



Labor Market Analysis for Program Recommendation

E-Game Design, 3D Occupations

Evergreen Valley College

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 an “undersupply” of E-Game Design, 3D workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara county). There is a projected annual gap of about 609 students in the Bay region and 224 students in the Silicon Valley Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0614.20 Electronic Game Design programs in the state and region. It is recommended that these 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 Evergreen Valley College and in the region.

This report profiles E-Game Design, 3D Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Evergreen Valley College.

- Web and Digital Interface Designers (15-1255):** Design digital user interfaces or websites. Develop and test layouts, interfaces, functionality, and navigation menus to ensure compatibility and usability across browsers or devices. May use web framework applications as well as client-side code and processes. May evaluate web design following web and accessibility standards, and may analyze web use metrics and optimize websites for marketability and search engine ranking. May design and test interfaces that facilitate the human-computer interaction and maximize the usability of digital devices, websites, and software with a focus on aesthetics and design. May create graphics used in websites and manage website content and links.
 - Entry-Level Educational Requirement: Bachelor’s degree
 - Training Requirement: None
 - Percentage of Community College Award Holders or Some Postsecondary Coursework: NA%

Occupational Demand

Table 1. Employment Outlook for E-Game Design, 3D Occupations in Bay Region

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Web and Digital Interface Designers	5,549	6,581	1,032	19%	3,519	704	\$43	\$63
Total	5,549	6,581	1,032	19%	3,519	704	\$43	\$63

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
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Source: Lightcast 2022.3

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 E-Game Design, 3D Occupations in Silicon Valley Sub-region

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Web and Digital Interface Designers	1,932	2,277	345	18%	1,203	241	\$38	\$65
Total	1,932	2,277	345	18%	1,203	241	\$38	\$65

Source: Lightcast 2022.3

Silicon Valley Sub-Region includes: Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Feb. 2022 - Jan. 2023)

Occupation	Bay Region	Silicon Valley
Web and Digital Interface Designers	1,127	371

Source: Lightcast

Table 4a. Top Job Titles for E-Game Design, 3D Occupations for latest 12 months (Feb. 2022 - Jan. 2023)

Bay Region

Title	Bay	Title	Bay
Game Designers	64	Technical Program Managers	15
Content Creators	63	Video Content Creators	14
Environment Artists	58	TPM Managers	13
Gameplay Engineers	46	Lead Environment Artists	13
Game Engineers	29	Integration Leads	11
Lead Game Designers	28	Care Guides	10
Concept Artists	26	UX Designers	9
Directors of Infrastructure	17		

Source: Lightcast

Table 4b. Top Job Titles for E-Game Design, 3D Occupations for latest 12 months (Feb. 2022 - Jan. 2023)

Silicon Valley Sub-Region

Title	Silicon Valley
Content Creators	14

Title	Silicon Valley
TPM Managers	11
Technical Program Managers	10
Game Engineers	7
Environment Artists	7
Game Designers	7
Lead Game Designer	7
Lead Environment Artists	6
UI Designers	6

Industry Concentration

Table 5. Industries hiring E-Game Design, 3D Workers in Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2021)	Jobs in Industry (2026)	% Change (2021-26)	% Occupation Group in Industry (2022)
Custom Computer Programming Services	1,081	1,293	20%	20%
Software Publishers	1,026	1,235	20%	19%
Internet Publishing and Broadcasting and Web Search Portals	916	1,170	28%	16%
Computer Systems Design Services	359	399	11%	6%
Data Processing, Hosting, and Related Services	235	342	46%	5%
Electronic Shopping and Mail-Order Houses	112	131	17%	2%
Other Computer Related Services	109	128	17%	2%
Corporate, Subsidiary, and Regional Managing Offices	104	102	-2%	2%
Electronic Computer Manufacturing	81	91	12%	1%
Advertising Agencies	67	64	-3%	1%

Source: Lightcast 2022.3

Table 6. Top Employers Posting E-Game Design, 3D Occupations in Bay Region and Silicon Valley Sub-Region (Feb. 2022 - Jan. 2023)

Employer	Bay	Employer	Silicon Valley
Electronic Arts	34	Apple	20
Activision Blizzard	18	CyberCoders	10
Meta	28	Meta	10
CyberCoders	21	Amazon	10

Employer	Bay	Employer	Silicon Valley
Sony Group	19	Tesla	8
Disney	19	Sleep Number	8
Apple	19	PriceWaterhouseCoopers	6
Amazon	18	Intel	6
Disney	19	Google	5
Wells Fargo	17	Cryptic Studios	5

Source: Lightcast

Educational Supply

There are three (3) community colleges in the Bay Region issuing 14 awards on average annually (last 3 years ending 2019-20) on TOP 0614.20 - Electronic Game Design. In the Silicon Valley Sub-Region, there is one (1) community college that issued one (1) award on average annually (last 3 years) on this TOP code.

There are three (3) four-year institutions in the Bay Region issuing 81 Bachelor's degrees on average annually (last 3 years ending 2019-20) on CIP 50.0411 - Game and Interactive Media Design. There is one (1) four-year institutions in the Silicon Valley Sub-Region issuing 16 Bachelor's degrees on this CIP code.

Table 7a. Community College Awards on TOP 0614.20 Electronic Game Design in Bay Region

College	Subregion	Associate Degree	High unit Certificate	Low unit Certificate	Total
Diablo Valley	East Bay	6	2	0	8
Foothill	Silicon Valley	0	0	1	1
Santa Rosa	North Bay	4	0	1	5
Total		10	2	2	14

Source: Data Mart

Note: The annual average for awards is 2017-18 to 2019-20.

Table 7b. Bachelor's Degree Awards on CIP 50.0411 - Game and Interactive Media Design in Bay Region

College	Subregion	Bachelor's degree	Total
Cogswell University of Silicon Valley	Silicon Valley	16	16
SAE Expression College	East Bay	11	11
University of California-Santa Cruz	SC-Monterey	54	54
Total		81	81

Source: Data Mart

Note: The annual average for awards is 2017-18 to 2019-20.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 704 annual openings for the E-Game Design, 3D occupational cluster and 95 annual (3-year average) awards for an annual undersupply of 609 students. In the Silicon Valley Sub-Region, there is also a gap with 241 annual openings and 17 annual (3-year average) awards for an annual undersupply of 224 students.

Student Outcomes

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

Metric Outcomes	Bay All CTE Programs	Evergreen Valley All CTE Programs	State 0614.20	Bay 0614.20	Silicon Valley 0614.20	Evergreen Valley 0614.20
Students with a Job Closely Related to Their Field of Study	74%	74%	42%	60%	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$48,926	\$40,202	\$24,766	\$31,766	N/A	N/A
Median Change in Earnings for SWP Exiting Students	23%	28%	38%	25%	N/A	N/A
Exiting Students Who Attained the Living Wage	50%	32%	28%	31%	N/A	N/A

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

Skills and Education

Table 9. Top Skills for E-Game Design, 3D Occupations in Bay Region (Feb. 2022 - Jan. 2023)

Skill	Posting	Skill	Posting
Computer Science	155	C++	81
Game Design	124	Prototyping	81
Unity Engine	111	Product Management	78
Agile Methodology	108	Artificial Intelligence	77
Adobe Photoshop	107	Software Engineering	76
Video Game Development	96	Game Engine	75
Content Creation	84	Software Development	73
Autodesk Maya	84	JIRA	72
Animations	82	User Experience	72
New Product Development	82	Unreal Engine	65

Source: Lightcast

Table 11. Education Requirements for E-Game Design, 3D Occupations in Bay Region

Education Level	Job Postings	% of Total
High school or GED	4	4%
Associate degree	3	3%
Bachelor's degree & higher	103	93%

Education Level	Job Postings	% of Total
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Source: Lightcast

Note: 63% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Methodology

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

Sources

O*Net Online

Lightcast

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

For more information, please contact:

- Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (COE), leila@baccc.net
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544