** 3D Modeling and Animation 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 3D Modeling and Animation 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 719 students in the Bay region and 159 students in the East Bay Sub-Region.

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 Ohlone College and in the region.

# Introduction

This report profiles 3D Modeling and Animation Occupations in the 12 county Bay region and in the East Bay sub-region for the revision to an existing program at Ohlone 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% |
|  |
| * **Film and Video Editors (SOC 27-4032):** Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images. Excludes “Sound Engineering Technicians”(27-4014). |
| Entry-Level Educational Requirement: Bachelor's *degree* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 27*%* |
|  | |
| * **Media and Communication Workers, All Other (SOC 27-3099**): All media and communication workers not listed separately. | |
| Entry-Level Educational Requirement: High *school diploma or equivalent* | |
| Training Requirement: Short-term *on-the-job training* | |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 32*%* | |

# Occupational Demand

**Table 1. Employment Outlook for 3D Modeling and Animation 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 |
| Multimedia Artists and Animators | 4,730 | 5,028 | 298 | 6% | 2,247 | 449 | $13.65 | $38.08 |
| Film and Video Editors | 1,599 | 1,758 | 159 | 10% | 960 | 192 | $20.00 | $29.51 |
| Media and Communication Workers, All Other | 1,047 | 1,132 | 85 | 8% | 573 | 115 | $13.14 | $23.13 |
| **Total** | **7,376** | **7,919** | **543** | **7%** | **3,779** | **756** | **$14.95** | **$34.10** |

*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 3D Modeling and Animation 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 |
| Multimedia Artists and Animators | 907 | 946 | 39 | 4% | 404 | 81 | $12.21 | $31.02 |
| Film and Video Editors | 389 | 459 | 70 | 18% | 266 | 53 | $21.43 | $28.40 |
| Media and Communication Workers, All Other | 368 | 393 | 25 | 7% | 195 | 39 | $12.90 | $19.28 |
| **TOTAL** | **1,664** | **1,798** | **134** | **8%** | **865** | **173** | **$14.52** | **$27.81** |

*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 |
| --- | --- | --- |
| Multimedia Artists and Animators | 949 | 117 |
| Film and Video Editors | 199 | 25 |
| **Total** | 1,148 | 142 |

*Source: Burning Glass*

**Table 4. Top Job Titles for 3D Modeling and Animation Occupations for latest 12 months (March 2018 - Feb 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | East Bay | Common Title | Bay | East Bay |
| Interaction Designer | 479 | 56 | Microsoft Word Press Developer | 6 | 0 |
| Video Editor | 187 | 21 | User Interface (UX)/User Experience (UX) Designer | 6 | 0 |
| Animator | 108 | 11 | Key Responsibilities | 4 | 0 |
| Graphic Designer | 94 | 9 | 3D Animation | 3 | 0 |
| Interactive Designer | 58 | 8 | 3D Prototyper | 3 | 0 |
| Visual Effects Artist | 42 | 1 | Artist | 3 | 0 |
| Content Producer | 24 | 0 | Asic Design Engineer | 3 | 0 |
| 3D Modeler | 16 | 1 | Designer, Residential | 3 | 3 |
| 3D Designer | 14 | 3 | Pixar Animation Studios | 3 | 3 |
| Freelance Graphic Designer | 11 | 5 | Ready For Engaging, Fun, And Interactive Career With Kids | 3 | 3 |
| FX Artist | 8 | 0 | Web Designer | 3 | 3 |
| Interactive Art Director | 8 | 1 | Copy Scanners Specialist | 2 | 0 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring 3D Modeling and Animation 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) |
| Motion Picture and Video Production (512110) | 1,268 | 1,273 | 5% | 17.1% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 903 | 945 | 32% | 12.7% |
| Software Publishers (511210) | 681 | 701 | 17% | 9.4% |
| Custom Computer Programming Services (541511) | 520 | 526 | 9% | 7.1% |
| Independent Artists, Writers, and Performers (711510) | 325 | 313 | (10%) | 4.2% |
| Teleproduction and Other Postproduction Services (512191) | 319 | 312 | (3%) | 4.2% |
| Computer Systems Design Services (541512) | 311 | 305 | 4% | 4.1% |
| Graphic Design Services (541430) | 149 | 143 | (13%) | 1.9% |
| Advertising Agencies (541810) | 139 | 137 | (4%) | 1.8% |
| Colleges, Universities, and Professional Schools (611310) | 131 | 133 | 8% | 1.8% |
| Television Broadcasting (515120) | 132 | 132 | (2%) | 1.8% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 116 | 120 | 9% | 1.6% |
| Interior Design Services (541410) | 117 | 118 | 7% | 1.6% |
| Cable and Other Subscription Programming (515210) | 99 | 103 | (11%) | 1.4% |
| Data Processing, Hosting, and Related Services (518210) | 93 | 99 | 26% | 1.3% |
| Colleges, Universities, and Professional Schools (Local Government) (903612) | 82 | 80 | (2%) | 1.1% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 74 | 76 | 3% | 1.0% |

*Source: EMSI 2019.1*

**Table 6. Top Employers Posting 3D Modeling and Animation Occupations in Bay Region and East Bay Sub-Region (March 2018 - Feb 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | East Bay |
| Google Inc. | 39 | Cryptic Studios Inc | 5 | General Electric Co | 7 |
| Apple Inc. | 18 | Crystal Dynamics Inc | 5 | Logitech | 5 |
| 2K Games | 11 | Disney | 5 | Mediazoo | 5 |
| Mediazoo | 11 | Intuit | 5 | Igg Corporation | 4 |
| Activision | 10 | Samsung America, Inc. | 5 | Pandora Media | 4 |
| Ford Motor Co | 10 | Stanford University | 5 | Flip2Media | 3 |
| Accenture | 9 | Verizon Communications Inc | 5 | Ideahelix | 3 |
| General Electric Co | 9 | Facebook | 4 | Kids Overcoming | 3 |
| Sony Electronics Inc | 9 | Flip2Media | 4 | Pixar | 3 |
| Ideo | 8 | Global Placement Firm | 4 | Big Fish Games, Inc | 2 |
| Machine Zone | 7 | Glu Mobile | 4 | Disney | 2 |
| Cisco Systems Inc | 6 | Ideahelix | 4 | Ee Company | 2 |
| Electronic Arts Inc | 6 | Igg Corporation | 4 | Home Quality Remodeling | 2 |
| Logitech | 6 | Ivalua | 4 | Ivalua | 2 |
| Viscira Llc | 6 | Jbcconnect | 4 | Lululemon | 2 |
| Applovin | 5 | Lululemon | 4 | Neato Robotics | 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 three colleges in the East Bay Sub-Region issuing 14 awards on average annually (last 3 years) on this TOP code.

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Headcount | Associates | Certificates | Total |
| **Berkeley City** | East Bay |  | 3 | 5 | 8 |
| **Deanza** | Silicon Valley |  | 3 |  | 3 |
| **Diablo Valley** | East Bay |  |  | 2 | 2 |
| **Foothill College** | Silicon Valley | 219 |  |  |  |
| **Ohlone** | East Bay |  |  | 4 | 4 |
| **San Francisco** | Mid-Peninsula |  |  | 2 | 2 |
| **Santa Rosa** | North Bay | 534 | 4 | 6 | 10 |
| **West Valley** | Silicon Valley |  | 5 | 3 | 8 |
| **Total Bay Region** | | **753** | **15** | **22** | **37** |
| **Total East Bay Sub-Region** | | **0** | **3** | **11** | **14** |

# *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 labor market gap in the Bay region with 756 annual openings for the 3D Modeling and Animation occupational cluster and 37 annual (3-year average) awards for an annual undersupply of 719 students. In the East Bay Sub-Region, there is also a gap with 173 annual openings and 14 annual (3-year average) awards for an annual undersupply of 159 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) | Ohlone College (All CTE Programs) | State (0614.40) | Bay (0614.40) | East Bay (0614.40) | Ohlone College (0614.40) |
| % Employed Four Quarters After Exit | 74% | 82% | 56% | 53% | 56% | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $23,375 | $4,765 | $5,485 | $4,627 | n/a |
| Median % Change in Earnings | 46% | 21% | 57% | 123% | 72% | n/a |
| % of Students Earning a Living Wage | 63% | 84% | 27% | 29% | n/a | n/a |

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

# Skills and Education

**Table 9. Top Skills for 3D Modeling and Animation Occupations in Bay Region (March 2018 - Feb 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Adobe Photoshop | 530 | User Research | 145 | Web Site Design | 74 |
| Adobe Aftereffects | 297 | Adobe Premiere | 139 | Cinema 4D | 68 |
| Adobe Indesign | 274 | Maya | 135 | Music | 68 |
| Interaction Design | 267 | JavaScript | 133 | Product Development | 67 |
| UX Wireframes | 267 | Process Design | 132 | Art Direction | 63 |
| Animation | 266 | Human Computer Interaction | 103 | Industrial Engineering Industry Expertise | 60 |
| Adobe Acrobat | 265 | Information Architecture | 102 | Software Development | 58 |
| Adobe Creative Suite | 263 | Product Design | 98 | Final Cut Pro | 57 |
| Adobe Illustrator | 250 | Product Management | 92 | Color Editing | 56 |
| Prototyping | 226 | Typesetting | 92 | Illustration | 56 |
| Visual Design | 225 | Social Media | 88 | Omnigraffle | 54 |
| Graphic Design | 215 | Video Production | 85 | Broadcast Industry Knowledge | 53 |
| User Interface (UI) Design | 212 | 3D Modeling / Design | 81 | Design Thinking | 52 |
| Video Editing | 205 | Customer Contact | 78 | Quality Assurance and Control | 49 |
| Motion Graphics | 161 | Project Management | 75 | Scheduling | 49 |

*Source: Burning Glass*

**Table 10. Education Requirements for 3D Modeling and Animation Occupations in Bay Region**

Note: 49% 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 | 9 (2%) |
| Associate Degree | 12 (2%) |
| Bachelor’s Degree or Higher | 563 (96%) |

*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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