** Multimedia Artists and Animators**

**Labor Market Information Report**

**De Anza College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

June 2019

# Recommendation

Based on all available data, there appears to be an undersupply of Multimedia Artists and Animatorscompared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County), when only community college supply is considered in the gap analysis. There is a projected annual gap of about 412 students in the Bay region and 69 students in the Silicon Valley Sub-Region. If supply from other postsecondary institutions that issue Associate degrees and certificates in Animation is included, the gap in the Bay region narrows slightly to 362 students, but the gap in the Silicon Valley Sub-Region remains unchanged at 69 students.

This report also provides student outcomes data on employment and earnings for programs on TOP 0614.40 - Animation 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 De Anza College and in the region.

# Introduction

This report profiles Multimedia Artists and Animatorsin the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program in Art Digital Media, Transfer, Character Animation at De Anza 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% |

# Occupational Demand

**Table 1. Employment Outlook for Multimedia Artists and Animators 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 |
| Multimedia Artists and Animators | 4,730 | 5,028 | 298  | 6% | 2,247 | 449 | $13.65  | $38.08  |

*Source: EMSI 2019.2*

**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 Multimedia Artists and Animators in Silicon Valley 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 |
| Multimedia Artists and Animators | 895 | 932 | 37  | 4% | 404 | 80 | $12.23  | $31.11  |

*Source: EMSI 2019.2*

**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 (May 2018 - April 2019)**

| Occupation | Bay Region | Silicon Valley |
| --- | --- | --- |
|  Multimedia Artists and Animators | 985 | 356 |

*Source: Burning Glass*

**Table 4a. Top Job Titles for Multimedia Artists and Animators for latest 12 months (May 2018 - April 2019)**

**Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Interaction Designer | 472 | 3D Prototyper | 4 |
| Animator | 122 | Web Designer | 3 |
| Graphic Designer | 106 | Senior Designer | 3 |
| Interactive Designer | 55 | Ready For Engaging, Fun, And Interactive Career With Kids | 3 |
| Visual Effects Artist | 40 | Pixar Animation Studios | 3 |
| Content Producer | 24 | Junior Graphic Designer | 3 |
| 3D Modeler | 17 | Designer, Residential | 3 |
| 3D Designer | 13 | Business Systems Analyst | 3 |
| Freelance Graphic Designer | 11 | Asic Design Engineer | 3 |
| Interactive Art Director | 9 | Artist | 3 |
| User Interface (UX)/User Experience (UX) Designer | 8 | Storyboard Artist | 2 |
| FX Artist | 8 | Senior Publishing Producer | 2 |
| Microsoft Word Press Developer | 6 | Production Assistant | 2 |
| Key Responsibilities | 4 | Multimedia Technician | 2 |

**Table 4b. Top Job Titles for Multimedia Artists and Animators for latest 12 months (May 2018 - April 2019)**

**Silicon Valley Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Silicon Valley | Common Title | Silicon Valley |
| Interaction Designer | 194 | Multimedia Technician | 2 |
| Graphic Designer | 42 | Flash Controller/Designer | 2 |
| Animator | 23 | Digital Modeler/Artist, Shuttle | 2 |
| Interactive Designer | 16 | Digital Modeler/Artist | 2 |
| Visual Effects Artist | 13 | Animation/Illustration | 2 |
| Content Producer | 11 | 3D Designer | 2 |
| 3D Modeler | 8 | Visual Effects Compositor | 1 |
| Microsoft Word Press Developer | 6 | Motion Graphic Desginer Ic5 | 1 |
| Interactive Art Director | 6 | Interactive Design | 1 |
| User Interface (UX)/User Experience (UX) Designer | 5 | Graphic Artist | 1 |
| FX Artist | 4 | Freelance Graphic Designer | 1 |
| 3D Prototyper | 4 | Animation/Illustration Pdf | 1 |
| Asic Design Engineer | 3 | 2D Animation Or 3D Animation | 1 |
| Storyboard Artist | 2 |  |  |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Multimedia Artists and Animators in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2018) | Jobs in Industry (2022) | % Change (2018-22) | % in Industry (2018) |
| Software Publishers (511210) | 703 | 804 | 14.4% | 14.9% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 666 | 828 | 24.3% | 14.1% |
| Custom Computer Programming Services (541511) | 507 | 545 | 7.5% | 10.7% |
| Motion Picture and Video Production (512110) | 441 | 430 |  (2.5%) | 9.3% |
| Computer Systems Design Services (541512) | 290 | 305 | 5.2% | 6.1% |
| Independent Artists, Writers, and Performers (711510) | 283 | 261 |  (7.8%) | 6.0% |
| Graphic Design Services (541430) | 137 | 123 |  (10.2%) | 2.9% |
| Teleproduction and Other Postproduction Services (512191) | 117 | 106 |  (9.4%) | 2.5% |
| Advertising Agencies (541810) | 117 | 114 |  (2.6%) | 2.5% |
| Interior Design Services (541410) | 114 | 120 | 5.3% | 2.4% |
| Other Computer Related Services (541519) | 66 | 75 | 13.6% | 1.4% |
| Data Processing, Hosting, and Related Services (518210) | 60 | 69 | 15.0% | 1.3% |
| Public Relations Agencies (541820) | 50 | 51 | 2.0% | 1.1% |
| Colleges, Universities, and Professional Schools (611310) | 47 | 48 | 2.1% | 1.0% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 47 | 47 | 0.0% | 1.0% |

*Source: EMSI 2019.2*

**Table 6. Top Employers Posting Jobs for Multimedia Artists and Animators in Bay Region and Silicon Valley Sub-Region (May 2018 - April 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Silicon Valley |
| Google Inc. | 30 | Samsung America, Inc. | 5 | Google Inc. | 17 |
| Apple Inc. | 15 | Logitech | 5 | Apple Inc. | 15 |
| Sony Electronics Inc | 12 | Jbcconnect | 5 | Ford Motor Co | 10 |
| Mediazoo | 11 | Crystal Dynamics Inc | 5 | Machine Zone | 8 |
| Accenture | 11 | Cryptic Studios Inc | 5 | Intuit | 6 |
| Ford Motor Co | 10 | Trilyon, Inc | 4 | Cisco Systems Inc | 6 |
| Disney | 10 | Time Warner | 4 | Verizon Communications Inc | 5 |
| 2K Games | 10 | Osi Engineering, Inc | 4 | Samsung America, Inc. | 5 |
| Bank of America | 9 | Ideahelix | 4 | Cryptic Studios Inc | 5 |
| Machine Zone | 8 | Global Placement Firm | 4 | Trilyon, Inc | 4 |
| General Electric Co | 8 | Discord | 4 | Birdeye | 4 |
| Activision | 8 | Birdeye | 4 | San Jose State University | 3 |
| Ideo | 7 | Applovin | 4 | Roku | 3 |
| Intuit | 6 | Stanford University | 3 | Qualcomm | 3 |
| Cisco Systems Inc | 6 | Square | 3 | McAfee | 3 |
| Viscira Llc | 5 | Splunk, Inc | 3 | Jbcconnect | 3 |
| Verizon Communications Inc | 5 | San Jose State University | 3 | Winmax Systems Inc | 2 |

*Source: Burning Glass*

# Educational Supply

There are seven community colleges in the Bay Region issuing 37 awards on average annually (last 3 years) on TOP 0614.40 – Animation. There are two colleges in the in the Silicon Valley Sub-Region issuing 11 awards on average annually (last 3 years) on this TOP code.

**Table 7a. Awards on TOP 0614.40 - Animation in the Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Headcount | Associate | Certificates | Total |
| **Berkeley City** | East Bay | 246 | 3 | 5 | 8 |
| **Deanza** | Silicon Valley | 196 | 3 |  | 3 |
| **Diablo Valley** | East Bay | n/a |  | 2 | 2 |
| **Ohlone** | East Bay | 80 |  | 4 | 4 |
| **San Francisco** | Mid-Peninsula | 32 |  | 2 | 2 |
| **Santa Rosa** | North Bay | 32 | 4 | 6 | 10 |
| **West Valley** | Silicon Valley |  55 | 5 | 3 | 8 |
| **Total Bay Region** |  **586**  |  **15**  |  **22**  |  **37**  |
| **Total Silicon Valley Sub-Region** |  **196**  |  **8**  |  **3**  |  **11**  |

# *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.

There are six other postsecondary institutions in the Bay Region issuing 754 awards on average annually (last 3 years) on CIP 10.0304 – Animation. However, only 50 of these awards are at the Associate degree/Certificate level, which is most likely to prepare students for employment. It is difficult to determine if the 704 non-credit awards on CIP 10.0304 are preparing students for employment in the Animation field. There are two postsecondary institutions in the Silicon Valley Sub-Region issuing 120 awards on average annually (last 3 years) on this CIP code, however none of these awards are are at the Associate degree/Certificate level, which is most likely to prepare students for employment.

**Table 7b. Awards on CIP 10.0304 - Animation in the Bay Region**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **College** | **Sub-Region** | **CIP** | **Associate** | **Certificates** | **Noncredit** | **Total** |
| Academy of Art University |  Mid-Peninsula | 10.0304 | 50 | 0 | 426 | 476 |
| Argosy University-The Art Institute of California-San Francisco |  Mid-Peninsula | 10.0304 | 0 | 0 | 6 | 6 |
| Argosy University-The Art Institute of California-Silicon Valley |  Silicon Valley | 10.0304 | 0 | 0 | 3 | 3 |
| California College of the Arts |  East Bay | 10.0304 | 0 | 0 | 77 | 77 |
| Cogswell College |  Silicon Valley | 10.0304 | 0 | 0 | 117 | 117 |
| SAE Expression College | East Bay | 10.0304 | 0 | 0 | 75 | 75 |
| **Total Bay Region** |  |  | **50** | **0** | **704** | **754** |
| **Silicon Valley Sub-Region** |  |  | **0** | **0** | **120** | **120** |

*Source: 2015, 2016, 2017 EMSI 2019 Q2*

# Gap Analysis

Based on the data included in this report, and when community college supply is specifically considered, there is a labor market gap in the Bay region with 449 annual openings for Multimedia Artists and Animatorsand 37 annual (3-year average) awards for an annual undersupply of 412 students. In the Silicon Valley Sub-Region, there is also a gap with 80 annual openings and 11 annual (3-year average) awards for an annual undersupply of 69 students.

If supply from other postsecondary institutions that issue Associate degrees and certificates in Animation is combined with community college supply, the gap in the Bay region narrows slightly to 362 students, but the gap in the Silicon Valley Sub-Region remains unchanged at 69 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0614.40 - Animation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay (All CTE Programs) | De Anza College (All CTE Programs) | State (0614.40) | Bay (0614.40) | Silicon Valley (0614.40) | De Anza College (0614.40) |
| % Employed Four Quarters After Exit | 74% | 69% | 56% | 53% | 56% | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $10,272 | $4,765 | $5,485 | $4,627 | $4,066 |
| Median % Change in Earnings | 46% | 55% | 57% | 123% | 72% | n/a |
| % of Students Earning a Living Wage | 63% | 60% | 27% | 29% | n/a | n/a |

*Source: Launchboard Pipeline (version available on 5/20/19)*

# Skills and Education

**Table 9. Top Skills for Multimedia Artists and Animators in Bay Region (May 2018 - April 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Adobe Photoshop | 429 | User Research | 130 | Omnigraffle | 55 |
| Interaction Design | 265 | Process Design | 116 | Design Thinking | 55 |
| Animation | 248 | JavaScript | 111 | Social Media | 54 |
| UX Wireframes | 247 | Human Computer Interaction | 99 | Illustration | 54 |
| Adobe Indesign | 235 | Information Architecture | 96 | Art Direction | 54 |
| Adobe Acrobat | 227 | Product Management | 90 | Sketching | 52 |
| Adobe Creative Suite | 225 | 3D Modeling / Design | 85 | Storyboarding | 51 |
| Visual Design | 216 | Typesetting | 83 | Quality Assurance and Control | 51 |
| Graphic Design | 214 | Product Design | 83 | Scheduling | 45 |
| Adobe Illustrator | 206 | Customer Contact | 78 | Adobe Premiere | 44 |
| Prototyping | 203 | Project Management | 71 | 3D Animation | 44 |
| Adobe Aftereffects | 187 | Web Site Design | 69 | Software Development | 43 |
| User Interface (UI) Design | 180 | Product Development | 65 | Usability Testing | 41 |
| Motion Graphics | 136 | Cinema 4D | 64 | Industrial Design | 39 |
| Maya | 133 | Industrial Engineering Industry Expertise | 58 | Game Development | 39 |

**Table 10. Education Requirements for Multimedia Artists and Animators in Bay Region**

Note: 48% 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 | Percent 12 Mos. Postings |
| High school or vocational training | 7 | 1% |
| Associate Degree | 7 | 1% |
| Bachelor’s Degree or Higher | 454 | 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 or (831) 479-6481
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544