**Graphic Arts Occupations**

**Labor Market Information Report**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

April 2018

# Recommendation

Based on all available data, there appears to be an undersupply of Graphic Arts workers compared to the demand for this occupational cluster in the Bay region and the Silicon Valley sub-region (Santa Clara County). The annual gap between demand and supply is about 1,740 in the Bay region and 390 in the Silicon Valley sub-region.

This report also provides student outcomes data on employment and earnings for Digital Media programs (TOP 0614.00) in the sub-region, region and state. 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 student outcomes across all CTE programs at Mission College and in the region.

# Introduction

This report profiles Graphic Arts Occupations in the 12 county Bay region and Silicon Valley sub-region for a substantial change to the Graphic Arts AS Degree at Mission 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%

* **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%

* **Desktop Publishers (SOC 43-9031):** Format typescript and graphic elements using computer software to produce publication-ready material.

*Entry-Level Educational Requirement:* *Associate Degree*

*Training Requirement:* *Short-term on-the-job training*

*Percentage of Community College Award Holders or Some Postsecondary Coursework:* 42%

# Occupational Demand

**Table 1. Employment Outlook for Graphic Arts Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-year Open-ings | Annual Open-ings | 10% Hrly Wage | Median Hrly Wage |
| Multimedia Artists and Animators | 4,339 | 4,691 | 352 | 8% | 2,158 | 432 | $12.63 | $35.44 |
| Graphic Designers | 12,803 | 13,438 | 635 | 5% | 6,744 | 1,349 | $16.06 | $23.45 |
| Desktop Publishers | 417 | 427 | 11 | 3% | 248 | 50 | $15.42 | $26.06 |
| **Total** | **17,558** | **18,556** | **998** | **6%** | **9,150** | **1,830** | **$15.19** | **$26.47** |

*Source: EMSI 2018.1***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 Arts Occupations in Silicon Valley Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-year Open-ings | Annual Open-ings | 10% Hrly Wage | Median Hrly Wage |
| Multimedia Artists and Animators | 1,149 | 1,284 | 135 | 12% | 610 | 122 | $15.92 | $37.02 |
| Graphic Designers | 2,439 | 2,574 | 135 | 6% | 1,304 | 261 | $17.21 | $28.21 |
| Desktop Publishers | 85 | 101 | 16 | 18% | 66 | 13 | $21.76 | $31.27 |
| **Total** | **3,673** | **3,959** | **286** | **8%** | **1,980** | **396** | **$16.92** | **$31.04** |

*Source: EMSI 2018.1***Silicon Valley Sub-Region** includes Santa Clara County

### Job Postings in Bay Region and Silicon Valley Sub-Region

**Table 3. Number of Job Postings for Graphic Arts Occupations for latest 12 months (April 2017 – March 2018)**

|  |  |  |
| --- | --- | --- |
| 8-Digit Occupations | Bay Region | Silicon Valley |
| Graphic Designers (27-1024.00) | 1,976 | 590 |
| Multimedia Artists and Animators (27-1014.00) | 691 | 269 |
| Desktop Publishers (43-9031.00) | 28 | 18 |
| **Total** | **2,695** | **877** |

*Source: Burning Glass*

**Table 4. Top Job Titles for Graphic Arts Occupations for latest 12 months (April 2017 – March 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | Silicon Valley | Common Title | Bay | Silicon Valley |
| Graphic Designer | 829 | 169 | Interactive Designer | 31 | 10 |
| Visual Designer | 596 | 232 | Digital Design Engineer | 25 | 22 |
| Interaction Designer | 399 | 206 | Lead Visual Designer | 23 | 5 |
| Production Artist | 121 | 21 | Junior Graphic Designer | 21 | 2 |
| Animator | 103 | 14 | Content Producer | 16 | 3 |
| Graphic Artist | 47 | 14 | Senior Digital Design Engineer | 16 | 16 |
| Visual Effects Artist | 33 | 1 | Production Manager | 14 | 3 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Graphic Arts Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 4 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2017) | Jobs in Industry (2022) | % Change (2017-22) | % in Industry (2017) |
| Specialized Design Services (5414) | 5,068 | 5,134 | 1% | 28.9% |
| Computer Systems Design and Related Services (5415) | 1,563 | 1,807 | 16% | 8.9% |
| Other Information Services (5191) | 1,440 | 1,771 | 23% | 8.2% |
| Advertising, Public Relations, and Related Services (5418) | 1,182 | 1,259 | 7% | 6.7% |
| Software Publishers (5112) | 768 | 906 | 18% | 4.4% |
| Motion Picture and Video Industries (5121) | 715 | 719 | 1% | 4.1% |
| Newspaper, Periodical, Book, and Directory Publishers (5111) | 614 | 497 | (19%) | 3.5% |
| Management, Scientific, and Technical Consulting Services (5416) | 583 | 641 | 10% | 3.3% |
| Printing and Related Support Activities (3231) | 471 | 409 | (13%) | 2.7% |
| Independent Artists, Writers, and Performers (7115) | 402 | 386 | (4%) | 2.3% |
| Electronic Shopping and Mail-Order Houses (4541) | 304 | 403 | 33% | 1.7% |
| Management of Companies and Enterprises (5511) | 280 | 284 | 1% | 1.6% |
| Architectural, Engineering, and Related Services (5413) | 236 | 247 | 5% | 1.3% |
| Other Miscellaneous Manufacturing (3399) | 230 | 217 | (6%) | 1.3% |

*Source: EMSI 2018.1*

**Table 6. Top Employers Posting Jobs in Bay Region and Silicon Valley for latest 12 months (April 2017 – March 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Employer** | **Bay** | **Employer** | **Bay** | **Employer** | **Silicon Valley** |
| Intuit | 41 | Machine Zone | 17 | Apple Inc. | 40 |
| Apple Inc. | 40 | The Sage Group Inc | 17 | Intuit | 36 |
| Google Inc. | 31 | Gaikai Inc | 16 | Machine Zone | 17 |
| Williams-Sonoma | 30 | Electronic Arts Inc | 14 | Google Inc. | 12 |
| Facebook | 25 | Synopsys Inc | 14 | Synopsys Incorporated | 12 |
| Accenture | 20 | Wells Fargo | 14 | The Sage Group Incorporated | 10 |
| General Electric Company | 17 | Walmart / Sam's | 13 | Apple Inc. | 40 |

*Source: Burning Glass*

# Educational Supply

On the supply side, there are six community colleges in the Bay region issuing 79 awards annually on TOP 0614.00 – Digital Media, plus one other postsecondary educational institution issuing 12 awards on CIP 50.0401- Design & Visual Communications, General, for a total of 91annual awards in the region. Two of these colleges are in the Silicon Valley sub-region, issuing six awards annually.

**Table 6. Colleges with Students Taking Courses and/or Programs on TOP 0614.00 - Digital Media or on CIP 50.0401 - Design and Visual Communications, General**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **College** | **Sub-Region** | **CC Head-count** | **Transfer Students** | **Associate or Bachelor’s Degrees** | **Certificates or Other Credit Awards** | **Total Awards** |
| Berkley City | East Bay | 317 | 41 | 0 | 0 | 0 |
| Cabrillo | SC & Monterey | 405 | 19 | 7 | 9 | 16 |
| Chabot | East Bay | 153 | 8 | 0 | 0 | 0 |
| Diablo Valley | East Bay | 827 | 70 | 0 | 0 | 0 |
| Gavilan | Silicon Valley | 14 | 0 | 1 | 1 | 2 |
| Hartnell | SC & Monterey | 172 | 23 | 0 | 0 | 0 |
| Mission | Silicon Valley | 6 | 0 | 0 | 0 | 0 |
| Las Positas | East Bay | on another TOP | 0 | 6 | 1 | 7 |
| San Francisco | Mid-Peninsula | 167 | 14 | 0 | 20 | 20 |
| San Jose | Silicon Valley | 11 | 1 | 0 | 0 | 0 |
| San Mateo | Mid-Peninsula | 727 | 73 | 13 | 17 | 30 |
| Skyline | Mid-Peninsula | 72 | 0 | 0 | 0 | 0 |
| West Valley | Silicon Valley | 59 | 22 | 2 | 2 | 4 |
| Academy of Art University | Mid-Peninsula | n/a | n/a | 12\* | 0 | 12 |
| **Total for Bay Region** | | **2,928** | **273** | **41** | **50** | **91** |
| **Total for Silicon Valley** | | **90** | **24** | **3** | **3** | **6** |

# *Source: IPEDS, Data Mart and Launchboard*

\* Academy of Art University issued 12 Bachelor degrees on average for 2013-16 on the CIP code crosswalked to 0614.00.

NOTE: Headcount of students who took one or more courses is for 2016-17. The number of transfer students is for 2015-16. Associate degrees and Certificates for Community Colleges is the annual average for 2014-17.

# Gap Analysis

The labor market gap is significant in the Bay region for this cluster of occupations with total annual openings of 1,830 and annual supply of 91awards (12 Bachelor’s, 29 Associates and 50 Certificates). This represents an annual undersupply of about 1,740. In the Silicon Valley sub-region, there is also a gap with total annual openings of 396 and six students getting awards annually, for an undersupply of 390. Bachelor’s degrees are also included in the supply calculation, since 97% of the annual openings in the region are for the two SOC codes with Bachelor’s degree as the typical level of education required. However, there may be other four-year programs in the Bay region also training students to enter the occupations selected awarding degrees or certificates on other CIP codes.

# Student Outcomes

**Table 7. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0614.00 - Digital Media at Bay Region Colleges**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **2015-16** | **Bay Region (All CTE Programs)** | **Mission (All CTE Programs)** | **State (0614.00)** | **Bay Region (0614.00)** | **Silicon Valley (0614.00)** | **Top Performing College in Bay (0614.00)** | |
| % Employed Four Quarters After Exit | 74% | 76% | 59% | 59% | 56% | San Mateo | 64%  (33 students) |
| Median Earnings Two Quarters After Exit | $10,130 | $10,770 | $5,740 | $6,850 | $6,930 | Marin | $27,690  (2 students) |
| Median % Change in Earnings | 46% | 46% | 58% | 33% | (9%) | Diablo Valley | 59%  (36 students) |
| % of Students Earning a Living Wage | 63% | 66% | 35% | 37% | 45% | Cabrillo | 60%  (10 students) |

*Source: Launchboard (version available on 4/4/18)*

# Skill & Certifications

**Table 9. Top Skills for Graphic Arts Occupations in the Bay Region (April 2017 – March 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skill** | **Postings** | **Skill** | **Postings** | **Skill** | **Postings** |
| Adobe Photoshop | 1,495 | Animation | 283 | Human Computer Interaction | 138 |
| Graphic Design | 1,216 | Adobe Aftereffects | 263 | Budgeting | 135 |
| Adobe Indesign | 1,125 | Microsoft Office | 247 | Scheduling | 133 |
| Adobe Illustrator | 1,040 | Process Design | 244 | Marketing Materials | 130 |
| Visual Design | 904 | Social Media | 238 | Project Design | 127 |
| Adobe Acrobat | 852 | JavaScript | 227 | MAYA | 124 |
| Adobe Creative Suite | 838 | Packaging | 206 | Photography | 123 |
| Typesetting | 504 | E-Commerce | 201 | Software Development | 123 |
| UX Wireframes | 364 | Illustration | 201 | HTML5 | 117 |
| User Interface (UI) Design | 344 | Digital Design | 198 | Motion Graphics | 113 |
| Web Site Design | 338 | Art Direction | 176 | Product Development | 112 |
| Interaction Design | 332 | Product Design | 175 | Print Production | 110 |
| Prototyping | 310 | Microsoft Excel | 171 | Microsoft Word | 104 |
| Microsoft Powerpoint | 300 | Information Architecture | 146 | Adobe Dreamweaver | 95 |
| Project Management | 292 | Product Management | 142 | Customer Contact | 90 |

*Source: Burning Glass*

**Table 10. Top Certifications for Graphic Arts Occupations in the Bay Region (April 2017 – March 2018)**

Note: 99% of records have been excluded because they do not include a certification. As a result, the chart has not been included in the report.

**Table 11. Education Requirements in Bay Region**

Note: 47% 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 | 65 (5%) |
| Associate Degree | 29 (2%) |
| Bachelor’s Degree or Higher | 1,346 (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 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

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