

Program Endorsement Brief: 0614.20/Electronic Game Design

Electronic Game Design Foundation

Los Angeles/Orange County Center of Excellence, October 2020

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)						
Emerging Occupation:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		

Based on the available data, there appears to be a supply gap for electronic game design occupations in the region. **Therefore, the COE endorses this proposed program.** Reasons include:

Demand:

- **Supply Gap Criteria** - Over the next five years, there are projected to be **3,119 jobs available annually** in the region due to new job growth and replacements, **which is more than the 415 awards conferred annually** by educational institutions in the region.
 - However, the *computer occupations, all other (15-1299)* SOC code includes jobs in various computer occupations. Since this SOC does not solely represent video game designers, **the number of annual job openings for this occupation is overstated.**
- Over the past 12 months, there were **944 online job postings related to the emerging occupation, video game designers.** The number of job postings indicates that regional demand likely exceeds the supply from regional educational institutions.
- **Living Wage Criteria** - Within Los Angeles County, electronic game design occupations have **entry-level wages above the county's living wage (\$15.04/hour).**¹
- **Education Criteria** - Electronic game design occupations **typically require a bachelor's degree.**
 - However, the national-level educational attainment data indicates **between 27.2% and 34.7% of workers in the field have completed some college or an associate degree.**

¹ Living wage data was pulled from California Family Needs Calculator on 9/14/2020. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

Supply:

- There is **1 community college** in the region that issued awards related to electronic game design, conferring an average of **2 awards annually** between 2016 and 2019.
- Between 2014 and 2017, there was an average of **413 awards conferred annually** in related training programs by non-community college institutions throughout the region.

Introduction

The Los Angeles/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 occupations related to electronic game design. Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.² Although these occupations 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 as their highest level of educational attainment. Occupational definitions are displayed below:

Computer Occupations, All Other (15-1299)*: All computer occupations not listed separately.

Video Game Designers (15-1299.11): Design core features of video games. Specify innovative game and role-play mechanics, story lines, and character biographies. Create and maintain design documentation. Guide and collaborate with production staff to produce games as designed.

Multimedia Artists and Animators (27-1014)*:

Special Effects Artists and Animators (27-1014): Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.

*On March 31, 2020, the Occupational Employment Statistics (OES) program within the Bureau of Labor Statistics (BLS) released their May 2019 data set, which included updates to the occupational structure.³ Occupational updates included title changes, SOC code changes, and new occupational codes that are a combination of old occupational codes. The SOC code for *computer occupations, all other* changed from (15-1199) to (15-1299), while the occupation *multimedia*

² 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.

³ Bureau of Labor Statistics (BLS). March 31, 2020. *Occupational Employment Statistics (OES)*. Retrieved from <https://www.bls.gov/oes/home.htm>

artists and animators (27-1014) is now referred to as special effects artists and animators (27-1014). Occupational projections and wage data utilize the new occupational codes.

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.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these electronic game design 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 3,119 job openings per year through 2024 due to job growth and replacements. It is important to note that the computer occupations, all other (15-1299) SOC code includes various computer occupations and does not solely represent the emerging occupation video game designers (15-1299.11).

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 Counties⁴

Geography	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change	Annual Openings
Los Angeles	25,073	25,757	684	3%	2,368
Orange	8,276	8,584	308	4%	751
Total	33,348	34,341	993	3%	3,119

Wages

The labor market endorsement in this report considers the entry-level hourly wages for occupations related to electronic game design in Los Angeles County as they relate to the county’s living wage. Orange 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.

Los Angeles County—These occupations have entry-level wages above the living wage for one adult (\$15.04 in Los Angeles County).⁵ Typical entry-level hourly wages are in a

⁴ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁵ Living wage data was pulled from California Family Needs Calculator on 9/14/2020. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

range between \$21.69 and \$27.17 and experienced workers can expect to earn wages between \$53.79 and \$59.05.

Orange County—90% of the annual openings for these occupations have entry-level wages above the California Family Needs Calculator hourly wage (living wage) for one adult (\$17.36 in Orange County). Typical entry-level hourly wages are in a range between \$13.91 and \$26.33. Experienced workers can expect to earn wages between \$48.26 and \$52.10, which are higher than the living wage estimate.

Job Postings—The following data displays (Exhibits 2 through 5) show real-time job posting information obtained from employer job advertisements in Los Angeles/Orange County over the last twelve months, September 2019 to August 2020. Job posting information may be used to provide greater insight into the emerging occupation, *video game designers*. Over the last twelve months, there were 1,858 job postings for electronic game design occupations in the region.

Exhibit 2: Job posting count by occupation

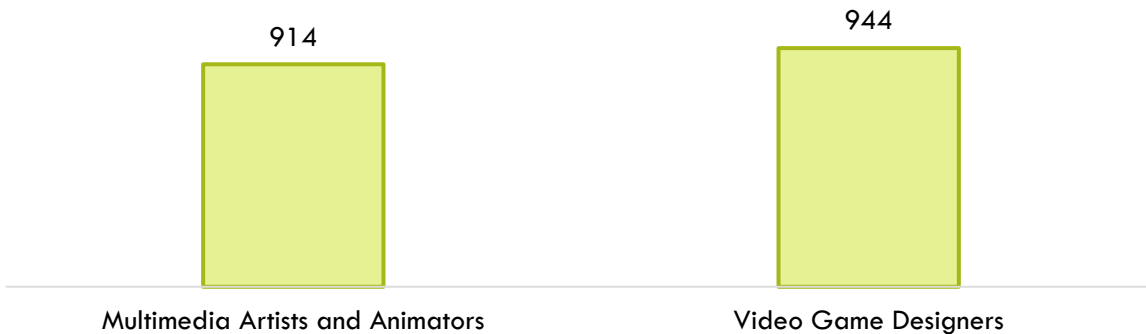


Exhibit 3: Most frequently used job titles for electronic game design occupations

Job Titles	Job Ads
Animator	332
Game Designer	115
Visual Effects Artist	112
Graphic Designer	103
Content Creator	64

Exhibit 4: In-demand skills from job postings for electronic game design occupations

Skills	Job Ads
Adobe Photoshop	524
Animation	502
Maya	481
Game Development	352

Skills	Job Ads
Adobe Aftereffects	247
Motion Graphics	186

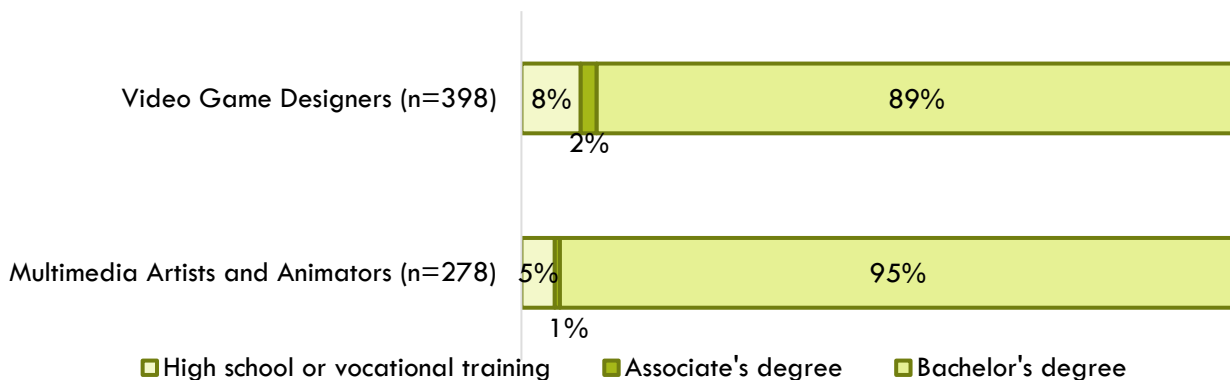
Exhibit 5: Employers posting the most job advertisements for electronic game design occupations

Employers	Job Ads
Blizzard Entertainment	119
Sony Electronics Incorporated	49
Activision	44
Amazon	31
Riot Games	30
All Other Employers	1,585
Total	1,858

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 these electronic game design occupations. The national-level educational attainment data indicates between 27.2% and 34.7% of workers in the field have completed some college or an associate degree. Exhibit 6 displays the 36% of electronic game design job postings specifying a minimum education requirement in Los Angeles/Orange County. The vast majority of employers are seeking candidates with a bachelor’s degree for these positions.

Exhibit 6: Advertised education requirements for electronic game design occupations



Educational Supply

Community College Supply—Exhibit 7 shows the annual and three-year average number of awards conferred by community colleges in the related TOP code: Electronic Game Design (0614.20). The only college that conferred awards in the region is Golden West. Over the past 12 months, there was one other related program recommendation request from a regional community college.

Exhibit 7: 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
0614.20	Electronic Game Design	Golden West	1	1	3	2
Supply Total/Average			1	1	3	2

Exhibit 8 displays strong workforce program outcome metrics for the electronic game design programs in the region.

Exhibit 8: Strong workforce program metrics for regional electronic game design programs

Strong Workforce Program Metrics (2017-18, unless noted otherwise)	Los Angeles/Orange County	California
Unduplicated count of enrolled students (2018-19)	622	1,806
Median annual earnings	\$25,078	\$24,746
Median change in earnings	34%	60%
Students who attained the living wage	32%	37%
Job closely related to field of study (2016-17)	50%	43%

Non-Community College Supply—It is important to consider the supply from non-community college institutions in the region that provide training programs for electronic game design occupations. Exhibit 9 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code: Animation, Interactive Technology, Video Graphics and Special Effects (10.0304). Due to different data collection periods, the most recent three-year period of available data is from 2014 to 2017. Between 2014 and 2017, non-community colleges in the region conferred an average of 413 awards annually in related training programs.

Exhibit 9: Regional non-community college awards, 2014-2017

CIP Code	Program	College	2014-2015 Awards	2015-2016 Awards	2016-2017 Awards	3-Year Award Average
10.0304	Animation, Interactive Technology, Video Graphics, and Special Effects	Academy of Art University	181	159	136	159
		Art Center College of Design	17	28	28	24
		California College of the Arts	16	31	30	26
		Cogswell College	39	28	50	39
		Gnomon School of Visual Effects	17	29	36	27
		Laguna College of Art and Design	7	22	22	17
		Laurus College	12	24	22	19
		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
		Newschool of Architecture and Design	3	1	-	1
		Platt College-San Diego	1	-	2	1
		SAE Expression College	35	10	30	25
		Shepherd University	1	2	1	1
Supply Total/Average			423	406	411	413

Appendix A: Occupational demand and wage data by county

Exhibit 10. 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)
Computer Occupations, All Other (15-1299)	17,615	18,095	480	3%	1,504	\$27.17	\$38.33	\$53.79
Special Effects Artists and Animators (27-1014)	7,458	7,662	204	3%	864	\$21.69	\$38.28	\$59.05
Total	25,073	25,757	684	3%	2,368			

Exhibit 11. 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)
Computer Occupations, All Other (15-1299)	7,478	7,743	265	4%	653	\$26.33	\$37.12	\$52.10
Special Effects Artists and Animators (27-1014)	797	841	44	6%	98	\$13.91	\$28.42	\$48.26
Total	8,276	8,584	308	4%	751			

Exhibit 12. Los Angeles and Orange Counties

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings
Computer Occupations, All Other (15-1299)	25,093	25,838	745	3%	2,157
Special Effects Artists and Animators (27-1014)	8,255	8,503	248	3%	962
Total	33,348	34,341	993	3%	3,119

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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