers aged 55+, Los Angeles County⁶

Occupation	2022 Jobs	2027 Jobs	5-Yr % Change	Annual Openings	% Aged 55 and older*	Auto-mation Index**	% Full Time Workers***
Special Effects Artists and Animators	13,299	10,511	(21%)	1,093	26%	72.2	Data Unavail.
Graphic Designers	15,627	14,286	(9%)	1,170	21%	80.8	73%
Total	28,926	24,797	(14%)	2,263	-		

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

**The automation index captures an occupation's risk of being affected by automation with a base of 100. An automation index greater than 100 indicates a higher-than average risk of automation; less than 100 indicates a lower-than-average risk.

*** Across all jobs in California, 81% of workers are employed full-time.

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for these illustration-related 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 Los Angeles/Orange County region.

Los Angeles County

Both occupations 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 \$22.63

⁵ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁶ Ibid.

and \$38.22 (Exhibit 3). Experienced workers can expect to earn wages between \$45.77 and \$78.10.

Exhibit 3: Earnings for occupations in Los Angeles 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	\$38.22	\$58.62	\$78.10	\$121,900
Graphic Designers	\$22.63	\$33.79	\$45.77	\$70,300

*Rounded to the nearest \$100

Orange County

Both 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 \$22.05 and \$32.49 (Exhibit 4). Experienced workers can expect to earn wages between \$43.99 and \$70.82.

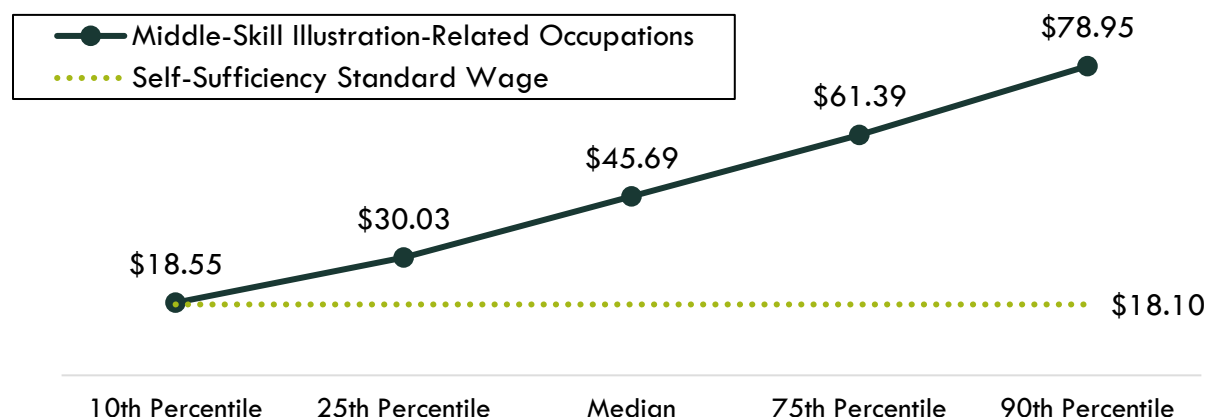
Exhibit 4: Earnings for occupations in Orange County

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	\$32.49	\$51.75	\$70.82	\$107,600
Graphic Designers	\$22.05	\$32.69	\$43.99	\$68,000

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for the occupations in this report are \$30.03; this is above the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 5 shows the average hourly wage for the occupations in this report, for entry-level to experienced workers.

Exhibit 5: Average hourly earnings for middle-skill illustration-related occupations, Los Angeles and Orange counties



JOB POSTINGS

There were 3,511 online job postings for the occupations in this report listed in the past 12 months in Los Angeles and Orange counties. Exhibit 6 displays the number of job postings by occupation. The majority of job postings (75%) were for graphic designers, followed by special effects artists and animators (25%).

Exhibit 6: Job postings by occupation (last 12 months), Los Angeles and Orange counties



Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupations in this report (Exhibit 7). Illustration was mentioned as a specialized skill on 415 job postings, or 12% of postings.

Exhibit 7: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
<ul style="list-style-type: none"> Graphic designers Apparel graphic designers Designers Graphic artists Design consultants Motion graphics designers Digital designers 	<ul style="list-style-type: none"> Adobe Photoshop Graphic design Adobe Illustrator Marketing Adobe Creative Suite Adobe InDesign Typography Animations Branding 	<ul style="list-style-type: none"> Disney Canteen Robert Half* Apple 24 Seven* Amazon Riot Games Sony Pictures Entertainment

*Staffing company

In the greater Los Angeles/Orange County region, 44% of the illustration-related job postings listed a minimum educational requirement. The number and percentage of job postings by educational level appear in exhibit 8.

Exhibit 8: Education levels requested in job postings for illustration-related occupations, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	1,271	83%
Associate degree	100	7%
High school diploma or vocational training	158	10%

EDUCATIONAL ATTAINMENT

The Bureau of Labor Statistics (BLS) lists a bachelor’s degree as the typical entry-level education for the occupations in this report (Exhibit 9). However, the national-level data indicates between 32% and 43% of workers in the field have completed an associate degree or less education as their highest level of educational attainment. The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

Exhibit 9: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
Special Effects Artists and Animators	Bachelor’s degree
Graphic Designers	Bachelor’s degree

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 10 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 Santa Monica, Santa Ana, and Rio Hondo.

Exhibit 10: Regional community college awards (certificates and degrees), 2021-2023

TOP Code	Program	College	2020-21 Awards	2021-22 Awards	2022-23 Awards	3-Year Average
0614.00	Digital Media	LA Mission	5	5	1	4
		LA Trade-Tech	18	12	14	15
		Mt San Antonio	-	-	2	1
		Pasadena	3	15	9	9
		Rio Hondo	1	1	-	1
		Santa Monica	-	19	6	8
		LA Subtotal	27	52	32	37
		Coastline	3	3	28	11
		Cypress	2	7	4	4
		Golden West	7	-	-	2
		Irvine	6	3	1	3
		Saddleback	1	1	2	1
		Santa Ana	6	34	71	37
		OC Subtotal	25	48	106	60
		Supply Subtotal/Average			52	100
0614.10	Multimedia	Glendale	-	4	-	1
		LA Mission	23	28	16	22

TOP Code	Program	College	2020-21 Awards	2021-22 Awards	2022-23 Awards	3-Year Average
		Long Beach	-	-	1	0
		Santa Monica	9	-	-	3
		LA Subtotal	32	32	17	27
		Cypress	1	3	2	2
		Orange Coast	4	8	7	6
		Santiago Canyon	4	-	1	2
		OC Subtotal	9	11	10	10
Supply Subtotal/Average			41	43	27	37
0614.60	Computer Graphics and Digital Imagery	Citrus	26	7	11	15
		East LA	2	2	4	3
		Mt San Antonio	1	-	-	0
		LA Subtotal	29	9	15	18
		Cypress	-	-	1	0
		Fullerton	3	-	-	1
		Irvine	-	4	1	2
		Orange Coast	31	28	18	26
		Saddleback	2	3	7	4
		Santa Ana	3	2	4	3
		OC Subtotal	39	37	31	36
Supply Subtotal/Average			68	46	46	53
1030.00	Graphic Art and Design	Cerritos	14	13	18	15
		East LA	8	6	9	8
		El Camino	-	-	1	0
		Glendale	9	10	8	9
		LA City	8	19	14	14
		LA Harbor	-	-	1	0
		LA Pierce	13	22	12	16
		LA Valley	1	5	1	2
		Long Beach	8	7	5	7
		Mt San Antonio	20	21	25	22
		Pasadena	15	12	11	13
		Rio Hondo	28	23	54	35
		Santa Monica	43	51	68	54
		LA Subtotal	167	189	227	194
		Cypress	4	6	18	9

TOP Code	Program	College	2020-21 Awards	2021-22 Awards	2022-23 Awards	3-Year Average
		Fullerton	14	15	18	16
		Golden West	20	16	13	16
		Irvine	21	27	17	22
		Saddleback	19	22	22	21
		Santa Ana	3	-	-	1
		Santiago Canyon	4	5	5	5
		OC Subtotal	85	91	93	90
		Supply Subtotal/Average	252	280	320	284
		Supply Total/Average	413	469	531	471

Other Postsecondary 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 illustration-related occupations. Exhibit 11 shows the number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent data is from 2020 to 2022. Between 2020 and 2022, other postsecondary college institutions in the region conferred an average of 1,477 bachelor's and sub-baccalaureate awards. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards that typically take fewer than four years to complete. Of the awards in exhibit 11, 91% are bachelor's degrees (919 awards) and 9% are sub-baccalaureate awards (87 awards).

Exhibit 11: Other regional postsecondary awards, 2020-2022

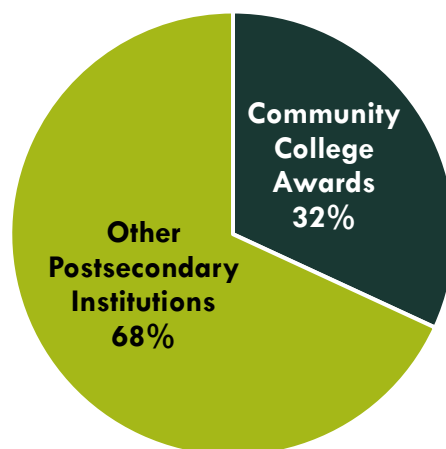
CIP Code	Program	Postsecondary Institution	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
09.0702	Digital Communication and Media/Multimedia	Azusa Pacific University	-	-	3	1
		CSU-Dominguez Hills	41	57	33	44
		Columbia College Hollywood	-	28	5	11
		Fremont University	1	-	-	0
		Marymount California Univ.	10	9	9	9
		Vanguard Univ. of Southern CA	2	1	-	1
10.0301	Graphic Communications, General	CSU-Los Angeles	9	10	9	9
10.0304		ABC Adult School	-	1	1	1

CIP Code	Program	Postsecondary Institution	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
	Animation, Interactive Technology, Video Graphics, and Special Effects	Art Center College of Design	36	41	62	46
		Azusa Pacific University	-	-	14	5
		California Institute of the Arts	39	37	54	43
		Chapman University	20	22	23	22
		Columbia College Hollywood	-	11	2	4
		Gnomon	66	-	-	22
		Laguna College of Art and Design	33	25	29	29
		LA Film School	47	35	67	50
		Loyola Marymount Univ.	21	26	13	20
		NY Film Academy	24	10	15	16
11.0803	Computer Graphics	ABC Adult School	4	3	6	4
		LA Pacific College	12	5	6	8
11.0899	Computer Software and Media Applications, Other	Art Center College of Design	20	14	21	18
		California Institute of the Arts	7	1	6	5
		Learnet Academy	10	9	2	7
50.0102	Digital Arts	Columbia College Hollywood	-	15	15	10
		Gnomon	-	31	29	20
		LA Academy of Figurative Art	4	-	5	3
		LA Pacific College	4	2	-	2
		Marymount California Univ.	3	2	2	2
		Otis College of Art and Design	48	52	90	63
		USC	15	35	33	28
		Woodbury Univ.	2	-	-	1
50.0409	Graphic Design	Art Center College of Design	67	75	70	71
		California Institute of the Arts	12	12	15	13

CIP Code	Program	Postsecondary Institution	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
		CA State Poly. Univ.-Pomona	89	113	105	102
		Chapman Univ.	27	24	29	27
		Columbia College Hollywood	-	9	4	4
		Concordia University-Irvine	10	7	9	9
		Fashion Institute of Design & Merch.	38	25	12	25
		Laguna College of Art and Design	25	26	24	25
		LA Film School	28	47	52	42
		LA Pacific College	8	2	7	6
50.0410	Illustration	Art Center College of Design	140	170	149	153
		Laguna College of Art and Design	16	24	35	25
Supply Total/Average			938	1,016	1,065	1,006

Exhibit 12 shows the proportion of community college awards conferred in the greater Los Angeles/Orange County region compared to the number of other postsecondary awards for the programs in this report. The majority of awards conferred in these programs are awarded by other institutions in the greater Los Angeles/Orange County region.

Exhibit 12: Percentage of community college awards compared to other postsecondary institution awards in the Los Angeles/Orange County region



APPENDIX: OCCUPATION DESCRIPTIONS

LA COE prepared this report to provide regional labor market supply and demand data related to these target occupations:

- **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.⁷
- **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.⁸

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DATA 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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⁷ [Graphic Designers \(bls.gov\)](https://www.bls.gov)

⁸ [Special Effects Artists and Animators \(bls.gov\)](https://www.bls.gov)