

# Networking Computing Occupations

# Labor Market Information Report

# Foothill College

## Prepared by the San Francisco Bay Center of Excellence for Labor Market Research

**June 2021**

## Recommendation

Based on all available data, there appears to be an “undersupply” of Networking Computing 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 2,683 students in the Bay region and 1,044 students in the Silicon Valley Sub-Region.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 0708.00 - Computer Infrastructure and Support 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 Foothill College and in the region.

This report profiles Networking Computing Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College.

* **Computer User Support Specialists (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%

## Occupational Demand

**Table 1. Employment Outlook for Networking Computing Occupations in Bay Region**

| **Occupation** | **2019 Jobs** | **2024 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Computer User  Support Specialists | 30,714 | 31,983 | 1,269 | 4% | 16,523 | 2,754 | $ 25 | $ 34 |
| **Total** | **30,714** | **31,983** | **1,269** | **4%** | **16,523** | **2,754** | **$25** | **$34** |
| Source: EMSI 2021.2 | | | | | | | | |

**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 Networking Computing Occupations in Silicon Valley Sub-region**

| **Occupation** | **2019 Jobs** | **2024 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Computer User  Support Specialists | 11,701 | 11,781 | 80 | 1% | 6,263 | 1,044 | $ 21 | $ 31 |
| **Total** | **11,701** | **11,781** | **80** | **1%** | **6,263** | **1,044** | **$21** | **$31** |
| Source: EMSI 2021.2 | | | | | | | | |

**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 (Jun 2020 - May 2021)**

| **Occupation** | **Bay Region** | **Silicon Valley** |
| --- | --- | --- |
| Computer User Support Specialists | 10,019 | 3,292 |
| Source: Burning Glass | | |

**Table 4a. Top Job Titles for Networking Computing Occupations for latest 12 months (Jun 2020 - May 2021) Bay Region**

| **Title** | **Bay** | **Title** | **Bay** |
| --- | --- | --- | --- |
| Technical Support Engineer | 225 | IT Support Technician | 84 |
| IT Support Specialist | 197 | IT Specialist | 83 |
| Desktop Support Technician | 193 | Help Desk Technician | 75 |
| Desktop Support | 167 | Desktop Support Specialist | 72 |
| Technical Support Specialist | 158 | It Help Desk Technician | 59 |
| It Technician | 98 | Support Analyst | 51 |
| Field Service Technician | 98 | Geek Squad Consultation Agent | 50 |
| Amazon Team Member Hire | 98 | Computer Technician | 50 |
| Team Member Hire | 85 | Pc Technician | 48 |
| Source: Burning Glass | | | |

**Table 4b. Top Job Titles for Networking Computing Occupations for latest 12 months (Jun 2020 - May 2021) Silicon Valley Sub-Region**

| **Title** | **Silicon Valley** | **Title** | **Silicon Valley** |
| --- | --- | --- | --- |
| Technical Support Engineer | 114 | Technical Support Specialist | 25 |
| Desktop Support | 74 | Support Analyst | 24 |
| Desktop Support Technician | 53 | Desktop Support Specialist | 24 |
| It Support Specialist | 44 | Pc Technician | 22 |
| It Technician | 36 | Customer Support Engineer | 22 |
| Hardware Technician | 35 | Computer Technician | 21 |
| Help Desk Technician | 30 | It Support Technician | 20 |
| Field Service Technician | 27 | It Help Desk Technician | 19 |
| It Specialist | 26 | Technician Lead | 18 |
| Source: Burning Glass Industry Concentration **Table 5. Industries hiring Networking Computing Workers in Bay Region**   | **Industry – 6 Digit NAICS (North American**  **Industry Classification) Codes** | **Jobs in Industry (2019)** | **Jobs in Industry (2024)** | **% Change (2019-24)** | **% Occupation Group in Industry (2019)** | | --- | --- | --- | --- | --- | | Custom Computer Programming Services | 6,369 | 7,679 | 21% | 22% | | Computer Systems Design Services | 3,581 | 3,999 | 12% | 12% | | Software Publishers | 3,090 | 3,847 | 24% | 11% | | Data Processing, Hosting, and Related Services | 1,422 | 2,077 | 46% | 6% | | Internet Publishing and Broadcasting and Web Search Portals | 1,940 | 1,881 | -3% | 6% | | Other Computer Related Services | 946 | 1,185 | 25% | 3% | | Corporate, Subsidiary, and Regional Managing Offices | 761 | 647 | -15% | 2% | | Electronic Computer Manufacturing | 1,714 | 724 | -58% | 2% | | Colleges, Universities, and Professional Schools | 605 | 603 | 0% | 2% | | Colleges, Universities, and Professional Schools (State Government) | 559 | 519 | -7% | 2% | | Source: EMSI 2021.2 | | | | | | | | |

**Table 6. Top Employers Posting Networking Computing Occupations in Bay Region and Silicon Valley Sub-Region (Jun 2020 - May 2021)**

| **Employer** | **Bay** | **Employer** | **Silicon Valley** |
| --- | --- | --- | --- |
| Amazon | 203 | Palo Alto Networks | 58 |
| Best Buy | 160 | IBM | 37 |
| Palo Alto Networks | 58 | Best Buy | 36 |
| Cynet Systems | 48 | Amazon | 29 |
| General Dynamics | 45 | Cynet Systems | 28 |
| Thermo Fisher Scientific Inc | 38 | Vmware Incorporated | 23 |
| IBM | 38 | Microsoft Corporation | 21 |
| Wells Fargo | 37 | Keybase Incorporated | 21 |
| University Of California | 37 | Excell | 19 |
| Excell | 36 | Matchpoint Solutions Incorporated | 18 |
| Source: Burning Glass Educational Supply There are three (3) community colleges in the Bay Region issuing 71 awards on average annually (last 3 years ending 2018-19) on TOP 0708.00 - Computer Infrastructure and Support. In the Silicon Valley Sub-Region, there are no community colleges issuing awards on average annually (last 3 years) on this TOP code.  **Table 7. Community College Awards on TOP 0708.00 - Computer Infrastructure and Support in Bay Region**   | **College** | **Subregion** | **Associate** | **Certificate Low** | **Total** | | --- | --- | --- | --- | --- | | Los Medanos | East Bay | 6 | 5 | 11 | | Ohlone | East Bay | 0 | 1 | 1 | | San Francisco | Mid-Peninsula | 46 | 13 | 59 | | **Total** |  | **52** | **19** | **71** | | Source: Data Mart | | | | |   *Note: The annual average for awards is 2016-17 to 2018-19.* | | | |

## Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,754 annual openings for the Networking Computing occupational cluster and 71 annual (3-year average) awards for an annual undersupply of 2,683 students. In the Silicon Valley Sub-Region, there is also a gap with 1,044 annual openings and no annual (3-year average) awards for an annual undersupply of 1,044 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0708.00 - Computer Infrastructure and Support**

| **Metric Outcomes** | **Bay**  **All CTE Program** | **Foothill**  **All CTE Program** | **State 0708.00** | **Bay 0708.00** | **Silicon Valley 0708.00** | **Foothill College 0708.00** |
| --- | --- | --- | --- | --- | --- | --- |
| Students with a Job Closely Related to  Their Field of Study | 75% | 88% | 69% | 73% | 77% | N/A |
| Median Annual Earnings for SWP Exiting Students | $44,575 | $63,206 | $45,276 | $52,482 | $61,094 | $76,522 |
| Median Change in Earnings for SWP Exiting Students | 31% | 63% | 21% | 26% | 19% | 19% |
| Exiting Students Who Attained the Living Wage | 52% | 67% | 64% | 57% | 64% | 77% |
| Source: Launchboard Strong Workforce Program from version 2017-18. | | | | | | |

## Skills, Certifications and Education

**Table 9. Top Skills for Networking Computing Occupations in Bay Region (Jun 2020 - May 2021)**

| **Skill** | **Posting** | **Skill** | **Posting** |
| --- | --- | --- | --- |
| Technical Support | 4,293 | SQL | 823 |
| Customer Service | 2,860 | Project Management | 810 |
| Repair | 1,889 | Computer Installation and Setup | 797 |
| Printers | 1,417 | Hardware and Software Configuration | 749 |
| It Support | 1,413 | Software Installation | 737 |
| Help Desk Support | 1,346 | Network Troubleshooting | 688 |
| Microsoft Active Directory | 1,346 | Virtual Private Networking (VPN) | 681 |
| Hardware and Software Installation | 1,239 | Scheduling | 616 |
| Microsoft Operating Systems | 1,058 | Transmission Control Protocol / Internet Protocol (TCP / IP) | 611 |
| Customer Contact | 981 | Cisco | 600 |
| Troubleshooting Technical Issues | 958 | Information Systems | 594 |
| MacIntosh OS | 895 | Application Support | 583 |
| Linux | 888 | Python | 565 |
| Hardware Troubleshooting | 884 | Domain Name System (DNS) | 562 |
| Source: Burning Glass | | | |

**Table 10. Certifications for Networking Computing Occupations in Bay Region (Jun 2020 - May 2021)**

| **Certification** | **Posting** | **Certification** | **Posting** |
| --- | --- | --- | --- |
| Driver's License | 754 | Project Management Certification | 87 |
| Certified A+ Technician | 637 | Certified Information Systems Security Professional (CISSP) | 50 |
| IT Infrastructure Library (ITIL) Certification | 449 | Cisco Certified Network Professional (CCNP) | 49 |
| CompTIA Network+ | 280 | Certified Information Systems Auditor (CISA) | 45 |
| Microsoft Certified Professional (MCP) | 232 | Certified Information Security Manager (CISM) | 35 |
| Cisco Certified Network Associate (CCNA) | 207 | Microsoft Certified Desktop Support Technician (Legacy) | 34 |
| Security Clearance | 180 | Occupational Safety and Health  Administration Certification | 28 |
| Microsoft Certified Solutions Associate (MCSA) | 148 | ITIL Foundation | 28 |
| Microsoft Certified Solutions Expert (MCSE) | 132 | Manufacturing Certification | 23 |
| CompTIA Security+ | 109 | Microsoft Technology Associate (MTA) | 22 |
| Source: Burning Glass | | | |

*Note: 75% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.*

**Table 11. Education Requirements for Networking Computing Occupations in Bay Region**

| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **Percent 12 Mos. Postings** |
| --- | --- | --- |
| High school or vocational training | 1,423 | 27% |
| Associate's degree | 553 | 11% |
| Bachelor's degree and higher | 3,178 | 62% |
| Source: Burning Glass | | |

*Note: 49% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.*

## 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/  
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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