

Program Endorsement Brief: 0614/Digital Media
Digital Media Animation and Gaming Foundation Certificate
Digital Media Design (AA & Certificate of Achievement)
 Orange County Center of Excellence, March 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 two middle-skill occupation(s): *special effects artists and animators* (27-1014), and *graphic designers* (27-1024). 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 these middle-skill digital media occupations in the region. While the Bureau of Labor Statistics (BLS) lists a bachelor’s degree as the typically required education level, the majority of annual openings have entry-level wages that exceed the living wage in Orange County. **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 **2,948 jobs available annually** in the region due to new job growth and replacements, **which is more than the 1,405 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 (83%) of annual job openings for these middle-skill digital media occupations have entry-level wages above the county’s living wage (\$17.36/hour).²
- **Educational Criteria** – The Bureau of Labor Statistics (BLS) lists a *bachelor’s degree as the typical entry-level education* for the two digital media occupations in this report.
 - Furthermore, the national-level educational attainment data indicates **between 25.9% and 26.4% of workers in the field have completed some college or an associate degree.**

Supply:

- There are **25 community colleges** in the LA/OC region that issue awards related to digital media and/or graphic design, conferring an average of **454 awards annually** between 2016 and 2019.
- Between 2014 and 2017, there was an average of **951 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 occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 3% through 2024. There will be nearly 3,000 job openings per year through 2024 due to job growth and replacements.

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.

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 | 21,419 | 22,129 | 710 | 3% | 2,398 |
| Orange | 5,179 | 5,282 | 103 | 2% | 550 |
| Total | 26,598 | 27,412 | 813 | 3% | 2,948 |

² Living wage data was pulled from California Family Needs Calculator on 3/24/2021. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

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.

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill digital media 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 (83%) of annual openings for middle-skill digital media 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 \$13.91 and \$18.64. While *special effects artists and animators* have entry-level wages that are below the county's living wage, entry-level wages for *graphic designers* typically exceed the living wage. Experienced workers can expect to earn wages between \$36.77 and \$48.26, which are higher than the living wage estimate. Orange County's average wages are below the average statewide wage of \$34.13 for these occupations.

Los Angeles County— All of the annual openings for middle-skill digital media 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 \$18.78 and \$21.69. Experienced workers can expect to earn wages between \$37.67 and \$59.05, which are higher than the living wage estimate. Los Angeles County's average wages are above the average statewide wage of \$34.13 for these occupations.

Job Postings

There were 4,986 online job postings related to middle-skill digital media occupations listed in the past 12 months. The highest number of job postings were for graphic designers, junior graphic designers, motion graphic designers, senior graphic designers, and freelance graphic designers. The top software skills were: Adobe Photoshop, Adobe InDesign, Adobe Illustrator, Adobe Acrobat, and Adobe Aftereffects. The top three employers, by number of job postings, in the region were: Blizzard Entertainment, Kalo, and Raytheon.

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 a bachelor's degree as the typical entry-level education for both middle-skill digital media occupations in this report. Furthermore, the national-level educational attainment data indicates between 25.9% and 26.4% of workers in the field have completed some college or an associate degree. Of the 42% of middle-skill digital media job postings listing a minimum education requirement in Los Angeles/Orange County, 85% (1,779) requested a bachelor's degree, 10% (203) requested a high school diploma, and 6% (122) requested an associate degree.

Educational Supply

Community College Supply—Exhibit 2 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Digital Media (0614.00), Multimedia

(0614.10), Electronic Game Design (0614.20), Animation (0614.40), 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, Golden West, and Santa Monica. Over the past 12 months, there were 10 other related program recommendation requests from regional community colleges.

Exhibit 2: Regional community college awards (certificates and degrees), 2016-2019

| TOP Code | Program | College | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|--------------------------------|------------------------|--------------------|------------------|------------------|------------------|----------------------|
| 0614.00 | Digital Media | East LA | 1 | - | - | 0 |
| | | LA Mission | - | - | 1 | 0 |
| | | LA Trade-Tech | - | 7 | 19 | 9 |
| | | Long Beach | - | 1 | - | 0 |
| | | LA Subtotal | 1 | 8 | 20 | 10 |
| | | Coastline | - | - | 3 | 1 |
| | | Golden West | 13 | 9 | 10 | 11 |
| | | Irvine | 8 | 15 | 9 | 11 |
| | | OC Subtotal | 21 | 24 | 22 | 22 |
| Supply Subtotal/Average | | | 22 | 32 | 42 | 32 |
| 0614.10 | Multimedia | LA Mission | 8 | 12 | 21 | 14 |
| | | Long Beach | 1 | 1 | - | 1 |
| | | Pasadena | 1 | 5 | 6 | 4 |
| | | Santa Monica | 6 | 5 | 5 | 5 |
| | | LA Mission | 8 | 12 | 21 | 14 |
| | | LA Subtotal | 16 | 23 | 32 | 24 |
| | | Cypress | 1 | 1 | - | 1 |
| | | Orange Coast | 3 | - | 1 | 1 |
| | | Santiago Canyon | 3 | 10 | 9 | 7 |
| | | OC Subtotal | 7 | 11 | 10 | 9 |
| Supply Subtotal/Average | | | 23 | 34 | 42 | 33 |
| 0614.20 | Electronic Game Design | Golden West | 1 | 1 | 3 | 2 |
| | | OC Subtotal | 1 | 1 | 3 | 2 |
| Supply Subtotal/Average | | | 1 | 1 | 3 | 2 |

| TOP Code | Program | College | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|--------------------------------|---------------------------------------|--------------------|------------------|------------------|------------------|----------------------|
| 0614.40 | Animation | Cerritos | 4 | 3 | 7 | 5 |
| | | East LA | 3 | 6 | 14 | 8 |
| | | El Camino | - | 1 | 5 | 2 |
| | | Glendale | 4 | 6 | 2 | 4 |
| | | LA Mission | 4 | 4 | 8 | 5 |
| | | Mt San Antonio | 19 | 53 | 67 | 46 |
| | | Pasadena | - | - | 2 | 1 |
| | | Rio Hondo | 11 | 11 | 11 | 11 |
| | | Santa Monica | 12 | 17 | 9 | 13 |
| | | LA Subtotal | 57 | 101 | 125 | 94 |
| | | Cypress | 9 | 3 | 7 | 6 |
| | | Fullerton | - | 1 | - | 0 |
| | | Irvine | - | 1 | 1 | 1 |
| | | Santa Ana | 5 | 2 | 15 | 7 |
| | | OC Subtotal | 14 | 7 | 23 | 15 |
| Supply Subtotal/Average | | | 71 | 108 | 148 | 109 |
| 0614.60 | Computer Graphics and Digital Imagery | Citrus | 7 | 23 | 13 | 14 |
| | | East LA | - | - | 16 | 5 |
| | | LA Subtotal | 7 | 23 | 29 | 20 |
| | | Coastline | 1 | 2 | 5 | 3 |
| | | Cypress | 11 | 1 | 7 | 6 |
| | | Fullerton | - | 1 | 2 | 1 |
| | | North Orange Adult | 2 | 4 | 9 | 5 |
| | | Orange Coast | 28 | 35 | 38 | 34 |
| | | Saddleback | 8 | 7 | 4 | 6 |
| | | Santa Ana | 7 | 3 | | 3 |
| | | OC Subtotal | 57 | 53 | 65 | 58 |
| Supply Subtotal/Average | | | 64 | 76 | 94 | 78 |

| TOP Code | Program | College | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|--------------------------------|------------------------|--------------------|------------------|------------------|------------------|----------------------|
| 1030.00 | Graphic Art and Design | Cerritos | 6 | 10 | 11 | 9 |
| | | East LA | 12 | 10 | 18 | 13 |
| | | El Camino | 2 | 2 | - | 1 |
| | | Glendale | 14 | 9 | 6 | 10 |
| | | LA City | 5 | 5 | 6 | 5 |
| | | LA Pierce | 10 | 15 | 22 | 16 |
| | | LA Valley | 3 | 3 | 2 | 3 |
| | | Long Beach | - | 2 | 1 | 1 |
| | | Mt San Antonio | 21 | 11 | 15 | 16 |
| | | Pasadena | 10 | 7 | 9 | 9 |
| | | Rio Hondo | - | - | 30 | 10 |
| | | Santa Monica | 30 | 26 | 31 | 29 |
| | | LA Subtotal | 113 | 100 | 151 | 121 |
| | | Fullerton | 16 | 14 | 12 | 14 |
| | | Golden West | 32 | 22 | 57 | 37 |
| | | Irvine | 2 | | 5 | 2 |
| | | Saddleback | 17 | 15 | 23 | 18 |
| | | Santa Ana | | 1 | 4 | 2 |
| | | Santiago Canyon | 3 | 9 | 5 | 6 |
| | | OC Subtotal | 70 | 61 | 106 | 79 |
| Supply Subtotal/Average | | | 183 | 161 | 257 | 200 |
| Supply Total/Average | | | 364 | 412 | 586 | 454 |

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 middle-skill digital media occupations. 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), Animation, Interactive Technology, Video Graphics and Special Effects (10.0304), Computer Graphics (11.0803), Computer Software and Media Applications, Other (11.0899), Digital Arts (50.0102), Digital and Visual Communications, General (50.0401), and Game and Interactive Media Design (50.0411). Due to different data collection periods, the most recent three-year period of available data is from 2014 to 2017. Between 2014 and 2017, four-year colleges in the region conferred an average of 951 awards annually in related training programs.

Exhibit 3: Regional non-community college awards, 2014-2017

| CIP Code | Program | College | 2014-2015 Awards | 2015-2016 Awards | 2016-2017 Awards | 3-Year Award Average |
|-----------------|-----------------------------------------------------------------------|---------------------------------------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|
| 09.0702 | Digital Communication and Media/Multimedia | California State Univ.-Dominguez Hills | 51 | 53 | 50 | 51 |
| | | Fremont College | - | - | 1 | 0 |
| | | Los Angeles ORT College-Los Angeles | 8 | 12 | 15 | 12 |
| | | Los Angeles ORT College-Van Nuys | 4 | 5 | 6 | 5 |
| | | Marymount California University | 10 | 14 | - | 8 |
| | | Vanguard University of Southern California | 18 | 25 | 12 | 18 |
| 10.0304 | Animation, Interactive Technology, Video Graphics and Special Effects | Argosy University-The Art Institute of CA-Hollywood | 8 | 2 | 1 | 4 |
| | | Argosy University-The Art Institute of CA-Los Angeles | 7 | 3 | 2 | 4 |
| | | Argosy University-The Art Institute of CA-Orange County | 13 | 9 | 3 | 8 |
| | | Art Center College of Design | 17 | 28 | 28 | 24 |
| | | Gnomon School of Visual Effects | 17 | 29 | 36 | 27 |
| | | Laguna College of Art and Design | 7 | 22 | 22 | 17 |
| | | Los Angeles Film School | 43 | 19 | 11 | 24 |
| | | Loyola Marymount University | 18 | 22 | 12 | 17 |
| | | Mt Sierra College | 7 | 5 | 3 | 5 |
| | | New York Film Academy | 26 | 26 | 28 | 27 |
| | | Shepherd University | 1 | 2 | 1 | 1 |
| 11.0803 | Computer Graphics | Argosy University-The Art Institute of CA-Hollywood | 3 | 8 | 12 | 8 |
| | | Argosy University-The Art Institute of CA-Los Angeles | 17 | 14 | 9 | 13 |

| CIP Code | Program | College | 2014-2015 Awards | 2015-2016 Awards | 2016-2017 Awards | 3-Year Award Average |
|----------|-------------------------------------------------|-------------------------------------------------------------|------------------|------------------|------------------|----------------------|
| | | Argosy University-The Art Institute of CA-Orange County | 9 | 9 | 7 | 8 |
| | | Los Angeles ORT College-Van Nuys | 1 | - | - | 0 |
| 11.0899 | Computer Software and Media Applications, Other | Art Center College of Design | - | 5 | 7 | 4 |
| | | Learnet Academy | 59 | 45 | 41 | 48 |
| 50.0102 | Digital Arts | Los Angeles Academy of Figurative Art | - | - | 3 | 1 |
| | | Marymount California University | - | - | 12 | 4 |
| | | Otis College of Art and Design | 71 | 71 | 63 | 68 |
| | | University of Southern California | 20 | 15 | 22 | 19 |
| | | Woodbury University | - | 4 | 3 | 2 |
| 50.0401 | Design and Visual Communications, General | Bethesda University | 4 | 3 | 3 | 3 |
| | | Biola University | - | 3 | 3 | 2 |
| | | California State Polytechnic Univ.-Pomona | - | 1 | - | 0 |
| | | Fashion Institute of Design & Merchandising-Los Angeles | 307 | 266 | 181 | 251 |
| | | Gnomon School of Visual Effects | 24 | 41 | 28 | 31 |
| | | Otis College of Art and Design | 41 | 46 | 37 | 41 |
| | | Platt College-Los Angeles | 3 | 2 | - | 2 |
| | | University of CA-Los Angeles | - | 1 | - | 0 |
| | | University of La Verne | - | - | 1 | 0 |
| 50.0411 | Game and Interactive Media Design | Argosy University-The Art Institute of California-Hollywood | 11 | 12 | 17 | 13 |
| | | Argosy University-The Art Institute of CA- | 27 | 24 | 17 | 23 |

| CIP Code | Program | College | 2014-2015 Awards | 2015-2016 Awards | 2016-2017 Awards | 3-Year Award Average |
|-----------------------------|---------|---------------------------------------------------------|------------------|------------------|------------------|----------------------|
| | | Los Angeles | | | | |
| | | Argosy University-The Art Institute of CA-Orange County | 13 | 13 | 14 | 13 |
| | | Chapman University | 1 | - | 1 | 1 |
| | | Laguna College of Art and Design | 17 | 29 | 24 | 23 |
| | | Los Angeles Film School | 42 | 12 | 12 | 22 |
| | | Mt Sierra College | 16 | 19 | 13 | 16 |
| | | New York Film Academy | 16 | 16 | 15 | 16 |
| | | University of California-Irvine | 38 | 43 | 3 | 28 |
| | | University of Southern California | 29 | 26 | 32 | 29 |
| | | Woodbury University | - | 11 | 2 | 4 |
| Supply Total/Average | | | 1,024 | 1,015 | 813 | 951 |

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) |
|-------------------------------------------------|--------------|--------------|-------------|---------------|-----------------|-----------------------------------------------------------|------------------------|-----------------------------------------------------------|
| Special Effects Artists and Animators (27-1014) | 794 | 826 | 32 | 4% | 94 | \$13.91 | \$28.42 | \$48.26 |
| Graphic Designers (27-1024) | 4,385 | 4,457 | 71 | 2% | 456 | \$18.64 | \$27.00 | \$36.77 |
| Total | 5,179 | 5,282 | 103 | 2% | 550 | | | |

Exhibit 5. Los Angeles County

| Occupation (SOC) | 2019 Jobs | 2024 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) | 7,468 | 7,917 | 449 | 6% | 925 | \$21.69 | \$38.28 | \$59.05 |
| Graphic Designers (27-1024) | 13,951 | 14,212 | 261 | 2% | 1,472 | \$18.78 | \$27.52 | \$37.67 |
| Total | 21,419 | 22,129 | 710 | 3% | 2,398 | | | |

Exhibit 6. Los Angeles and Orange Counties

| Occupation (SOC) | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings |
|-------------------------------------------------|---------------|---------------|-------------|---------------|-----------------|
| Special Effects Artists and Animators (27-1014) | 8,262 | 8,743 | 481 | 6% | 1,019 |
| Graphic Designers (27-1024) | 18,336 | 18,669 | 333 | 2% | 1,929 |
| Total | 26,598 | 27,412 | 813 | 3% | 2,948 |

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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March 2021

