** Web and User Experience Design Occupations**

**Labor Market Information Report**

**Ohlone College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

March 2019

# Recommendation

Based on all available data, there appears to be an undersupply of Web and User Experience 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 1,173 students in the Bay region and 203 students in the East Bay Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0614.30 - Website Design and Development 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 Ohlone College and in the region.

# Introduction

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

|  |
| --- |
| * **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% |

|  |
| --- |
| * **Designers, All Other (SOC 27-1029):** All designers not listed separately. |
| Entry-Level Educational Requirement: Associate's degree |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 40% |

# Occupational Demand

**Table 1. Employment Outlook for Web and User Experience Design Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Web Developers | 10,306 | 12,242 | 1,937 | 19% | 5,802 | 1,160 | $20.83 | $38.90 |
| Designers, All Other | 568 | 577 | 9 | 2% | 279 | 56 | $18.75 | $30.05 |
| **Total** | **10,874** | **12,820** | **1,946** | **18%** | **6,082** | **1,216** | **$20.72** | **$38.43** |

*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 Web and User Experience Design Occupations in East Bay Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Web Developers | 2,177 | 2,327 | 150 | 7% | 951 | 190 | $19.56 | $28.48 |
| Designers, All Other | 221 | 225 | 5 | 2% | 108 | 22 | $23.11 | $32.86 |
| **TOTAL** | **2,397** | **2,553** | **155** | **6%** | **1,059** | **212** | **$19.89** | **$28.89** |

*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 2018)**

| Occupation | Bay Region | East Bay |
| --- | --- | --- |
| Web Developers | 25,242 | 3,029 |
| Designers, All Other | 2,769 | 356 |
| **Total** | **28,011** | **3,385** |

*Source: Burning Glass*

**Table 4. Top Job Titles for Web and User Experience Design Occupations for latest 12 months (March 2018 - Feb 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | East Bay | Common Title | Bay | East Bay |
| User Experience (UX) Designer | 2,751 | 227 | Senior Engineer | 346 | 14 |
| Front End Developer | 1,777 | 208 | Web Engineer | 339 | 30 |
| Web Developer | 1,588 | 313 | Backend Engineer | 316 | 16 |
| User Interface (UI) Developer | 1,480 | 202 | Senior Backend Engineer | 316 | 17 |
| Software Development Engineer | 1,242 | 85 | Java Developer | 307 | 30 |
| User Interface (UX)/User Experience (UX) Designer | 1,179 | 223 | Senior Designer | 296 | 12 |
| PHP Developer | 1,017 | 364 | Web Designer | 270 | 62 |
| Designer | 685 | 34 | Front End Web Developer | 262 | 37 |
| Front End Engineer | 615 | 35 | Developer | 201 | 34 |
| UX Researcher | 467 | 23 | Web Applications Developer | 200 | 44 |
| User Interface (UI) Designer | 452 | 29 | Senior UI Engineer | 184 | 17 |
| Senior Front End Engineer | 449 | 20 | Back End Engineer | 182 | 14 |
| Engineer | 390 | 10 | Javascript Developer | 182 | 18 |
| Ruby on Rails Developer | 389 | 55 | Senior Developer | 162 | 17 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Web and User Experience 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) | 2,541 | 2,684 | 41% | 24.1% |
| Custom Computer Programming Services (541511) | 2,128 | 2,180 | 13% | 19.5% |
| Computer Systems Design Services (541512) | 1,257 | 1,249 | 7% | 11.2% |
| Data Processing, Hosting, and Related Services (518210) | 370 | 403 | 41% | 3.6% |
| Software Publishers (511210) | 369 | 391 | 27% | 3.5% |
| Other Computer Related Services (541519) | 343 | 348 | 13% | 3.1% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 213 | 225 | 10% | 2.0% |
| Electronic Shopping and Mail-Order Houses (454110) | 212 | 219 | 26% | 2.0% |
| Graphic Design Services (541430) | 141 | 134 | (14%) | 1.2% |
| Administrative Management and General Management Consulting Services (541611) | 118 | 124 | 25% | 1.1% |
| Advertising Agencies (541810) | 113 | 114 | 2% | 1.0% |
| Interior Design Services (541410) | 107 | 108 | 7% | 1.0% |

*Source: EMSI 2019.1*

**Table 6. Top Employers Posting Web and User Experience Design Occupations in Bay Region and East Bay Sub-Region (March 2018 - Feb 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | East Bay |
| Capital Markets Placement | 716 | Salesforce | 60 | Capital Markets Placement | 310 |
| Apple Inc. | 280 | Oracle | 59 | Microsoft Corporation | 41 |
| Google Inc. | 190 | Servicenow | 57 | Scoop Technologies | 41 |
| Amazon | 152 | Vmware Incorporated | 57 | Workday, Inc | 36 |
| Cisco Systems Incorporated | 136 | Workday, Inc | 54 | Ellie Mae | 25 |
| Facebook | 136 | Bayone Solutions | 52 | Tesla Motors | 25 |
| Microsoft Corporation | 126 | Gap Inc. | 50 | Bio-Rad Laboratories | 23 |
| Scoop Technologies | 126 | Tranzeal, Inc | 50 | Ideahelix | 17 |
| Paypal | 115 | Infoobjects Inc | 49 | Kaiser Permanente | 16 |
| Redolent, Inc | 96 | Revature | 48 | Revature | 14 |
| Walmart / Sam's | 84 | Fast Forward Accelerate Good | 46 | Scrumlink, Inc | 13 |
| Williams-Sonoma | 80 | United States Technical Solutions | 45 | Veeva Systems | 12 |
| eBay | 73 | Avesta Computer Services | 42 | Best Buy | 11 |
| Adobe Systems | 72 | Sapvix | 41 | Logic Soft Incorporated | 11 |
| Sony Electronics Incorporated | 70 | Xoriant Incorporated | 41 | Tesla | 11 |
| IBM | 69 | Intelliswift Software | 40 | Albertsons | 10 |
| SAP | 69 | Intuit | 40 | Dpp Tech, Inc | 10 |
| Coinbase | 65 | Sis Systems Integration Solutions, Inc | 39 | Matchpoint Solutions Incorporated | 10 |
| JP Morgan Chase Co | 64 | Splunk | 39 | Tailored Brands, Llc | 10 |

*Source: Burning Glass*

# Educational Supply

There are 10 community colleges in the Bay Region issuing 43 awards on average annually (last 3 years) on TOP 0614.30 - Website Design and Development. There are two colleges in the East Bay Sub-Region issuing 9 awards on average annually (last 3 years) on this TOP code.

**Table 7. Awards on TOP 0614.30 - Website Design and Development in the Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Headcount | Associates | Certificates | Total |
| Berkeley City College | East Bay | 215 | 1 | 6 | 7 |
| Cabrillo College | Santa Cruz - Monterey | n/a | 4 | 15 | 18 |
| Cañada College | Mid Peninsula | 36 |  | 4 | 4 |
| City College of San Francisco | Mid Peninsula | 262 |  | 1 | 1 |
| College of Marin | North Bay | 55 |  |  |  |
| Gavilan College | Santa Cruz - Monterey | 168 |  |  |  |
| Mission College | Silicon Valley | 139 |  | 2 | 2 |
| Monterey Peninsula College | Santa Cruz - Monterey | 13 |  |  |  |
| Ohlone College | East Bay | 27 |  | 2 | 2 |
| San Francisco Community Centers |  | 114 |  |  |  |
| San Jose City College | Silicon Valley | 34 | 1 | 2 | 3 |
| Santa Rosa Junior College | North Bay | 293 |  | 1 | 1 |
| Skyline College | Mid Peninsula | n/a | 2 | 1 | 3 |
| West Valley College | Silicon Valley | 121 |  | 1 | 1 |
| **Total Bay Region** | | **1,477** | **8** | **35** | **43** |
| **Total East Bay Sub-Region** | | **242** | **1** | **8** | **9** |

# *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 1,216 annual openings for the Web and User Experience Design occupational cluster and 43 annual (3-year average) awards for an annual undersupply of 1,173 students. In the East Bay Sub-Region, there is also a gap with 212 annual openings and 9 annual (3-year average) awards for an annual undersupply of 203 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0614.30 - Website Design and Development**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | Ohlone College (All CTE Programs) | State (0614.30) | Bay (0614.30) | East Bay (0614.30) | Ohlone College (0614.30) |
| % Employed Four Quarters After Exit | 74% | 82% | 60% | 62% | 71% | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $23,375 | $8,598 | $9,239 | 9,957 | n/a |
| Median % Change in Earnings | 46% | 21% | 53% | 72% | 132% | n/a |
| % of Students Earning a Living Wage | 63% | 84% | 56% | 58% | 62% | n/a |

*Source: Launchboard Pipeline (version available on 3/8/19)*

# Skills and Education

**Table 9. Top Skills for Web and User Experience Design Occupations in Bay Region (March 2018 - Feb 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| JavaScript | 11,813 | jQuery | 3,054 | E-Commerce | 1,994 |
| Java | 5,209 | Visual Design | 2,806 | Object-Oriented Analysis and Design (OOAD) | 1,916 |
| Web Application Development | 5,126 | Prototyping | 2,757 | Syntactically Awesome Style Sheets (SASS) | 1,878 |
| HTML5 | 4,756 | Git | 2,735 | Adobe Acrobat | 1,823 |
| Web Development | 4,362 | SQL | 2,568 | Adobe Illustrator | 1,813 |
| React Javascript | 4,101 | Node.js | 2,531 | Adobe Creative Suite | 1,782 |
| Software Engineering | 4,087 | Hypertext Preprocessor (PHP) | 2,504 | AJAX | 1,768 |
| Adobe Photoshop | 3,976 | Interaction Design | 2,466 | JavaScript Object Notation (JSON) | 1,685 |
| AngularJS | 3,878 | User Research | 2,460 | Ruby on Rails | 1,672 |
| Software Development | 3,498 | Web Site Design | 2,312 | Bootstrapping | 1,658 |
| Front-end Development | 3,370 | Product Management | 2,296 | Scrum | 1,553 |
| CSS | 3,261 | Adobe Indesign | 2,191 | Agile Development | 1,518 |
| User Interface (UI) Design | 3,235 | Unit Testing | 2,188 | Product Design | 1,490 |
| UX Wireframes | 3,155 | MySQL | 2,084 | Product Development | 1,482 |
| Python | 3,084 | Graphic Design | 2,029 | Project Management | 1,475 |

*Source: Burning Glass*

**Table 10. Education Requirements for Web and User Experience Design Occupations in Bay Region**

Note: 55% 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 | 223 (2%) |
| Associate Degree | 127 (1%) |
| Bachelor’s Degree or Higher | 12,691 (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/](http://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:

* Doreen O’Donovan, Data Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), [doreen@baccc.net](mailto:doreen@baccc.net) or (831) 479-6481
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, [jcarrese@ccsf.edu](mailto:jcarrese@ccsf.edu) or (415) 267-6544