** Applied Design Occupations**

**Labor Market Information Report**

**Chabot College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

April 2019

# Recommendation

Based on all available data, there appears to be an undersupply of Applied 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 392 students in the Bay region and 118 students in the East Bay Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 1009.00 - Applied Design 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 Applied Design Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Chabot College.

|  |
| --- |
| * **Molders, Shapers, and Casters, Except Metal and Plastic (SOC 51-9195):** Mold, shape, form, cast, or carve products such as food products, figurines, tile, pipes, and candles consisting of clay, glass, plaster, concrete, stone, or combinations of materials.
 |
| Entry-Level Educational Requirement: High school *diploma or equivalent* |
| Training Requirement: Long-term *on-the-job training* |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 25% |
|  |
| * **Fine Artists, Including Painters, Sculptors, and Illustrators (SOC 27-1013):** Create original artwork using any of a wide variety of media and techniques.
 |
| Entry-Level Educational Requirement: Bachelor's *degree* |
| Training Requirement: Long-term *on-the-job training* |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 27*%* |
|  |
| * **Craft Artists (SOC 27-1012)**: Create or reproduce hand-made objects for sale and exhibition using a variety of techniques, such as welding, weaving, pottery, and needlecraft.
 |
| Entry-Level Educational Requirement: No *formal educational credential* |
| Training Requirement: Long-term *on-the-job training* |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 27*%* |

# Occupational Demand

**Table 1. Employment Outlook for Applied 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 |
| Molders, Shapers, and Casters, Except Metal and Plastic | 1,062 | 1,023 | (39) |  (4%) | 548 | 110 | $11.53  | $19.41  |
| Fine Artists, Including Painters, Sculptors, and Illustrators | 2,210 | 2,265 | 55  | 2% | 953 | 191 | $8.06  | $10.50  |
| Craft Artists | 1,074 | 1,095 | 22  | 2% | 459 | 92 | $5.76  | $7.42  |
| **Total** | **4,346** | **4,383** | **37**  | **1%** | **1,961** | **392** | **$8.34**  | **$11.92**  |

*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 Applied 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 |
| Molders, Shapers, and Casters, Except Metal and Plastic | 224 | 222 | (2) |  (1%) | 114 | 23 | $10.50  | $16.30  |
| Fine Artists, Including Painters, Sculptors, and Illustrators | 712 | 746 | 34  | 5% | 318 | 64 | $8.04  | $10.42  |
| Craft Artists | 340 | 362 | 22  | 7% | 159 | 32 | $5.72  | $7.32  |
| **TOTAL** | **1,276** | **1,330** | **54**  | **4%** | **592** | **118** | **$7.85**  | **$10.63**  |

*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 (April 2018 - March 2019)**

| Occupation | Bay Region | East Bay |
| --- | --- | --- |
|  Fine Artists, Including Painters, Sculptors, and Illustrators (27-1013.00) | 851 | 191 |
|  Craft Artists (27-1012.00) | 15 | 2 |
|  Potters, Manufacturing (51-9195.05) | 1 |  |
|  **Total** |  **867**  |  **193**  |

*Source: Burning Glass*

**Table 4. Top Job Titles for Applied Design Occupations for latest 12 months (April 2018 - March 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | East Bay | Common Title | Bay | East Bay |
| Artist | 150 | 55 | Artist, Laboratory | 9 | 0 |
| Technical Artist | 66 | 9 | Eyelash Extension Artist | 8 | 3 |
| 3D Artist | 41 | 2 | Lead Artist | 8 | 0 |
| Senior Artist | 36 | 2 | Senior Marketing Artist | 8 | 0 |
| Digital Artist | 29 | 12 | Product Artist | 7 | 1 |
| Senior Technical Artist | 23 | 3 | Acrylic Painting, Drawing And/Or Watercolor Instructor | 6 | 4 |
| Artist, Information And Technology Industry | 22 | 5 | Animation Technical Artist | 6 | 0 |
| Multimedia Illustrator | 21 | 15 | Studio Artist | 6 | 2 |
| Illustrator | 18 | 1 | Artist, Contract | 5 | 0 |
| Artist, Human Resources, Information And Technology Industry | 14 | 2 | Character Artist | 5 | 0 |
| Teaching Artist | 14 | 9 | Contract Artist | 5 | 0 |
| Beauty Artist | 12 | 1 | Pre - Press Production Artist | 5 | 5 |
| UI Artist | 12 | 0 | Principal Technical Artist | 5 | 0 |
| Technical Illustrator | 10 | 0 | Senior Lighting Artist | 5 | 0 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Applied 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) |
| Independent Artists, Writers, and Performers (711510) | 123 | 114 | 9% | 8.4% |
| Ready-Mix Concrete Manufacturing (327320) | 113 | 106 | 8% | 7.3% |
| Other Concrete Product Manufacturing (327390) | 63 | 59 | 5% | 5.7% |
| Temporary Help Services (561320) | 62 | 66 | 5% | 0.1% |
| Glass Product Manufacturing Made of Purchased Glass (327215) | 60 | 56 | 4% | 9.6% |
| Concrete Block and Brick Manufacturing (327331) | 58 | 54 | 4% | 18.8% |
| Cut Stone and Stone Product Manufacturing (327991) | 55 | 48 | 4% | 11.1% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 53 | 81 | 4% | 0.1% |
| Other Pressed and Blown Glass and Glassware Manufacturing (327212) | 32 | 33 | 2% | 4.9% |
| Mineral Wool Manufacturing (327993) | 20 | 20 | 1% | 7.1% |
| Clay Building Material and Refractories Manufacturing (327120) | 19 | 17 | 1% | 6.3% |
| Gypsum Product Manufacturing (327420) | 18 | 14 | 1% | 5.3% |
| Pet and Pet Supplies Stores (453910) | 17 | 18 | 1% | 0.5% |
| Software Publishers (511210) | 17 | 20 | 1% | 0.0% |
| All Other Miscellaneous Store Retailers (except Tobacco Stores) (453998) | 16 | 16 | 1% | 0.5% |
| Motion Picture and Video Production (512110) | 15 | 16 | 1% | 0.4% |
| Surgical and Medical Instrument Manufacturing (339112) | 15 | 15 | 1% | 0.2% |
| Pharmaceutical Preparation Manufacturing (325412) | 14 | 15 | 1% | 0.1% |
| Tile and Terrazzo Contractors (238340) | 13 | 15 | 1% | 0.4% |
| Lime Manufacturing (327410) | 13 | 15 | 1% | 12.5% |
| Pottery, Ceramics, and Plumbing Fixture Manufacturing (327110) | 13 | 12 | 1% | 4.9% |

*Source: EMSI 2019.1*

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | East Bay |
| Estee Lauder Company | 47 | Machine Zone | 8 | US Army | 14 |
| US Army | 20 | Crowdstar, Inc | 7 | Estee Lauder Company | 12 |
| Ulta Beauty Inc. | 13 | Google Inc. | 7 | Ulta Beauty Inc. | 8 |
| Apple Inc. | 11 | Zynga | 7 | Grumbacher | 4 |
| Cryptic Studios Inc. | 11 | Glu Mobile | 6 | Igg Corporation | 4 |
| Facebook | 11 | Kendo | 6 | Big Fish Games | 3 |
| Morphe | 10 | Ncsoft Corporation | 6 | Big Fish Games, Inc | 3 |
| Activision | 9 | Sephora | 6 | Center For Community Arts | 3 |
| Electronic Arts Inc. | 9 | Sony Electronics Inc. | 6 | Daolab Studios | 3 |
| Hogarth Worldwide | 9 | Xoriant | 6 | Pinot's Palette Alameda | 3 |
| Pocket Gems | 9 | Bella Lash & Beauty Bar | 5 | Ulta Cosmetics Salon Inc. | 3 |
| Ulta Cosmetics Salon Inc. | 9 | Daolab Studios | 5 | Acco Engineered Systems | 2 |
| Crystal Dynamics Inc. | 8 | Disney | 5 | Auto Warehousing Co | 2 |
| Grumbacher | 8 | East Side Community Arts | 5 | Bay Area Children's Theatre | 2 |

*Source: Burning Glass*

# Educational Supply

There were no colleges in the Bay Region issuing awards in the last 3 years on TOP 1009.00 - Applied Design. Based on Launchboard data, students took courses in Applied Design at nine community colleges in the Bay Region in 2016-17.

# Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 392 annual openings for the Applied Design occupational cluster and no annual (3-year average) awards for an annual undersupply of 392 students. In the East Bay Sub-Region, there is also a gap with 118 annual openings and no annual (3-year average) awards for an annual undersupply of 118 students.

# Student Outcomes

**Table 7. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1009.00 - Applied Design**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay (All CTE Programs) | Chabot College (All CTE Programs) | State (1009.00) | Bay (1009.00) | East Bay (1009.00) | Chabot College (1009.00) |
| % Employed Four Quarters After Exit | 74% | 74% | 52% | n/a | n/a | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $9,425 | $5,802 | n/a | n/a | n/a |
| Median % Change in Earnings | 46% | 71% | 52% | n/a | n/a | n/a |
| % of Students Earning a Living Wage | 63% | 60% | n/a | n/a | n/a | n/a |

*Source: Launchboard Pipeline (version available on 4/9/19)*

# Skills, Certifications and Education

**Table 8. Top Skills for Applied Design Occupations in Bay Region (April 2018 - March 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Adobe Photoshop | 280 | Adobe Creative Suite | 65 | Color Theory | 33 |
| Maya | 227 | Adobe Aftereffects | 63 | Unity | 33 |
| Animation | 113 | Customer Service | 62 | Visual Displays | 33 |
| Graphic Design | 112 | Microsoft C# | 59 | Content Management | 32 |
| Game Development | 102 | Painting | 52 | EPIC Unreal Engine | 32 |
| Python | 97 | Painting (Art) | 52 | Social Media | 32 |
| Retail Industry Knowledge | 94 | Visual Merchandising | 52 | V-Ray | 32 |
| Adobe Illustrator | 90 | C++ | 51 | Budgeting | 30 |
| Teaching | 85 | Scheduling | 49 | Music | 30 |
| Zbrush | 84 | Product Knowledge | 47 | Prototyping | 30 |
| Adobe Indesign | 82 | Multimedia | 43 | Sales Goals | 30 |
| Illustration | 73 | 3D Studio Max | 39 | Store Management | 30 |
| Art Direction | 70 | Merchandising | 39 | Anatomy | 28 |
| Adobe Acrobat | 67 | Cleaning | 38 | 3D computer graphics | 27 |
| 3D Modeling / Design | 66 | Typesetting | 37 | Description and Demonstration of Products | 27 |

*Source: Burning Glass*

**Table 9. Certifications for Applied Design Occupations in the Bay Region (April 2018 - March 2019)**

Note: 90% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| Certification | Postings | Certification | Postings |
| Makeup Artist | 52 | Certified Medical Technologist | 1 |
| Driver's License | 12 | Cross-Cultural Language and Academic Development | 1 |
| Cosmetology License | 10 | IT Infrastructure Library (ITIL) Certification | 1 |
| Food Handler Certification | 4 | Licensed Barber | 1 |
| Certified Esthetician | 1 | Microsoft Certified Solutions Expert (MCSE) | 1 |

*Source: Burning Glass*

**Table 10. Education Requirements for Applied Design Occupations in Bay Region**

Note: 68% 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 | 68 (24%) |
| Associate Degree | 3 (1%) |
| Bachelor’s Degree or Higher | 208 (75%) |

*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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