

Program Endorsement Brief: 0614/Digital Media *Immersive Media (AR/VR)*

Los Angeles/Orange County Center of Excellence, January 2019

Summary:

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide regional labor market supply and demand data related to digital media, **including immersive media such as augmented reality (AR) and virtual reality (VR)**. 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 relevant occupations.

The following summarizes key findings from this data brief:

- The number of jobs for digital media-related occupation is projected to decrease by 2% through 2022. However, more than 2,500 job openings will be available annually due to replacement need.
- Over the past 12 months, there were 133 online job postings related to digital that mentioned *augmented reality* and/or *virtual reality* in Los Angeles and Orange Counties.
- Sixteen other related program recommendation requests were received between January and November 2018 from regional community colleges.
- Eighteen colleges in the region have programs in digital media; multimedia; electronic game design; and animation.
- Between 2014 and 2017, community colleges in the region conferred an average of 121 awards annually (associate degrees and certificates) in related training programs.

Occupational Demand — In Los Angeles/Orange County, the number of jobs related to this field is projected to decrease by 2%. However, there will be more than 2,500 job openings per year through 2022 due to retirements and workers leaving the field (Exhibit 1).

Exhibit 1: Occupational demand in Los Angeles and Orange Counties¹

| Geography | 2017 Jobs | 2022 Jobs | 2017-2022 Change | 2017-2022 % Change | Annual Openings |
|--------------|---------------|---------------|------------------|--------------------|-----------------|
| Los Angeles | 23,765 | 23,215 | (550) | (2%) | 2,076 |
| Orange | 5,031 | 5,077 | 46 | 1% | 464 |
| Total | 28,796 | 28,292 | (504) | (2%) | 2,540 |

¹ 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 — Entry-level hourly wages for digital media-related occupations in the region are between \$12.20 and \$14.90. Entry-level wages for multimedia artists and animators are lower than the MIT Living hourly wage for one adult in the region (\$13.54 in Los Angeles County and \$15.31 in Orange County). Experienced graphic designers and multimedia artists/animators typically earn between \$37.61 and \$58.95 per hour.

Job Postings— Real-time labor market information provides a more nuanced view of the current regional job market, and can identify more specific positions within the occupation codes, including jobs in immersive media, augmented reality and virtual reality. There were 133 online job postings related to digital media listed in the past 12 months that mentioned *augmented reality* and/or *virtual reality*. The majority of job postings were for animators, graphic designers, and visual effects artists. The top three employers, by number of job postings, in the region include: Electronic Arts, Inhance Digital, and Sony Electronics. Top specialized skills include: animation, Maya, and Adobe Photoshop.

Educational Attainment—The BLS lists a Bachelor’s degree as the typical entry-level education for these digital media occupations. The national-level educational attainment data indicates between 27% and 30% of workers in the field have completed some college or an associate degree. In Los Angeles/Orange County, 94% of job postings request a Bachelor’s degree.

Community College Supply—Appendix A shows the annual and 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) and Animation (0614.40). The colleges with the most completions in the region are: Mt. San Antonio, Santa Monica, and Golden West. Between January and December 2018, there were 16 other related program recommendation requests from regional community colleges.

Appendix A: Regional community college awards (certificates and degrees), 2014-2017

| TOP Code | Program | College | 2014-15 Awards | 2015-16 Awards | 2016-2017 Awards | 3-Year Award Average |
|-------------------------|---------------|-----------------|----------------|----------------|------------------|----------------------|
| 0614.00 | Digital Media | Coastline | - | 3 | - | 1 |
| | | East LA | - | - | 1 | 0 |
| | | Golden West | 10 | 21 | 13 | 15 |
| | | Irvine | 7 | 12 | 8 | 9 |
| | | LA Pierce | - | - | 1 | 0 |
| Subtotal/Average | | | 17 | 36 | 23 | 25 |
| 0614.10 | Multimedia | Cypress | 1 | - | 1 | 1 |
| | | East LA | 1 | 1 | - | 1 |
| | | LA Mission | 10 | 18 | 7 | 12 |
| | | Long Beach | - | 1 | 1 | 1 |
| | | Orange Coast | 5 | - | 3 | 3 |
| | | Pasadena | 3 | 3 | 1 | 2 |
| | | Santa Monica | 5 | 3 | 6 | 5 |
| | | Santiago Canyon | - | 3 | 3 | 2 |
| Subtotal/Average | | | 25 | 29 | 22 | 25 |

| | | | | | | |
|-------------------------|------------------------|----------------|------------|------------|------------|------------|
| 0614.20 | Electronic Game Design | Golden West | - | 1 | 1 | 1 |
| Subtotal/Average | | | 0 | 0 | 0 | 0 |
| 0614.40 | Animation | Cerritos | 1 | 3 | 4 | 3 |
| | | Cypress | 3 | 1 | 9 | 4 |
| | | East LA | 3 | 9 | 3 | 5 |
| | | El Camino | - | 1 | - | 0 |
| | | Glendale | 4 | 3 | 4 | 4 |
| | | Irvine | 1 | - | - | 0 |
| | | LA Mission | 2 | 3 | 4 | 3 |
| | | Mt San Antonio | 29 | 26 | 19 | 25 |
| | | Rio Hondo | 7 | 10 | 11 | 9 |
| | | Santa Ana | 3 | 2 | 5 | 3 |
| | | Santa Monica | 15 | 13 | 12 | 13 |
| Subtotal/Average | | | 68 | 71 | 71 | 70 |
| Total/Average | | | 110 | 137 | 117 | 121 |

Appendix B: Occupational demand and wage data by county

Exhibit 2. Los Angeles County

| Occupation (SOC) | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings | Median Hourly Earnings | Experienced Hourly Earnings |
|--|---------------|---------------|--------------|---------------|-----------------|-----------------------------|------------------------|-----------------------------|
| Graphic Designers (27-1024) | 16,147 | 15,941 | (206) | (1%) | 1,483 | \$14.81 | \$21.21 | \$39.72 |
| Multimedia Artists and Animators (27-1014) | 7,617 | 7,274 | (343) | (5%) | 593 | \$12.32 | \$32.90 | \$58.95 |
| Total | 23,765 | 23,215 | (550) | (2%) | 2,076 | | | |

Exhibit 3. Orange County

| Occupation (SOC) | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings | Median Hourly Earnings | Experienced Hourly Earnings |
|--|--------------|--------------|-------------|---------------|-----------------|-----------------------------|------------------------|-----------------------------|
| Graphic Designers (27-1024) | 4,251 | 4,271 | 20 | 0% | 397 | \$15.33 | \$21.55 | \$37.61 |
| Multimedia Artists and Animators (27-1014) | 780 | 805 | 25 | 3% | 67 | \$11.45 | \$23.45 | \$43.39 |
| Total | 5,031 | 5,077 | 46 | 1% | 464 | | | |

Exhibit 4. Los Angeles and Orange Counties

| Occupation (SOC) | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings | Median Hourly Earnings | Experienced Hourly Earnings |
|--|---------------|---------------|--------------|---------------|-----------------|-----------------------------|------------------------|-----------------------------|
| Graphic Designers (27-1024) | 20,399 | 20,213 | (186) | (1%) | 1,880 | \$14.90 | \$21.32 | \$40.05 |
| Multimedia Artists and Animators (27-1014) | 8,397 | 8,079 | (318) | (4%) | 660 | \$12.20 | \$31.51 | \$58.66 |
| Total | 28,796 | 28,292 | (504) | (2%) | 2,540 | | | |

Appendix C: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (EMSI)
- Employment Development Department, Labor Market Information Division, OES
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- MIT Living Wage
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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