



Labor Market Analysis for Program Recommendation

Video Game Design Occupations

Las Positas 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 Video Game Design workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda, Contra Costa counties). There is a projected annual gap of about 1,329 students in the Bay region and 189 students in the East Bay 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 Las Positas College and in the region.

This report profiles Video Game Design Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Las Positas College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Video Game Designers (15-1255.01), therefore, the data shown in Tables 1 and 2 is for Web Developers and Digital Interface Designers (at the six digit SOC level) and likely overstates demand for Video Game Designers. Tables 3, 4, 6, 9, and 10 use job postings data from Burning Glass at the eight-digit SOC Code level for Video Game Designers (15-1255.01).

- Web Developers and Digital Interface Designers (15-1257):** Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content. Excludes “Multimedia Artists and Animators” (27-1014).
 - Entry-Level Educational Requirement: Associate’s degree
 - Training Requirement: None
 - Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%

Occupational Demand

Table 1. Employment Outlook for Video Game Design Occupations in Bay Region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Web Developers and Digital Interface Designers	11,299	12,887	1,587	14%	6,662	1,332	\$37	\$76
Total	11,299	12,887	1,588	14%	6,662	1,332	\$37	\$76

Source: EMSI 2021.3

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 Video Game Design Occupations in East Bay Sub-region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Web Developers and Digital Interface Designers	2,056	2,158	102	5%	955	191	\$30	\$69
Total	2,056	2,158	102	5%	955	191	\$30	\$69

Source: EMSI 2021.3

East Bay Sub-Region includes: Alameda, 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 (Feb 2021 - Jan 2022)

Occupation	Bay Region	East Bay
Web Developers and Digital Interface Designers	20,792	2,967

Source: Burning Glass

**Table 4a. Top Job Titles for Video Game Design Occupations for latest 12 months (Feb 2021 - Jan 2022)
Bay Region**

Title	Bay	Title	Bay
Backend Engineer	763	Web Developer	333
Front End Engineer	712	Ui Developer	273
Senior Backend Engineer	632	Senior Ux Designer	267
Senior Front End Engineer	618	Ui/Ux Designer	176
Front End Developer	529	Ruby On Rails Developer	144
Ux Designer	487	Senior Frontend Engineer	142
Backend Engineer - Remote	387	Backend Developer	124
Front End Engineer - Remote	348	Front End Developer Entry Level	124
Ux Researcher	344	Hired Senior Front End Engineer	122

Source: Burning Glass

**Table 4b. Top Job Titles for Video Game Design Occupations for latest 12 months (Feb 2021 - Jan 2022)
East Bay Sub-Region**

Title	East Bay	Title	East Bay
Front End Engineer	175	Front End Developer Entry Level	51
Senior Front End Engineer	171	Ui Developer	51

Title	East Bay	Title	East Bay
Backend Engineer	167	Hired Senior Front End Engineer	41
Senior Backend Engineer	153	Ux Researcher	38
Backend Engineer - Remote	113	Hired Senior Backend Engineer	34
Front End Engineer - Remote	106	Ui/Ux Designer	28
Web Developer	73	Senior Ux Designer	27
Front End Developer	71	Entry Level Web Developer	21
Ux Designer	55	Senior Ui Developer	19

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Video Game Design Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2020)	Jobs in Industry (2025)	% Change (2020-25)	% Occupation Group in Industry (2020)
Custom Computer Programming Services	2,341	2,659	14%	20%
Internet Publishing and Broadcasting and Web Search Portals	2,132	2,747	29%	19%
Software Publishers	1,434	1,619	13%	12%
Computer Systems Design Services	1,280	1,395	9%	11%
Data Processing, Hosting, and Related Services	481	585	22%	4%
Other Computer Related Services	361	393	9%	3%
Corporate, Subsidiary, and Regional Managing Offices	218	201	-8%	2%
Electronic Shopping and Mail-Order Houses	196	208	6%	2%
Administrative Management and General Management Consulting Services	157	181	15%	1%
Advertising Agencies	123	109	-11%	1%

Source: EMSI 2021.3

Table 6. Top Employers Posting Video Game Design Occupations in Bay Region and East Bay Sub-Region (Feb 2021 - Jan 2022)

Employer	Bay	Employer	East Bay
Amazon	246	Lucid Motors Inc	71
Uber	218	Tesla	41
Apple Inc.	187	Change Healthcare	30
Google Inc.	162	Capital One	20

Employer	Bay	Employer	East Bay
Cisco Systems Incorporated	124	Workday, Inc	18
Facebook	114	Albertsons	17
Adobe Systems	108	Nisum	15
Lucid Motors Inc	100	Safeway Incorporated	13
Splunk	84	Lawrence Livermore National Laboratory	12
Braintrust Group	79	Bio-Rad Laboratories	12

Source: Burning Glass

Educational Supply

There are two (2) community colleges in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0614.20 Electronic Game Design. In the East Bay Sub-Region, there is one (1) community college that issued 2 awards on average annually (last 3 years) on this TOP code.

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

College	Subregion	Associate	Total
Diablo Valley	East Bay	2	2
Santa Rosa	North Bay	1	1
Total		3	3

Note: The annual average for awards is 2016-17 to 2018-19.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 1,332 annual openings for the Video Game Design occupational cluster and 3 annual (3-year average) awards for an annual undersupply of 1,329 students. In the East Bay Sub-Region, there is also a gap with 191 annual openings and 2 annual (3-year average) awards for an annual undersupply of 189 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	Las Positas All CTE Programs	State 0614.20	Bay 0614.20	East Bay 0614.20	Las Positas 0614.20
Students with a Job Closely Related to Their Field of Study	74%	69%	50%	60%	60%	N/A
Median Annual Earnings for SWP Exiting Students	\$48,138	\$46,354	\$24,727	\$34,407	\$31,804	N/A
Median Change in Earnings for SWP Exiting Students	23%	25%	36%	33%	N/A	N/A

Metric Outcomes	Bay All CTE Programs	Las Positas All CTE Programs	State 0614.20	Bay 0614.20	East Bay 0614.20	Las Positas 0614.20
Exiting Students Who Attained the Living Wage	52%	53%	57%	32%	39%	N/A

Source: Launchboard Strong Workforce Program Median of 2018-20.

Skills and Education

Table 9. Top Skills for Video Game Design Occupations in Bay Region (Feb 2021 - Jan 2022)

Skill	Posting	Skill	Posting
JavaScript	8,726	Web Application Development	2,944
Software Engineering	6,012	Unit Testing	2,796
Front-end Development	4,947	HTML5	2,440
React Javascript	4,817	Adobe Indesign	2,396
Java	4,812	Scalability Design	2,346
Web Development	4,189	Adobe Acrobat	2,276
Python	3,671	Hypertext Preprocessor (PHP)	2,261
Ruby on Rails	3,407	Adobe Creative Suite	2,258
SQL	3,259	Cross-browser	2,247
Software Development	3,251	MySQL	2,243
Ruby	3,207	Docker Software	2,235
Git	3,143	Adobe Illustrator	2,228
AngularJS	3,097	User Research	2,112
Adobe Photoshop	3,000	PostgreSQL	2,100

Source: Burning Glass

Table 10. Education Requirements for Video Game Design Occupations in Bay Region

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	202	2%
Associate's degree	89	1%
Bachelor's degree and higher	11,831	97%

Source: Burning Glass

Note: 42% 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.

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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