

Program Endorsement Brief: 0614/Digital Media
Digital Media Arts – Production Artist; Animation for Commercial Application
 Orange County Center of Excellence, May 2021

Summary Analysis

Program Endorsement:	Endorsed: All Criteria Met <input type="checkbox"/>	Endorsed: Some Criteria Met <input checked="" 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 type="checkbox"/>	No	<input checked="" type="checkbox"/>
Emerging Occupation(s)			
	Yes <input type="checkbox"/>	No	<input checked="" type="checkbox"/>

The Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data related to four middle-skill occupations: *web developers and digital interface designers (15-1257)*, *special effects artists and animators (27-1014)*, *graphic designers (27-1024)*, and *desktop publishers (43-9031)*. Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree.¹ 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 middle-skill digital media arts occupations in the region. While the majority of annual openings for the occupations in this report typically require a bachelor’s degree, the majority of annual openings in the region have typical entry-level wages that exceed the living wage in both Los Angeles and Orange counties. **Therefore, due to some of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, there is projected to be **3,102 jobs available annually** in the region due to retirements and workers leaving the field, **which is more than the 1,491 awards conferred annually** by educational institutions in the region.

¹ 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 Criteria** – Within Orange County, the **majority (88%) of annual job openings** for these middle-skill digital media arts occupations have **entry-level wages above the county’s living wage** (\$17.36/hour).²
- **Educational Criteria** – Within the LA/OC region, **76% of the annual job openings** for occupations related to middle-skill digital media arts **typically require a bachelor’s degree**.
 - While the national-level educational attainment data indicates between 25.8% and 39% of workers in the field have completed some college or an associate degree, **the three occupations with the majority of annual openings** (web developers and digital interface designers, graphic designers, and special effects artists and animators) **only have about 25% of current workers in the field who have completed some college or an associate degree as their highest level of education**.

Supply:

- There are **25 community colleges** in the LA/OC region that issue awards related to digital media arts, conferring an average of **535 awards annually** between 2017 and 2020.
- Between 2016 and 2019, there was an average of **956 awards conferred annually** in related training programs by non-community college institutions throughout the region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these middle-skill digital media arts occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to decrease by 1% through 2024. However, there will be more than 3,100 job openings per year through 2024 due to retirements and workers leaving the field.

This report includes employment projection data by Emsi which uses EDD information. Emsi’s projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy, during the projection period, will be at approximately full employment. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, it may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the impacts of COVID-19 into account.

² Living wage data was pulled from California Family Needs Calculator on 5/19/2021. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

Geography	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change	Annual Openings
Los Angeles	28,194	27,879	(315)	(1%)	2,453
Orange	7,803	7,738	(65)	(1%)	648
Total	35,997	35,617	(380)	(1%)	3,102

Wages

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

Orange County— The majority (88%) of annual openings for these middle-skill digital media arts occupations have entry-level wages above the living wage for one adult (\$17.36 in Orange County). Typical entry-level hourly wages are in a range between \$14.57 and \$21.26. The only digital media arts occupation in this report with typical entry-level hourly wages below the county’s living wage is *special effects artists and animators* (\$14.57). Experienced workers can expect to earn wages between \$36.78 and \$44.79, which are higher than the living wage estimate. Orange County’s average wages are below the average statewide wage of \$36.46 for these occupations.

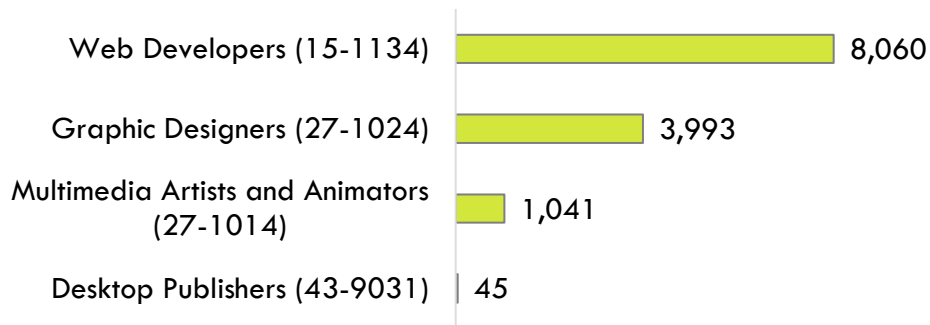
Los Angeles County— All of the annual openings for these middle-skill digital media arts occupations have entry-level wages above the living wage for one adult (\$15.04 in Los Angeles County). Typical entry-level hourly wages are in a range between \$19.14 and \$22.53. Experienced workers can expect to earn wages between \$37.73 and \$59.30, which are higher than the living wage estimate. Los Angeles County’s average wages are above the average statewide wage of \$36.46 for these occupations.

Job Postings

There were 13,139 online job postings related to middle-skill digital arts occupations listed in the past 12 months. Exhibit 2 displays the job postings by occupation. The majority of job postings (61%) were for *web developers*, followed by *graphic designers* (30%), *multimedia artists and animators* (8%), and *desktop publishers* (0.003%). The highest number of job postings were for graphic designers, front end developers, web developers, UX designers, and junior graphic designers. The top skills were: Adobe Photoshop, graphic design, JavaScript, Adobe InDesign, and Adobe Illustrator. The top three employers, by number of job postings, in the region were: Anthem Blue Cross, Blizzard Entertainment, and Amazon.

³ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 2: Job postings by occupation (last 12 months)



It is important to note that the job postings data included in this section reflects online job postings listed in the past 12 months and does not yet demonstrate the impact of COVID-19. While employers have generally posted fewer online job postings since the beginning of the pandemic, the long-term effects are currently unknown.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists the following entry-level education levels for the middle-skill digital media arts occupations in this report:

- **Associate degree:** *web developers and digital interface designers; and graphic designers*
- **Bachelor's degree:** *special effects artists and animators; and desktop publishers*

In the LA/OC region, the majority of annual job openings (76%) typically require a bachelor's degree. While the national-level educational attainment data indicates between 25.8% and 39% of workers in the field have completed some college or an associate degree, the three occupations with the majority of annual openings (*web developers and digital interface designers, graphic designers, and special effects artists and animators*) only have about 25% of current workers in the field who have completed some college or an associate degree as their highest level of education. Of the 48% of middle-skill digital media arts job postings listing a minimum education requirement in Los Angeles/Orange County, 90% (5,654) requested a bachelor's degree, 7% (415) requested a high school diploma, and 3% (185) requested an associate degree.

Educational Supply

Community College Supply—Exhibit 3 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Digital Media (0614.00), Multimedia (0614.10), Website Design and Development (0614.30), Animation (0614.40), Desktop Publishing (0614.50), Computer Graphics and Digital Imagery (0614.60), and Graphic Art and Design (1030.00). The colleges with the most completions in the region are: Mt. San Antonio, Santa Monica and Golden West. Over the past 12 months, there were 14 other related program recommendation requests from regional community colleges.

Exhibit 3: Regional community college awards (certificates and degrees), 2017-2020

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
0614.00	Digital Media	Glendale	-	-	1	0
		LA Mission	-	1	4	2
		LA Trade	7	19	11	12
		Long Beach	1	-	-	0
		Rio Hondo	-	-	2	1
		LA Subtotal	8	20	18	15
		Coastline	-	3	-	1
		Golden West	9	10	10	10
		Irvine	15	9	1	8
		Santa Ana	-	-	1	0
		OC Subtotal	24	22	12	19
Supply Subtotal/Average			32	42	30	35
0614.10	Multimedia	East LA	-	-	2	1
		LA Mission	12	21	18	17
		Long Beach	1	-	-	0
		Pasadena	5	6	1	4
		Santa Monica	5	5	5	5
		LA Subtotal	23	32	26	27
		Cypress	1	-	1	1
		Orange Coast	-	1	2	1
		Santiago Canyon	10	9	3	7
		OC Subtotal	11	10	6	9
Supply Subtotal/Average			34	42	32	36
0614.30	Website Design and Development	LA Pierce	-	3	2	2
		Mt San Antonio	9	9	7	8
		Pasadena	-	-	1	0
		Santa Monica	-	-	2	1
		LA Subtotal	9	12	12	11
		Coastline	-	1	1	1
		Fullerton	-	3	-	1
		Irvine	2	3	-	2
		Orange Coast	-	-	9	3
		Saddleback	4	7	2	4
Santa Ana	1	-	2	1		

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Santiago Canyon	9	24	3	12
		OC Subtotal	16	38	17	24
		Supply Subtotal/Average	25	50	29	35
0614.40	Animation	Cerritos	3	7	13	8
		East LA	6	14	12	11
		El Camino	1	5	5	4
		Glendale	6	2	6	5
		LA Mission	4	8	11	8
		Mt San Antonio	53	67	58	59
		Pasadena	-	2	1	1
		Rio Hondo	11	11	9	10
		Santa Monica	17	9	19	15
		LA Subtotal	101	125	134	120
		Cypress	3	7	1	4
		Fullerton	1	-	1	1
		Irvine	1	1	1	1
		Orange Coast	-	-	1	0
		Santa Ana	2	15	-	6
OC Subtotal	7	23	4	11		
		Supply Subtotal/Average	108	148	138	131
0614.50	Desktop Publishing	East LA	-	1	1	1
		LA Subtotal	-	1	1	1
		Fullerton	-	1	2	1
		Santa Ana	6	7	-	4
		OC Subtotal	6	8	2	5
		Supply Subtotal/Average	6	9	3	6
0614.60	Computer Graphics and Digital Imagery	Citrus	23	13	12	16
		East LA	-	16	1	6
		LA Subtotal	23	29	13	22
		Coastline	2	5	1	3
		Cypress	1	7	5	4
		Fullerton	1	2	1	1
		North Orange Adult	4	9	3	5
		Orange Coast	35	38	21	31

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Saddleback	7	4	4	5
		Santa Ana	3	-	11	5
		OC Subtotal	53	65	46	55
		Supply Subtotal/Average	76	94	59	76
1030.00	Graphic Art and Design	Cerritos	10	11	11	11
		East LA	10	18	3	10
		El Camino	2	-	1	1
		Glendale	9	6	4	6
		LA City	5	6	22	11
		LA Pierce	15	22	15	17
		LA Valley	3	2	5	3
		Long Beach	2	1	2	2
		Mt San Antonio	11	15	11	12
		Pasadena	7	9	7	8
		Rio Hondo	-	30	20	17
		Santa Monica	26	31	50	36
		LA Subtotal	100	151	151	134
		Fullerton	14	12	12	13
		Golden West	22	57	32	37
		Irvine	-	5	16	7
		Saddleback	15	23	15	18
		Santa Ana	1	4	3	3
		Santiago Canyon	9	5	1	5
		OC Subtotal	61	106	79	82
		Supply Subtotal/Average	161	257	230	216
		Supply Total/Average	442	642	521	535

Non-Community College Supply—For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for digital media arts and/or animation. Exhibit 3 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Digital Communication and Media/Multimedia (09.0702), Graphic Communications, General (10.0301), Animation, Interactive Technology, Video Graphics and Special Effects (10.0304), Web Page, Digital/Multimedia and Information Resources Design (11.0801), Digital Arts (50.0102), Digital and Visual Communications, General (50.0401), and Graphic Design (50.0409). Due to different data collection periods, the most recent three-year

period of available data is from 2016 to 2019. Between 2016 and 2019, four-year colleges in the region conferred an average of 956 awards annually in related training programs.

Exhibit 3: Regional non-community college awards, 2016-2019

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
09.0702	Digital Communication and Media/Multimedia	California Inst. of the Arts	-	-	8	3
		CSU-Dominguez Hills	50	41	58	50
		Fremont College	1	1	1	1
		Los Angeles ORT College (CLOSED)	15	10	8	11
		Marymount California University	-	-	3	1
		University of Southern California	11	18	1	10
		Vanguard University of Southern California	12	7	8	9
10.0301	Graphic Communications, General	CSU-Los Angeles	2	5	10	6
10.0304	Animation, Interactive Technology, Video Graphics and Special Effects	Art Center College of Design	28	9	18	18
		Chapman University	-	-	-	-
		Gnomon	36	36	40	37
		Laguna College of Art and Design	22	11	37	23
		Los Angeles Film School	11	44	51	35
		Loyola Marymount Univ.	12	20	15	16
		Mt Sierra College	3	6	-	3
		New York Film Academy	28	14	19	20
11.0801	Web Page, Digital/Multimedia and Information Resources Design	DeVry University-CA	36	18	7	20
		Fremont College	-	-	-	-
		University of Phoenix-CA	1	1	2	1
50.0102	Digital Arts	Los Angeles Academy of Figurative Art	3	-	3	2
		Marymount California University	12	17	15	15
		Otis College of Art and Design	63	92	69	75
		University of Southern California	34	31	33	33
		Woodbury University	3	4	1	3

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
50.0401	Design and Visual Communications, General	Bethesda University	3	-	-	1
		Biola University	3	2	5	3
		California State Polytechnic University-Pomona	-	-	-	-
		Fashion Institute of Design & Merchandising-LA	181	155	142	159
		Gnomon	28	37	48	38
		Otis College of Art and Design	37	43	34	38
		Platt College-Los Angeles	-	5	-	2
		University of California-Los Angeles	-	-	-	-
		University of La Verne	1	-	-	0
		University of Southern California	-	-	-	-
50.0409	Graphic Design	Art Center College of Design	71	66	83	73
		California Institute of the Arts	25	19	9	18
		California State Polytechnic University-Pomona	123	128	92	114
		CSU-Dominguez Hills	-	1	-	0
		Chapman University	24	19	17	20
		Concordia Univ.-Irvine	12	9	7	9
		Eagle Rock College	-	-	-	-
		East San Gabriel Valley ROP	-	-	-	-
		Fashion Institute of Design & Merchandising-LA	44	36	38	39
		Laguna College of Art and Design	24	21	24	23
		Los Angeles Film School	-	-	3	1
		Los Angeles Pacific College	-	-	1	0
		Mt Sierra College	15	10	-	8
		New York Film Academy	-	3	3	2
Otis College of Art and Design	11	5	15	10		

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
		Platt College-Los Angeles	7	3	-	3
		University of La Verne	1	-	-	0
Supply Total/Average			993	947	928	956

Appendix A: Occupational demand and wage data by county

Exhibit 4. Orange County

Occupation (SOC)	2019 Jobs	2024 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)
Web Developers and Digital Interface Designers (15-1257)	2,602	2,693	92	4%	198	\$21.26	\$31.88	\$44.79
Special Effects Artists and Animators (27-1014)	785	786	1	0%	78	\$14.57	\$29.30	\$48.96
Graphic Designers (27-1024)	4,332	4,178	(154)	(4%)	363	\$18.93	\$27.14	\$36.78
Desktop Publishers (43-9031)	84	81	(3)	(4%)	9	\$18.72	\$26.46	\$41.55
Total	7,803	7,738	(65)	(1%)	648			

Exhibit 5. Los Angeles County

Occupation (SOC)	2019 Jobs	2024 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)
Web Developers and Digital Interface Designers (15-1257)	6,700	6,999	299	4%	519	\$22.53	\$33.68	\$47.16
Special Effects Artists and Animators (27-1014)	7,516	7,536	20	0%	762	\$21.90	\$38.37	\$59.30
Graphic Designers (27-1024)	13,738	13,110	(628)	(5%)	1,146	\$19.16	\$27.72	\$37.73
Desktop Publishers (43-9031)	240	234	(6)	(3%)	25	\$19.14	\$27.30	\$43.06
Total	28,194	27,879	(315)	(1%)	2,453			

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings
Web Developers and Digital Interface Designers (15-1257)	9,302	9,693	391	4%	718
Special Effects Artists and Animators (27-1014)	8,301	8,322	21	0%	840
Graphic Designers (27-1024)	18,070	17,288	(782)	(4%)	1,510
Desktop Publishers (43-9031)	324	314	(10)	(3%)	34
Total	35,997	35,617	(380)	(1%)	3,102

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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