

Multimedia Game Design and Animation Occupations Labor Market Information Report

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
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Recommendation

Based on all available data, there appears to be a significant undersupply of Multimedia Game Design and Animation workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda and Contra Costa Counties). The annual gap is about 1,855 students annually in the Bay region and 293 students annually in the East Bay sub-region. The demand may be somewhat overstated, because there are other emerging occupations included in SOC code 15-1199 (Computer Occupations, All Other), which includes Video Game Designers as one of the emerging occupations. However, even if the demand for this occupation was eliminated from the demand calculation, there would still be an undersupply in the region of about 600 students annually and in the East Bay sub-region of about 100 students annually.

This report also provides student outcomes data on employment and earnings for programs on TOP 0614.20 - Electronic Game Design in the state and region. It is recommended that this data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Ohlone College and in the region.

Introduction

This report profiles Multimedia Game Design and Animation Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Ohlone College.

- **Multimedia Artists and Animators (SOC 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.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 27%
- **Computer Occupations, All Other (SOC 15-1199):** All computer occupations not listed separately. Includes Video Game Designers (SOC 15-1199.11)
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 35%
- **Film and Video Editors (SOC 27-4032):** Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images. Excludes "Sound Engineering Technicians" (27-4014).
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 28%

Occupational Demand

Table 1. Employment Outlook for Multimedia Game Design and Animation Occupations in Bay Region

Multimedia Department Coordinator Occupations in 12 County Bay Region and in East Bay, 2018

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Annual Openings	10% Hourly Wage	Median Hourly Wage
Multimedia Artists and Animators	4,361	4,735	375	9%	2,190	438	\$12.63	\$35.44
Computer Occupations, All Other	13,687	15,178	1,491	11%	6,267	1,253	\$25.33	\$52.40
Film and Video Editors	1,390	1,580	190	14%	887	177	\$21.30	\$29.67
Total	19,438	21,493	2,056	11%	9,345	1,869	\$22.19	\$46.97

Source: EMSI 2018.2

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Multimedia: Game Design and Animation Occupations in East Bay Sub-Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Annual Openings	10% Hourly Wage	Median Hourly Wage
Multimedia Artists and Animators	708	763	55	8%	342	68	\$11.16	\$24.39
Computer Occupations, All Other	2,211	2,420	209	9%	972	194	\$23.94	\$47.87
Film and Video Editors	331	381	51	15%	215	43	\$21.36	\$28.32
TOTAL	3,250	3,565	314	10%	1,530	306	\$20.89	\$40.76

Source: EMSI 2018.2

East Bay Sub-Region includes Alameda and Contra Costa Counties

Job Postings in Bay Region and East Bay Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (July 2017 - June 2018)

Occupation	Bay Region	East Bay
Video Game Designers (15-1199.11)	752	82
Multimedia Artists and Animators (27-1014.00)	683	52
Film and Video Editors (27-4032.00)	115	9
Total	1,550	143

Source: Burning Glass

Table 4. Top Job Titles for Multimedia Game Design and Animation Occupations for latest 12 months (July 2017 - June 2018)

Common Title	Bay	East Bay	Common Title	Bay	East Bay
Interaction Designer	399	24	Technology	19	1
Video Editor	109	9	Engineer	18	2
Animator	83	5	Content Producer	13	1
Game Designer	69	4	Environment Artist	12	
Graphic Designer	40	3	Lead Game Designer	12	
Interactive Designer	40	5	Technical Pm	12	1
Visual Effects Artist	35	1	Developer	10	
Senior Engineer	25	2	Concept Artist	9	1

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Multimedia Game Design and Animation Workers in Bay Region

Multimedia Department Coordinator Occupations in 12 County Bay Region and in East Bay, 2018

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2017)	Jobs in Industry (2022)	% Change (2017-22)	% in Industry (2017)
Custom Computer Programming Services (541511)	4,340	4,974	15%	16.5%
Computer Systems Design Services (541512)	2,551	2,916	14%	9.7%
Internet Publishing and Broadcasting and Web Search Portals (519130)	2,340	3,111	33%	8.9%
Software Publishers (511210)	1,893	2,170	15%	7.2%
Federal Government, Civilian, Excluding Postal Service (901199)	1,650	1,676	2%	6.3%
Motion Picture and Video Production (512110)	1,314	1,379	5%	5.0%
Data Processing, Hosting, and Related Services (518210)	955	1,246	30%	3.6%
Corporate, Subsidiary, and Regional Managing Offices (551114)	710	727	2%	2.7%
Other Computer Related Services (541519)	638	785	23%	2.4%
Independent Artists, Writers, and Performers (711510)	378	356	(6%)	1.4%
Teleproduction and Other Postproduction Services (512191)	328	342	4%	1.2%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715)	311	324	4%	1.2%
Temporary Help Services (561320)	302	323	7%	1.2%
Administrative Management and General Management Consulting Services (541611)	263	320	22%	1.0%
Colleges, Universities, and Professional Schools (611310)	250	269	8%	1.0%

Source: EMSI 2018.2

Table 6. Top Employers Posting Multimedia Game Design and Animation Occupations in Bay and East Bay Sub-Region (July 2017 - June 2018)

Employer	Bay	Employer	Bay	Employer	East Bay
Google Inc.	34	Activision	13	Fresenius	18
Apple Inc.	26	Machine Zone	11	General Electric Company	11
Electronic Arts Incorporated	25	Spartan Tool Llc	11	Big Fish Games, Inc	6
Intuit	23	Wells Fargo	11	Pandora Media	4
Facebook	21	Box Incorporated	10	Accenture	3
Fresenius	19	Glu Mobile Inc	10	Ideahelix	3
Take-Two Interactive	19	Telltale, Inc	10	Babylist, Inc	2
General Electric Company	16	Cryptic Studios Incorporated	9	Big Fish Games	2
Zynga	16	Kixeye Inc	9	Disney	2

Source: Burning Glass

Educational Supply

There is one colleges in the Bay Region issuing one award annually on TOP 0614.20 - Electronic Game Design. There is one other educational institution issuing 13 awards annually on one CIP code 50.0411 Game and Interactive Media Design, for a total of 14 awards annually in the region.

Table 7. Awards on TOP 0614.20 - Electronic Game Design in the Bay Area

College	Sub-Region	CIP Code	Headcount	Associates	Certificates	Total
Santa Rosa	North Bay	n/a	n/a	1	0	1
SAE Expression College	East Bay	50.0411	n/a	13	0	13
Total Bay Region				14	0	14
Total East Bay Sub-Region				13	0	13

Source: IPEDS, Data Mart and Launchboard

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

Multimedia Department Coordinator Occupations in 12 County Bay Region and in East Bay, 2018

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 1,869 annual openings for the Multimedia Game Design and Animation occupational cluster and 14 annual awards for an annual gap of 1,855. In the East Bay, there is also a gap with 306 annual openings and 13 annual award for an annual gap of 293. The demand may be somewhat overstated, because there are other emerging occupations included in SOC code 15-1199 (Computer Occupations, All Other), which includes Video Game Designers as one of the emerging occupations. However, even if the demand for this occupation was eliminated from the demand calculation, there would still be an undersupply in the region of about 600 students annually and in the East Bay sub-region of about 100 students annually.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0614.20 - Electronic Game Design

2015-16	Bay (All CTE Programs)	Ohlone College (All CTE Programs)	State (0614.20)	Bay (0614.20)	East Bay (0614.20)	Ohlone College (0614.20)
% Employed Four Quarters After Exit	74%	82%	58%	n/a	n/a	n/a
Median Earnings Two Quarters After Exit	\$10,310	\$25,095	\$4,063	n/a	n/a	n/a
Median % Change in Earnings	46%	20%	94%	n/a	n/a	n/a
% of Students Earning a Living Wage	63%	84%	32%	n/a	n/a	n/a

Source: Launchboard Pipeline (version available on 7/31/18)

Skills, Certificates and Education

Table 9. Top Skills for Multimedia Game Design and Animation Occupations in Bay Region (July 2017 - June 2018)

Skill	Postings	Skill	Postings	Skill	Postings
Adobe Photoshop	434	Maya	136	Adobe Premiere	77
Interaction Design	236	Process Design	133	Art Direction	73
UX Wireframes	227	User Research	129	Python	73
Visual Design	212	Product Management	125	Java	71
Prototyping	211	Video Editing	124	Software Engineering	71
User Interface (UI) Design	203	Product Design	122	Design Thinking	69
Project Management	194	Customer Contact	118	Microsoft C#	69
Adobe Indesign	193	Software Development	116	Omnigraffle	67
Adobe Acrobat	172	C++	104	Social Media	66
Adobe Creative Suite	169	Information Architecture	98	Quality Assurance and Control	61
Game Development	169	Scheduling	98	Illustration	57
Animation	166	Budgeting	97	Web Site Design	57
Graphic Design	163	Motion Graphics	89	3D Modeling / Design	55
Adobe Aftereffects	158	Human Computer Interaction	85	Business Development	52
Adobe Illustrator	158	Product Development	81	Customer Service	51
JavaScript	139	E-Commerce	80	SAP	51

Source: Burning Glass

Table 10. Certifications for Multimedia Game Design and Animation Occupations in the Bay Region (July 2017 - June 2018)

Note: 12% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
Adobe Photoshop	434	Product Design	122
Interaction Design	236	Customer Contact	118
UX Wireframes	227	Software Development	116
Visual Design	212	C++	104
Prototyping	211	Information Architecture	98
User Interface (UI) Design	203	Scheduling	98
Project Management	194	Budgeting	97
Adobe Indesign	193	Motion Graphics	89
Adobe Acrobat	172	Human Computer Interaction	85
Adobe Creative Suite	169	Product Development	81
Game Development	169	E-Commerce	80
Animation	166	Adobe Premiere	77
Graphic Design	163	Art Direction	73
Adobe Aftereffects	158	Python	73
Adobe Illustrator	158	Java	71
JavaScript	139	Software Engineering	71
Maya	136	Design Thinking	69
Process Design	133	Microsoft C#	69
User Research	129	Omnigraffle	67
Product Management	125	Social Media	66
Video Editing	124	Quality Assurance and Control	61

Source: Burning Glass

Table 11. Education Requirements for Multimedia Game Design and Animation Occupations in Bay Region

Note: 51% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings
High school or vocational training	40 (5%)
Associate Degree	14 (2%)
Bachelor's Degree or Higher	698 (93%)

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

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