

Graphic Design Occupations Labor Market Information Report Chabot 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 a significant undersupply of Graphic Design 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.) There is a projected annual gap of about 2,824 students in the Bay region and 587 students in the East Bay Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0614.00 - Digital Media 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 Chabot College and in the region.

Introduction

This report profiles Graphic Design Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Chabot College.

- **Graphic Designers (SOC 27-1024):** Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 29%
- **Web Developers (SOC 15-1134):** 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: 25%
- **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%

Occupational Demand

Table 1. Employment Outlook for Graphic Design Occupations in Bay Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Average Annual Openings	10% Hourly Wage	Median Hourly Wage
Graphic Designers	12,797	13,191	393	3%	6,476	1,295	\$16.35	\$23.65
Web Developers	10,306	12,242	1,937	19%	5,802	1,160	\$20.83	\$38.90
Multimedia Artists and Animators	4,730	5,028	298	6%	2,247	449	\$13.65	\$38.08
Total	27,833	30,461	2,628	9%	14,526	2,905	\$17.55	\$31.75

Source: EMSI 2019.1

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 Graphic Design Occupations in East Bay Sub-Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Average Annual Openings	10% Hourly Wage	Median Hourly Wage
Graphic Designers	3,342	3,393	51	2%	1,614	323	\$15.79	\$21.74
Web Developers	2,177	2,327	150	7%	951	190	\$19.56	\$28.48
Multimedia Artists and Animators	907	946	39	4%	404	81	\$12.21	\$31.02
TOTAL	6,426	6,666	241	4%	2,969	594	\$16.56	\$25.33

Source: EMSI 2019.1

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 (March 2018 - Feb 2019)

Occupation	Bay Region	East Bay
Web Developers	25,242	3,029
Graphic Designers	4,022	588
Multimedia Artists and Animators	949	117
Total	30,213	3,734

Source: Burning Glass

Table 4. Top Job Titles for Graphic Design Occupations for latest 12 months (March 2018 - Feb 2019)

Common Title	Bay	East Bay	Common Title	Bay	East Bay
User Experience (UX) Designer	2,761	228	Engineer	390	10
Front End Developer	1,778	208	Ruby on Rails Developer	389	55
Graphic Designer	1,755	300	Senior Engineer	346	14
Web Developer	1,588	313	Web Engineer	339	30
User Interface (UI) Developer	1,480	202	Backend Engineer	316	16
Software Development Engineer	1,242	85	Senior Backend Engineer	316	7
User Interface (UX)/User Experience (UX) Designer	1,219	224	Java Developer	307	30
Visual Designer	1,060	83	Web Designer	283	66
PHP Developer	1,017	364	Front End Web Developer	262	37
Front End Engineer	615	35	Production Artist	237	44
Interaction Designer	517	57	Developer	203	34
UX Researcher	467	23	Web Applications Developer	200	44
User Interface (UI) Designer	454	29	Senior UI Engineer	184	17
Senior Front End Engineer	449	20	Back End Engineer	182	14

Industry Concentration

Table 5. Industries hiring Graphic Design Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2017)	Jobs in Industry (2022)	% Change (2017-22)	% in Industry (2017)
Internet Publishing and Broadcasting and Web Search Portals (519130)	3,713	3,914	39%	13.9%
Custom Computer Programming Services (541511)	3,088	3,156	13%	11.2%
Graphic Design Services (541430)	2,550	2,445	(12%)	8.7%
Interior Design Services (541410)	2,004	2,027	7%	7.2%
Computer Systems Design Services (541512)	1,826	1,808	7%	6.4%
Software Publishers (511210)	1,267	1,318	21%	4.7%
Advertising Agencies (541810)	585	581	(2%)	2.1%
Data Processing, Hosting, and Related Services (518210)	499	542	39%	1.9%
Corporate, Subsidiary, and Regional Managing Offices (551114)	502	528	10%	1.9%
Motion Picture and Video Production (512110)	529	520	(3%)	1.8%
Other Computer Related Services (541519)	483	489	14%	1.7%
Electronic Shopping and Mail-Order Houses (454110)	460	475	24%	1.7%
Other Specialized Design Services (541490)	440	449	11%	1.6%
Industrial Design Services (541420)	421	422	6%	1.5%
Commercial Printing (except Screen and Books) (323111)	375	365	(19%)	1.3%
Administrative Management and General Management Consulting Services (541611)	320	335	23%	1.2%
Independent Artists, Writers, and Performers (711510)	345	332	(10%)	1.2%
Public Relations Agencies (541820)	284	281	1%	1.0%

Source: EMSI 2019.1

Table 6. Top Employers Posting Graphic Design Occupations in Bay Region and East Bay Sub-Region (March 2018 - Feb 2019)

Employer	Bay	Employer	Bay	Employer	East Bay
Capital Markets Placement	659	Servicenow	56	Capital Markets Placement	283
Apple Inc.	300	Tranzeal, Inc	56	Microsoft Corporation	41
Google Inc.	243	Bayone Solutions	55	Scoop Technologies	41
Amazon	153	Gap Inc.	55	Workday, Inc	35
Facebook	152	Fast Forward Accelerate	54	Ellie Mae	26
Cisco Systems Incorporated	145	Good	54	Tesla Motors	25
Scoop Technologies	128	Workday, Inc	54	Bio-Rad Laboratories	23
Microsoft Corporation	117	Osi Engineering, Inc	52	Ideahelix	20
Paypal	105	Infoobjects Inc	49	General Electric Company	14
Redolent, Inc	101	Revature	48	Revature	14
Walmart / Sam's	89	Stanford University	45		
Sony Electronics Incorporated	83	United States Technical Solutions	45	Kaiser Permanente	13
IBM	79	Splunk	43	Logitech	13
Williams-Sonoma	79	Avesta Computer Services	42	Scrumlink, Inc	13
Adobe Systems	77	Intelliswift Software	42	VF Corporation	13
SAP	71	Sapvix	42	Veeva Systems	12
eBay	68	Splunk, Inc	42	Logic Soft Incorporated	11
		Xoriant Incorporated	41	Tesla	11

JP Morgan Chase Company	63	Sis Systems Integration Solutions, Inc	40	Albertsons	10
Salesforce	63	Accenture	39	Dpp Tech, Inc	10
Vmware Incorporated	62	Alpha Net Consulting Llc	39	Matchpoint Solutions Incorporated	10
Coinbase	61	Gorilla Logic	38	Osisoft Incorporated	10
Oracle	61	Safeguard Scientifics Incorporated	38	Tailored Brands, Llc	10

Source: Burning Glass

Educational Supply

There are seven colleges in the Bay Region issuing 81 awards on average annually (last 3 years) on TOP 0614.00 - Digital Media. Las Positas College is the only college in the East Bay Sub-Region issuing awards on this TOP code, issuing 7 awards on average annually (last 3 years).

Table 7. Awards on TOP 0614.00 - Digital Media in the Bay Region

College	Sub-Region	Headcount	Associates	Certificates	Total
Berkeley City	East Bay	317			
Cabrillo	Santa Cruz & Monterey	405	7	9	16
Chabot	East Bay	153			
Diablo Valley	East Bay	827			
Gavilan	Silicon Valley	14	1	1	2
Hartnell	Santa Cruz & Monterey	172			
Las Positas	East Bay	n/a	6	1	7
San Francisco	Mid-Peninsula	167		20	20
San Jose City	Silicon Valley	11	1	1	2
San Mateo	Mid-Peninsula	727	13	17	30
Skyline	Mid-Peninsula	72			
West Valley	Silicon Valley	59	2	2	4
Total Bay Region		2,924	30	51	81
Total East Bay Sub-Region		1,297	6	1	7

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.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,905 annual openings for the Graphic Design occupational cluster and 81 annual (3-year average) awards for an annual undersupply of 2,824 students. In the East Bay Sub-Region, there is also a gap with 594 annual openings and 7 annual (3-year average) awards for an annual undersupply of 587 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0614.00 - Digital Media

2015-16	Bay (All CTE Programs)	Chabot College (All CTE Programs)	State (0614.00)	Bay (0614.00)	East Bay (0614.00)	Chabot College (0614.00)
% Employed Four Quarters After Exit	74%	74%	59%	59%	61%	n/a
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$9,425	\$5,036	\$6,920	\$6,097	\$5,928
Median % Change in Earnings	46%	71%	51%	35%	51%	n/a
% of Students Earning a Living Wage	63%	60%	35%	38%	35%	n/a

Skills and Education

Table 9. Top Skills for Graphic Design Occupations in Bay Region (March 2018 - Feb 2019)

Skill	Postings	Skill	Postings	Skill	Postings
JavaScript	12,012	UX Wireframes	3,408	Product Management	2,405
Adobe Photoshop	5,926	CSS	3,304	Unit Testing	2,186
Java	5,201	Python	3,111	E-Commerce	2,156
Web Application Development	5,175	Prototyping	3,094	Typesetting	2,098
HTML5	4,860	jQuery	3,087	MySQL	2,078
Web Development	4,424	Adobe Illustrator	3,054	Object-Oriented Analysis and Design (OOAD)	1,919
Graphic Design	4,160	Adobe Acrobat	2,925	Syntactically Awesome Style Sheets (SASS)	1,890
React Javascript	4,097	Interaction Design	2,902	AJAX	1,785
Software Engineering	4,092	Web Site Design	2,901	Project Management	1,696
Visual Design	3,925	Adobe Creative Suite	2,862	JavaScript Object Notation (JSON)	1,693
AngularJS	3,880	Git	2,740	Ruby on Rails	1,671
Adobe Indesign	3,676	SQL	2,552	Bootstrapping	1,662
User Interface (UI) Design	3,624	Node.js	2,541	Scrum	1,580
Software Development	3,560	Hypertext Preprocessor (PHP)	2,493	Product Design	1,577
Front-end Development	3,430	User Research	2,436	Product Development	1,573

Source: Burning Glass

Table 10. Education Requirements for Graphic Design Occupations in Bay Region

Note: 54% 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	228 (2%)
Associate Degree	142 (1%)
Bachelor's Degree or Higher	13,520 (97%)

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 CCCCO 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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