**IT Help Desk Technician Occupations**

**Labor Market Information Report**

**Mission College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

September 2020

# Recommendation

Based on all available data, there appears to be an undersupply of IT Help Desk Technician workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County). There is a projected annual gap of about 7,768 students in the Bay region and 3,000 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for TOP 0702.00-Computer Information Systems programs 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 Mission College and in the region.

# Introduction

This report profiles IT Help Desk Technician Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Mission College. Labor market information (LMI) is not available for Computer Operators (43-9011) 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 Computer Operators. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for Computer Operators (43-9011).

|  |
| --- |
| * **Computer User Support Specialists (15-1151 / 15-1232):** Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Excludes “Network and Computer Systems Administrators” (15-1142).
 |
| Entry-Level Educational Requirement: Some college, no degree |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 41% |
|  |
| * **Computer Operators (43-9011/15-1299):** Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. Monitor and respond to operating and error messages. May enter commands at a computer terminal and set controls on computer and peripheral devices. Excludes “Computer Occupations” (15-1100) and "Data Entry Keyers" (43-9021).
 |
| Entry-Level Educational Requirement: High *school* diploma or equivalent |
| Training Requirement: Moderate-termon-the-job training |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 42*%* |

**Occupational Demand**

**Table 1. Employment Outlook for IT Help Desk Technician Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Computer User Support Specialists |  33,416  |  38,498  | 5,081 | 15% |  19,839  |  3,968  | $26.55 | $35.04 |
| Computer Occupations, All Other |  38,974  |  42,324  | 3,350 | 9% |  19,456  |  3,891  | $41.02 | $56.51 |
| **Total** |  **72,390**  |  **80,822**  | **8,432** | **12%** |  **39,295**  |  **7,859**  | **$34.34** | **$46.60** |

*Source: EMSI 2020.3*

**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 IT Help Desk Technician Occupations in Silicon** **Valley Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Computer User Support Specialists |  13,292  |  15,362  | 2,070 | 16% |  7,946  |  1,589  | $25.54 | $36.25 |
| Computer Occupations, All Other |  14,080  |  15,400  | 1,320 | 9% |  7,129  |  1,426  | $47.30 | $64.70 |
| **Total** |  **27,372**  |  **30,762**  | **3,391** | **12%** |  **15,075**  |  **3,015**  | **$36.73** | **$50.88** |

*Source: EMSI 2020.3*

**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 (Sept 2019 - Aug 2020)**

| Occupation | Bay Region | Silicon Valley Sub-Region |
| --- | --- | --- |
| Computer User Support Specialists | 13,803 | 4,866 |
| Computer Operators | 85 | 28 |
|  **TOTAL** | **13,888** | **4,894** |

*Source: Burning Glass*

**Table 4a. Top Job Titles for IT Help Desk Technician Occupations for latest 12 months (Sept 2019 - Aug 2020) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Desktop Support | 886 | Desktop Support Specialist | 161 |
| Technical Support Engineer | 690 | Mechanic | 159 |
| Information Technology Specialist | 465 | Technical Support Analyst | 136 |
| Desktop Support Technician | 425 | Desktop Technician | 131 |
| Information Technology Technician | 411 | Customer Support Engineer | 130 |
| Information Technology Support Specialist | 387 | Help Desk Specialist | 129 |
| Help Desk Technician | 362 | Desktop Support Analyst | 126 |
| Technical Support Specialist | 325 | Support Specialist | 105 |
| Lead Technician | 324 | Applications Engineer | 105 |
| Field Service Technician | 317 | Support Technician | 103 |
| PC Technician | 211 | Geek Squad Agent | 99 |
| Computer Technician | 207 | Help Desk Analyst | 91 |
| Information Technology Support Technician | 206 | Sap Abap | 90 |
| Help Desk Support | 173 | Technical Support Representative | 87 |

**Table 4b. Top Job Titles for IT Help Desk Technician Occupations for latest 12 months (Sept 2019 - Aug 2020) Silicon** **Valley Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Silicon Valley | Common Title | Silicon Valley |
| Technical Support Engineer | 335 | Sap Abap | 61 |
| Desktop Support | 296 | Help Desk Support | 60 |
| Information Technology Technician | 126 | Sap | 56 |
| Help Desk Technician | 121 | Desktop Support Specialist | 46 |
| Information Technology Support Specialist | 113 | Technical Support Analyst | 37 |
| Desktop Support Technician | 112 | Support Technician | 36 |
| Lead Technician | 111 | Information Technology Support Technician | 36 |
| Customer Support Engineer | 98 | Hardware Technician | 32 |
| Information Technology Specialist | 90 | Field Support Technician | 32 |
| Field Service Technician | 89 | Support Specialist | 29 |
| Computer Technician | 79 | Service Technician | 29 |
| Technical Support Specialist | 72 | Sap Crm | 29 |
| PC Technician | 70 | Technical Support Representative | 28 |
| Desktop Technician | 70 | Technical Support | 24 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring IT Help Desk Technician Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2019) | Jobs in Industry (2024) | % Change (2019-24) | % Occupation Group in Industry (2019) |
| Custom Computer Programming Services (541511) | 14,760 | 17,427 | 18% | 20% |
| Computer Systems Design Services (541512) | 8,432 | 9,512 | 13% | 12% |
| Software Publishers (511210) | 5,845 | 7,179 | 23% | 8% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 4,372 | 5,414 | 24% | 6% |
| Data Processing, Hosting, and Related Services (518210) | 3,351 | 4,349 | 30% | 5% |
| Federal Government, Civilian, Excluding Postal Service (901199) | 2,476 | 2,396 | -3% | 3% |
| Electronic Computer Manufacturing (334111) | 2,228 | 2,370 | 6% | 3% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 2,213 | 2,260 | 2% | 3% |
| Other Computer Related Services (541519) | 2,119 | 2,599 | 23% | 3% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 1,636 | 1,778 | 9% | 2% |
| Colleges, Universities, and Professional Schools (611310) | 1,525 | 1,671 | 10% | 2% |
| Local Government, Excluding Education and Hospitals (903999) | 1,019 | 1,049 | 3% | 1% |
| Temporary Help Services (561320) | 991 | 1,004 | 1% | 1% |
| Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715) | 891 | 920 | 3% | 1% |
| Administrative Management and General Management Consulting Services (541611) | 727 | 874 | 20% | 1% |

*Source: EMSI 2020.3*

**Table 6. Top Employers Posting IT Help Desk Technician Occupations in Bay Region and Silicon** **Valley Sub-Region (Sept 2019 - Aug 2020)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Silicon Valley |
| Stanley Black & Decker | 151 | Wells Fargo | 26 | IBM | 41 |
| Best Buy | 122 | US Government | 26 | Best Buy | 29 |
| Milestone Technologies Incorporated | 86 | Sgic Cloud Technologies Inc | 26 | Excell | 27 |
| Milestone Technologies | 80 | Lawrence Livermore National Laboratory | 26 | Vmware Incorporated | 24 |
| Amazon | 78 | Vmware Incorporated | 25 | Cloudious Llc | 24 |
| Excell | 67 | Splunk | 25 | Amazon | 24 |
| IBM | 47 | Codeforce 360 | 25 | Sgic Cloud Technologies Inc | 23 |
| Accenture | 34 | Svk Technology Solutions | 24 | Astreya | 22 |
| Thermo Fisher Scientific Inc | 33 | Trinamix | 23 | Wipro | 20 |
| Facebook | 33 | Splunk, Inc | 23 | Milestone Technologies Incorporated | 20 |
| Tesla | 32 | Samsung America, Inc. | 23 | Samsung America, Inc. | 19 |
| Astreya | 32 | Microsoft Corporation | 23 | Milestone Technologies | 19 |
| Wipro | 31 | Asurion | 23 | KLA-Tencor | 19 |
| Sunpower Corporation | 30 | Apple Inc. | 23 | Palo Alto Networks | 18 |
| Cloudious Llc | 29 | Allied Universal | 23 | Synkriom | 17 |
| Bcforward | 29 | World Wide Techservices | 22 | Apple Inc. | 17 |
| Cogent Infotech Corporation | 28 | Synkriom | 22 | Accenture | 17 |

*Source: Burning Glass*

# Educational Supply

There are 11 community colleges in the Bay Region issuing 53 awards on average annually (last 3 years ending 2018-19) on TOP 0702.00-Computer Information Systems. There are three colleges in the Silicon Valley Sub-Region issuing 15 awards on average annually (last 3 years) on this TOP code.

There is one (1) Other Educational Institution in the Bay Region issuing 38 awards on average annually (last 3 years ending 2016-17) on CIP 11.1006 - Computer Support Specialist. There are no Other Educational Institutions in the Silicon Valley Sub-Region with programs on this CIP code.

**Table 7a. Awards on TOP 0702.00-Computer Information Systems in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **College** | **Sub-Region** | **Associates** | **Certificate Low Unit** | **Total** |
| Alameda | East Bay | 6 | 4 | 10 |
| Berkeley City | East Bay | 1 | 1 | 2 |
| Chabot | East Bay | 1 |  | 1 |
| Gavilan | Silicon Valley | 1 |  | 1 |
| Las Positas | East Bay | 4 |  | 4 |
| Los Medanos | East Bay |  | 1 | 1 |
| Merritt | East Bay | 5 | 6 | 11 |
| Mission | Silicon Valley | 9 | 4 | 13 |
| Napa | North Bay | 2 |  | 2 |
| Skyline | Mid-Peninsula | 5 | 2 | 7 |
| West Valley | Silicon Valley |  | 1 | 1 |
| **Total Bay Region** | **34** | **19** | **53** |
| **Total Silicon** **Valley Sub-Region** | **10** | **5** | **15** |

# Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

**Table 7b. Other Education Institution Awards on CIP 11.1006 - Computer Support Specialist in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **College** | **Sub-Region** | **Associate Degree** | **Award < 1 academic yrs.** | **Total** |
| Unitek College |  East Bay |   | 38 | 38 |
| **Total Bay Region** | **0** | **38** | **38** |
| **Total Silicon Valley Sub-Region** | **0** | **0** | **0** |

# Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

# Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 7,859 annual openings for the IT Help Desk Technician occupational cluster and 91 annual (3-year average) awards for an annual undersupply of 7,768 students. In the Silicon Valley Sub-Region, there is also a gap with 3,015 annual openings and 15 annual (3-year average) awards for an annual undersupply of 3,000 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0702.00-Computer Information Systems**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2017-18 | **Bay** All CTE Programs | **Mission College** All CTE Programs | **State (**0702.00) | **Bay (**0702.00) | **Silicon Valley**  (0702.00) | **Mission College** (0702.00) |
| % Employed Four Quarters After Exit | 74% | 77% | 58% | 64% | 73% | 74% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $8,007 | $23,645 | $10,021 | $15,610 | $23,645 |
| Median % Change in Earnings | 46% | 49% | 23% | 18% | 23% | 11% |
| % of Students Earning a Living Wage | 63% | 66% | 54% | 47% | 64% | 77% |

*Source: Launchboard Pipeline (version available on (9/8/20)*

# Skills, Certifications and Education

**Table 9. Top Skills for IT Help Desk Technician Occupations in Bay Region (Sept 2019 - Aug 2020)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Technical Support | 6,019 | Troubleshooting Technical Issues | 1,113 | Domain Name System (DNS) | 725 |
| Customer Service | 3,998 | Software Installation | 1,031 | Wide Area Network (WAN) | 725 |
| Repair | 2,669 | Computer Installation and Setup | 1,029 | Java | 709 |
| Printers | 1,996 | Hardware and Software Configuration | 1,011 | Business Process | 691 |
| It Support | 1,962 | Network Troubleshooting | 999 | Information Systems | 684 |
| Help Desk Support | 1,952 | Project Management | 956 | Network Hardware/Software Maintenance | 664 |
| Microsoft Active Directory | 1,909 | Virtual Private Networking  | 942 | Break/Fix | 658 |
| Hardware and Software Installation | 1,787 | Transmission Control Protocol / Internet Protocol  | 849 | Application Support | 651 |
| Microsoft Operating Systems | 1,394 | Python | 817 | Salesforce | 649 |
| SAP | 1,354 | Computer Hardware/Software Knowledge | 804 | System Administration | 649 |
| Customer Contact | 1,337 | Oracle | 803 | Telecommunications | 625 |
| Linux | 1,288 | Service Level Agreement | 763 | ITIL | 624 |
| MacIntosh OS | 1,266 | Scheduling | 761 | System/Network Configuration | 615 |
| Hardware Troubleshooting | 1,229 | Cisco | 759 | Onboarding | 613 |
| SQL | 1,159 | Hardware Experience | 752 | Video Conferencing | 609 |

*Source: Burning Glass*

**Table 10. Certifications for IT Help Desk Technician Occupations in Bay Region (Sept 2019 - Aug 2020)**

Note: 76% 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 |
| Driver's License | 965 | Microsoft Certified Desktop Support Technician (Legacy) | 68 |
| Certified A+ Technician | 876 | ITIL Foundation | 47 |
| IT Infrastructure Library (ITIL) Certification | 669 | Certified Information Systems Security Professional (CISSP) | 46 |
| CompTIA Network+ | 359 | Apple Certified Macintosh Technician | 37 |
| Microsoft Certified Professional (MCP) | 291 | Project Management Professional (PMP) | 36 |
| Cisco Certified Network Associate (CCNA) | 251 | Cisco Certified Internetwork Expert (CCIE) | 36 |
| Security Clearance | 213 | Microsoft Certified Systems Engineer (Legacy) | 32 |
| Microsoft Certified Solutions Associate (MCSA) | 198 | Mbe Certified | 32 |
| Microsoft Certified Solutions Expert (MCSE) | 192 | CompTIA Linux+ | 31 |
| CompTIA Security+ | 127 | SAP Certification | 30 |
| Project Management Certification | 126 | Microsoft Certified Technology Specialist (MCTS) | 30 |
| Cisco Certified Network Professional (CCNP) | 71 | Certified Novell Administrator | 30 |

*Source: Burning Glass*

**Table 11. Education Requirements for IT Help Desk Technician Occupations in Bay Region**

Note: 56% 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 | 1,432 | 23% |
| Associate Degree | 774 | 13% |
| Bachelor’s Degree or Higher | 3,632 | 64% |

*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 or (831) 479-6481
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544