** Entrepreneurship and Management Occupations**

**Labor Market Information Report**

**Berkeley City College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

August 2019

# Recommendation

Based on all available data, there appears to be a significant undersupply of Entrepreneurship and Management 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 9,904 students in the Bay region and 2,428 students in the East Bay Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0506.40 - Small Business and Entrepreneurship 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 compared to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Berkeley City College and in the region.

# Introduction

This report profiles Entrepreneurship and Management Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Berkeley City College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Information Technology Project Managers (15-1199.09), therefore, the data shown in Tables 1 and 2 is for Computer Occupations, All Other (at the six digit SOC level) and likely overstates demand for Information Technology Project Managers. Similarly, LMI is not available at the eight-digit SOC Code level for Storage and Distribution Managers (11-3071.02), therefore, the data shown in Tables 1 and 2 is for Transportation, Storage and Distribution Managers (at the six digit SOC level) and likely overstates demand for Storage and Distribution Managers. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for both Information Technology Project Managers (15-1199.09) and Storage and Distribution Managers (11-3071.02).

|  |
| --- |
| * **First-Line Supervisors of Office and Administrative Support Workers (SOC 43-1011):** Directly supervise and coordinate the activities of clerical and administrative support workers. |
| Entry-Level Educational Requirement: High school *diploma or equivalent* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 39% |
| * **Transportation, Storage, and Distribution** **Managers (SOC 11-3071):** Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers. |
| Entry-Level Educational Requirement: High *school diploma or equivalent* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 36*%* |
| * **Administrative Services Managers (SOC 11-3011):** Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services. Medical records administrators are included in “Medical and Health Services Managers” (11-9111). Excludes “Purchasing Managers" (11-3061). |
| Entry-Level Educational Requirement: Bachelor's *degree* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 38*%* |
| * **Computer Occupations, All Other (SOC 15-1199):** All computer occupations not listed separately. Excludes “Computer and Information Systems Managers” (11-3021), “Computer Hardware Engineers” (17-2061), “Electrical and Electronics Engineers” (17-2070), “Computer Science Teachers, Postsecondary” (25-1021), “Multimedia Artists and Animators” (27-1014), “Graphic Designers” (27-1024), “Computer Operators” (43-9011), and “Computer, Automated Teller, and Office Machine Repairs” (49-2011). |
| Entry-Level Educational Requirement: Bachelor's *degree* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 35*%* |
| * **First-Line Supervisors of Production and Operating Workers (SOC 51-1011):** Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders. |
| Entry-Level Educational Requirement: High *school diploma or equivalent* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 34*%* |

# Occupational Demand

**Table 1. Employment Outlook for Entrepreneurship and Management Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Total Openings | Annual Openings | 10% Hourly Wage | Median Hourly Wage |
| First-Line Supervisors of Office and Administrative Support Workers | 38,459 | 40,325 | 1,865 | 5% | 21,001 | 4,200 | $19.34 | $30.80 |
| Transportation, Storage, and Distribution Managers | 4,685 | 4,886 | 201 | 4% | 2,006 | 401 | $31.42 | $53.94 |
| Administrative Services Managers | 10,956 | 11,727 | 771 | 7% | 5,255 | 1,051 | $34.00 | $58.26 |
| Computer Occupations, All Other | 34,129 | 37,296 | 3,168 | 9% | 14,979 | 2,996 | $30.64 | $55.84 |
| First-Line Supervisors of Production and Operating Workers | 11,519 | 12,356 | 837 | 7% | 6,597 | 1,319 | $19.01 | $33.18 |
| **Total** | **99,747** | **106,589** | **6,842** | **7%** | **49,838** | **9,968** | **$25.34** | **$43.74** |

*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 Entrepreneurship and Management Occupations in East Bay Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Total Openings | Annual Openings | 10% Hourly Wage | Median Hourly Wage |
| First-Line Supervisors of Office and Administrative Support Workers | 10,905 | 11,175 | 270 | 2% | 5,632 | 1,126 | $18.26 | $28.43 |
| Transportation, Storage, and Distribution Managers | 1,607 | 1,673 | 66 | 4% | 683 | 137 | $29.42 | $51.94 |
| Administrative Services Managers | 2,981 | 3,122 | 142 | 5% | 1,347 | 269 | $31.03 | $53.18 |
| Computer Occupations, All Other | 6,570 | 6,710 | 140 | 2% | 2,334 | 467 | $26.26 | $46.42 |
| First-Line Supervisors of Production and Operating Workers | 3,755 | 4,151 | 396 | 11% | 2,300 | 460 | $17.79 | $32.72 |
| **TOTAL** | **25,817** | **26,832** | **1,014** | **4%** | **12,296** | **2,459** | **$22.40** | **$37.95** |

*Source: EMSI 2019.2*

**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 (August 2018 - July 2019)**

| Occupation | Bay Region | East Bay |
| --- | --- | --- |
| Information Technology Project Managers | 15,522 | 2,592 |
| First-Line Supervisors of Office and Administrative Support Workers | 11,324 | 2,287 |
| Administrative Services Managers | 5,026 | 1,223 |
| First-Line Supervisors of Production and Operating Workers | 1,919 | 748 |
| Storage and Distribution Managers | 1,139 | 498 |
| **Total** | **34,930** | **7,348** |

*Source: Burning Glass*

**Table 4a. Top Job Titles for Entrepreneurship and Management Occupations for latest 12 months (August 2018 - July 2019) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Office Manager | 2,603 | Technology Manager | 374 |
| Customer Manager | 1,485 | Warehouse Supervisor | 338 |
| Technical Project Manager | 1,080 | Front Office Manager | 311 |
| Information Technology Project Manager | 1,048 | Administrative Manager | 272 |
| Facilities Manager | 1,045 | Infrastructure Project Manager | 263 |
| Information Technology Manager | 959 | Information Technology Program Manager | 248 |
| Project Manager | 792 | Director of Facilities | 227 |
| Facilities Coordinator | 633 | Assistant Office Manager | 212 |
| Production Supervisor | 599 | Customer Service Supervisor | 206 |
| Payroll Manager | 515 | Associate Director | 203 |
| Scrum Master | 502 | Accounts Payable Manager | 201 |
| Customer Service Manager | 478 | Front Office Supervisor | 198 |
| Technical Lead | 437 | Administrative Analyst | 185 |
| Warehouse Manager | 432 | Distribution Manager | 181 |

**Table 4b. Top Job Titles for Entrepreneurship and Management Occupations for latest 12 months (August 2018 - July 2019) East Bay Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | East Bay | Common Title | East Bay |
| Office Manager | 596 | Manufacturing Supervisor | 70 |
| Production Supervisor | 279 | Technical Lead | 69 |
| Facilities Manager | 250 | Customer Service Supervisor | 66 |
| Information Technology Project Manager | 225 | Distribution Manager | 63 |
| Technical Project Manager | 211 | Associate Director | 61 |
| Warehouse Manager | 209 | Administrative Manager | 60 |
| Information Technology Manager | 198 | Front Office Manager | 52 |
| Warehouse Supervisor | 159 | Business Office Manager | 52 |
| Customer Manager | 156 | Accounts Payable Manager | 50 |
| Facilities Coordinator | 138 | Director of Facilities | 48 |
| Customer Service Manager | 137 | Technology Manager | 47 |
| Project Manager | 134 | Plant Manager | 47 |
| Payroll Manager | 122 | Administrative Officer | 45 |
| Scrum Master | 85 | Infrastructure Project Manager | 44 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Entrepreneurship and Management Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2019) | Jobs in Industry (2023) | % Change (2019-23) | % in Industry (2018) |
| Custom Computer Programming Services (541511) | 7,970 | 8,878 | 11.4% | 8.0% |
| Computer Systems Design Services (541512) | 4,718 | 5,107 | 8.2% | 4.7% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 4,034 | 4,275 | 6.0% | 4.0% |
| Local Government, Excluding Education and Hospitals (903999) | 3,753 | 3,880 | 3.4% | 3.8% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 3,674 | 4,825 | 31.3% | 3.7% |
| Software Publishers (511210) | 2,800 | 3,274 | 16.9% | 2.8% |
| Federal Government, Civilian, Excluding Postal Service (901199) | 2,404 | 2,348 | (2.3%) | 2.4% |
| Data Processing, Hosting, and Related Services (518210) | 2,201 | 2,784 | 26.5% | 2.2% |
| Supermarkets and Other Grocery (except Convenience) Stores (445110) | 1,495 | 1,581 | 5.8% | 1.5% |
| Commercial Banking (522110) | 1,412 | 1,163 | (17.6%) | 1.4% |
| Electronic Computer Manufacturing (334111) | 1,374 | 1,444 | 5.1% | 1.4% |
| Offices of Physicians (except Mental Health Specialists) (621111) | 1,324 | 1,329 | 0.4% | 1.3% |
| General Medical and Surgical Hospitals (622110) | 1,226 | 1,176 | (4.1%) | 1.2% |
| Hotels (except Casino Hotels) and Motels (721110) | 1,214 | 1,225 | 0.9% | 1.2% |
| Other Computer Related Services (541519) | 1,161 | 1,360 | 17.1% | 1.2% |
| Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715) | 1,136 | 1,085 | (4.5%) | 1.1% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 1,055 | 998 | (5.4%) | 1.1% |
| Offices of Dentists (621210) | 1,001 | 1,094 | 9.3% | 1.0% |
| Custom Computer Programming Services (541511) | 7,970 | 8,878 | 11.4% | 8.0% |
| Computer Systems Design Services (541512) | 4,718 | 5,107 | 8.2% | 4.7% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 4,034 | 4,275 | 6.0% | 4.0% |
| Local Government, Excluding Education and Hospitals (903999) | 3,753 | 3,880 | 3.4% | 3.8% |

*Source: EMSI 2019.2*

**Table 6. Top Employers Posting Entrepreneurship and Management Occupations in Bay Region and East Bay Sub-Region (August 2018 - July 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | East Bay |
| Cisco Systems Incorporated | 297 | Walmart / Sam's | 108 | University Of California Berkeley | 113 |
| H&R Block | 242 | Jones Lang Lasalle Incorporated | 105 | University California | 94 |
| Infosys | 209 | Amazon | 102 | Kaiser Permanente | 87 |
| Marriott International Incorporated | 202 | Visa | 98 | H&R Block | 83 |
| Apple Inc. | 187 | Salesforce | 88 | Uc San Diego | 79 |
| University California | 180 | Aramark | 86 | Workday, Inc | 72 |
| Target | 179 | Sfmta | 85 | Target | 62 |
| Stanford University | 177 | Workday, Inc | 83 | Safeway Incorporated | 35 |
| Google Inc. | 151 | Uc San Diego | 79 | Lawrence Livermore National Laboratory | 34 |
| Wipro | 145 | Microsoft Corporation | 79 | Bio-Rad Laboratories | 34 |
| Cynet Systems Inc | 145 | Anthem Blue Cross | 76 | Marriott International Incorporated | 33 |
| Accenture | 143 | Cushman & Wakefield | 75 | Albertsons | 30 |
| Facebook | 131 | Gilead Sciences | 74 | Tesla | 29 |
| Kaiser Permanente | 127 | Wells Fargo | 72 | Tesla Motors | 28 |
| University Of California Berkeley | 120 | Deloitte | 72 | Infosys | 26 |
| cbre | 116 | Republic Bancorp | 71 | Aramark | 26 |
| IBM | 116 | City and County of San Francisco | 70 | Ross Stores | 25 |

*Source: Burning Glass*

# Educational Supply

There are 15 community colleges in the Bay Region issuing 64 awards on average annually (last 3 years) on TOP 0506.40 - Small Business and Entrepreneurship. There are six colleges in the East Bay Sub-Region issuing 31 awards on average annually (last 3 years) on this TOP code.

**Table 7. Awards on TOP 0506.40 - Small Business and Entrepreneurship in Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificates | Noncredit | Total |
| Alameda | East Bay |  | 2 |  | 2 |
| Canada | Mid-Peninsula | 1 | 1 |  | 2 |
| Chabot | East Bay | 6 | 3 |  | 9 |
| DeAnza | Silicon Valley |  | 4 |  | 4 |
| Diablo Valley | East Bay |  | 5 |  | 5 |
| Las Positas | East Bay | 4 | 1 |  | 5 |
| Los Medanos | East Bay | 4 | 2 |  | 6 |
| Merritt | East Bay |  | 4 |  | 4 |
| Monterey | Santa Cruz & Monterey | 1 |  |  | 1 |
| San Francisco Centers | Mid-Peninsula |  |  | 6 | 6 |
| San Jose City | Silicon Valley | 2 | 3 |  | 5 |
| Santa Rosa | North Bay |  | 12 |  | 12 |
| Skyline | Mid-Peninsula |  | 1 |  | 1 |
| Solano | North Bay | 1 |  |  | 1 |
| West Valley | Silicon Valley |  | 1 |  | 1 |
| **Total Bay Region** | | **19** | **39** | **6** | **64** |
| **Total East Bay Sub-Region** | | **14** | **17** | **-** | **31** |

# *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 9,968 annual openings for the Entrepreneurship and Management occupational cluster and 64 annual (3-year average) awards for an annual undersupply of 9,904 students. In the East Bay Sub-Region, there is also a gap with 2,459 annual openings and 31 annual (3-year average) awards for an annual undersupply of 2,428 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0506.40 - Small Business and Entrepreneurship**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | Berkeley City College (All CTE Programs) | State (0506.40) | Bay (0506.40) | East Bay  (0506.40) | Berkeley City College (0506.40) |
| % Employed Four Quarters After Exit | 74% | 54% | 57% | 65% | 68% | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $7,380 | $7,378 | $9,880 | $10,080 | n/a |
| Median % Change in Earnings | 46% | 38% | 45% | 51% | 13% | n/a |
| % of Students Earning a Living Wage | 63% | 45% | 53% | 64% | 64% | n/a |

*Source: Launchboard Pipeline (version available on 8/14/19)*

# Skills, Certifications and Education

**Table 9. Top Skills for Entrepreneurship and Management Occupations in Bay Region (August 2018 - July 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Project Management | 11,061 | Onboarding | 2,185 | Change Management | 1,589 |
| Budgeting | 7,977 | Quality Assurance and Control | 2,093 | Customer Billing | 1,588 |
| Scheduling | 6,794 | Repair | 2,069 | Oracle | 1,542 |
| Customer Service | 5,363 | Atlassian JIRA | 1,929 | Key Performance Indicators (KPIs) | 1,532 |
| Staff Management | 3,570 | Software as a Service (SaaS) | 1,922 | Sales | 1,498 |
| Scrum | 3,530 | Stakeholder Management | 1,847 | Account Management | 1,482 |
| Office Management | 3,339 | Business Process | 1,775 | SAP | 1,477 |
| Software Development | 3,029 | Salesforce | 1,729 | Java | 1,437 |
| Project Planning and Development Skills | 2,913 | Product Management | 1,727 | Quality Management | 1,350 |
| Customer Contact | 2,361 | Supervisory Skills | 1,701 | Conflict Management | 1,340 |
| Accounting | 2,222 | SQL | 1,649 | Facility Management | 1,337 |
| Scrum Master | 2,187 | Process Improvement | 1,591 | E-Commerce | 1,314 |

*Source: Burning Glass*

**Table 10. Certifications for Entrepreneurship and Management Occupations in Bay Region (August 2018 - July 2019)**

Note: 80% 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 |
| Project Management Certification | 2,634 | First Aid Cpr Aed | 139 |
| Project Management Professional (PMP) | 1,787 | Certified Facility Manager (CFM) | 123 |
| Driver's License | 1,636 | Certified Information Systems Security Professional (CISSP) | 114 |
| Certified ScrumMaster (CSM) | 1,053 | Security Clearance | 102 |
| IT Infrastructure Library (ITIL) Certification | 527 | Certified Information Systems Auditor (CISA) | 100 |
| ITIL Certification | 221 | Six Sigma Certification | 88 |
| Agile Certification | 206 | Certified Information Security Manager (CISM) | 69 |
| Certified Scrum Professional (CSP) | 186 | PMI Certified Associate in Project Management (CAPM) | 64 |
| Certified Payroll Professional (CPP) | 177 | Cisco Certified Network Associate (CCNA) | 62 |
| PMI Agile Certified Practitioner (PMI-ACP) | 163 | Program Management Professional (PgMP) | 61 |
| Forklift Operator Certification | 162 | Phlebotomy Certification | 56 |
| Certified Protection Professional (CPP) | 153 | Series 7 | 53 |
| Certified Payroll Professional (CPP) | 177 | Cisco Certified Network Associate (CCNA) | 62 |

*Source: Burning Glass*

**Table 11. Education Requirements for Entrepreneurship and Management Occupations in Bay Region**

Note: 42% 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 | 2,915 | 15% |
| Associate Degree | 861 | 4% |
| Bachelor’s Degree or Higher | 15,427 | 81% |

*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, 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