



Labor Market Analysis for Program Recommendation IT Networking & Security Occupations Monterey Peninsula College

Prepared by the Bay Region Center of Excellence for Labor Market Research

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Recommendation

Based on all available data, there appears to be an “undersupply” of IT Networking & Security workers compared to the demand for this cluster of occupations in the Bay Region and in the SC-Monterey Sub-Region (Monterey, San Benito, Santa Cruz counties). There is a projected annual gap of about 2,534 students in the Bay Region and 50 students in the SC-Monterey Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0708.10 - Computer Networking 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 Monterey Peninsula College and in the region.

This report profiles IT Networking & Security Occupations in the 12 county Bay Region and in the SC-Monterey Sub-Region for Program Recommendation at Monterey Peninsula College.

- **Information Security Analysts (15-1212):** Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. Assess system vulnerabilities for security risks and propose and implement risk mitigation strategies. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.
 - Typical Entry-Level Educational: Bachelor’s degree
 - Typical On-the-Job Training: None
 - Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 26%
- **Computer Network Support Specialists (15-1231):** Analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WAN), cloud networks, servers, and other data communications networks. Perform network maintenance to ensure networks operate correctly with minimal interruption.
 - Typical Entry-Level Educational: Associate’s degree
 - Typical On-the-Job Training: None
 - Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 39%
- **Computer User Support Specialists (15-1232):** Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, 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.

Typical Entry-Level Educational: Some college, no degree

Typical On-the-Job Training: None

Percentage of individuals 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment: 39%

Occupational Demand

Table 1. Employment Outlook for IT Networking & Security Occupations in the Bay Region

Occupation	2023 Jobs	2028 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Wage	Median Hourly Wage
Information Security Analysts	7,582	9,158	1,577	21%	4,021	804	\$60	\$77
Computer Network Support Specialists	3,949	4,515	566	14%	1,970	394	\$33	\$42
Computer User Support Specialists	18,675	21,083	2,408	13%	8,978	1,796	\$29	\$38
Total	30,206	34,756	4,550	15%	14,969	2,994	\$37	\$48

Source: Lightcast 2024.3

The 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 Networking & Security Occupations in the SC-Monterey Sub-Region

Occupation	2023 Jobs	2028 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Wage	Median Hourly Wage
Information Security Analysts	147	170	23	16%	70	14	\$45	\$61
Computer Network Support Specialists	136	144	9	6%	55	11	\$29	\$35
Computer User Support Specialists	611	635	24	4%	231	46	\$27	\$33
Total	894	949	55	6%	356	71	\$30	\$38

Source: Lightcast 2024.3

SC-Monterey Sub-Region includes: Monterey, San Benito, Santa Cruz Counties

Job Postings in the Bay Region and SC-Monterey Sub-Region

Table 3. Number of Job Postings by Occupation for the latest 12 months

Occupation	Bay Region	SC-Monterey
Computer User Support Specialists	6,111	262
Information Security Analysts	995	66
Computer Network Support Specialists	208	6

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 4a. Top Job Titles in Job Postings for IT Networking & Security Occupations in the Bay Region

Title	Bay	Title	Bay
Desktop Support Technicians	293	Technical Support Specialists	80
IT Specialists	205	Information Security Analysts	72
Technical Support Engineers	202	IT Support Engineers	56
IT Support Specialists	196	IT Help Desk Technicians	51
Desktop Support Managers	131	Help Desk Specialists	50
IT Support Technicians	124	IT Technicians	49
Cyberspace Operations Officers	97	Cybersecurity Analysts	48
Help Desk Technicians	97	Desktop Support Specialists	47
Genius Administrators	93	IT Engineers	47

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 4b. Top Job Titles in Job Posting for IT Networking & Security Occupations in the SC-Monterey Sub-Region

Title	SC-Monterey	Title	SC-Monterey
IT Specialists	18	Information Security Specialists	7
Cyberspace Operations Officers	11	Service Desk Technicians	7
IT Support Specialists	11	Auditors	6
Cybersecurity Incident Response Analysts	10	Policy and Planning IT Specialists	6
IT Support Technicians	10	Desktop Support Technicians	5
Incident Handlers	10	IT Specialists Appsw	5
Genius Administrators	8	IT Technicians	5
Help Desk Technicians	7	Technical Support Specialists	5
IT Specialists/System Administrators	7	Computer Technicians	4

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Industry Concentration

Table 5. Industries Hiring for IT Networking & Security Occupations in the Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2023)	Jobs in Industry (2028)	% Change (2023-28)	% Occupation Group in Industry (2023)
Custom Computer Programming Services	6,739	8,430	25%	22%
Computer Systems Design Services	2,938	3,137	7%	10%

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2023)	Jobs in Industry (2028)	% Change (2023-28)	% Occupation Group in Industry (2023)
Software Publishers	2,301	2,644	15%	8%
Data Processing, Hosting, and Related Services	1,944	2,620	35%	6%
Corporate, Subsidiary, and Regional Managing Offices	907	879	-3%	3%
Web Search Portals and All Other Information Services	840	890	6%	3%
Electronic Computer Manufacturing	781	874	12%	3%
Local Government, Excluding Education and Hospitals	614	647	5%	2%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	614	735	20%	2%
Colleges, Universities, and Professional Schools	576	620	8%	2%

Source: Lightcast 2024.4

Table 6. Top Employers Posting IT Networking & Security Occupations in the Bay Region and the SC-Monterey Sub-Region

Employer	Bay	Employer	SC-Monterey
Apple	301	Apple	17
Insight Global	94	Department Of Defense	15
Year Up	86	University of California	10
Aya Healthcare	75	Arctic Slope Regional Corporation	9
Palo Alto Networks	75	Aya Healthcare	9
Robert Half	74	Lintech Global	9

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Educational Supply

There are sixteen community colleges in the Bay Region issuing 448 awards on average annually (last 3 years ending 2021-23) on TOP 0708.10 - Computer Networking. In the SC-Monterey Sub-Region, there are two community colleges that issued 21 awards on average annually (last 3 years) on this TOP code.

There is one other CTE educational institution in the Bay Region issuing 12 awards on average annually (last 3 years ending 2020-22) on CIP 11.1001- Network and System Administration/Administrator. There are no other CTE educational institution in the SC-Monterey Sub-Region issuing awards on average annually (last 3 years) on this CIP code.

Table 7a. Community College Awards on TOP 0708.10 - Computer Networking in the Bay Region

College	Subregion	Associate Degree	High unit Certificate	Low unit Certificate	Total
Cabrillo	SC-Monterey	5	3	1	9
Contra Costa	East Bay	1	0	0	1
Deanza	Silicon Valley	20	0	15	35
Diablo Valley	East Bay	1	0	0	1
Evergreen Valley	Silicon Valley	0	0	1	1
Foothill	Silicon Valley	1	0	0	1
Gavilan	Silicon Valley	1	0	0	1
Las Positas	East Bay	3	0	8	11
Los Medanos	East Bay	9	0	5	14
Mission	Silicon Valley	21	0	25	46
Monterey	SC-Monterey	3	0	9	12
Ohlone	East Bay	3	0	32	35
San Francisco	Mid-Peninsula	61	0	167	228
San Jose City	Silicon Valley	16	0	21	37
Santa Rosa	North Bay	0	0	3	3
Skyline	Mid-Peninsula	9	4	0	13
Total	-	154	7	287	448

Source: Data Mart

Note: The annual average for awards is 2020-21 to 2022-23.

Table 7b. Other CTE Institutions Awards on CIP 11.1001- Network and System Administration/Administrator. in the Bay Region

College	Subregion	Associate degree
Empire College	North Bay	12
Total	-	12

Source: Data Mart

Note: The annual average for awards is 2019-20 to 2021-22.

Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay Region with 2,994 annual openings for the IT Networking & Security occupational cluster and 460 annual (3-year average) awards for an annual undersupply of 2,534 students. In the SC-Monterey Sub-Region, there is also a gap with 71 annual openings and 21 annual (3-year average) awards for an annual undersupply of 50 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0708.10 - Computer Networking

Metric Outcomes	Bay All CTE Program	Monterey Peninsula College All CTE Program	State 0708.10	Bay 0708.10	SC-Monterey 0708.10	Monterey Peninsula College 0708.10
Students with a Job Closely Related to Their Field of Study	74%	73%	69%	69%	65%	75%

Metric Outcomes	Bay All CTE Program	Monterey Peninsula College All CTE Program	State 0708.10	Bay 0708.10	SC-Monterey 0708.10	Monterey Peninsula College 0708.10
Median Annual Earnings for SWP Exiting Students	\$53,090	\$67,771	\$56,596	\$65,840	\$46,636	\$45,520
Median Change in Earnings for SWP Exiting Students	24%	14%	17%	23%	21%	31%
Exiting Students Who Attained the Living Wage	54%	70%	67%	62%	59%	59%

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

Skills, Certifications and Education

Table 9. Top Skills in Job Postings for IT Networking & Security Occupations in the Bay Region

Skill	Posting	Skill	Posting
Technical Support	1,842	Computer Hardware	693
Computer Science	1,577	Linux	646
Operating Systems	1,386	Automation	641
Help Desk Support	1,336	Microsoft Office 365	637
Desktop Support	1,048	Issue Tracking	607
Active Directory	925	Auditing	597
Project Management	776	Virtual Private Networks (VPN)	576
Peripheral Devices	748	ServiceNow	571
Mac OS	739	Apple IOS	556
Cyber Security	732	Customer Support	542

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 10. Certifications in Job Postings for IT Networking & Security Occupations in the Bay Region

Certification	Posting	Certification	Posting
CompTIA A+	555	CompTIA Certification	88
Certified Information Systems Security Professional	302	ITIL Foundation Certification	76
CompTIA Network+	262	ITIL Certifications	74
Microsoft Certified Professional	195	NIST Cybersecurity Framework (CSF)	56
CompTIA Security+	117	IAT Level II Certification	55

Certification	Posting	Certification	Posting
GIAC Certifications	117	Cisco Certified Network Professional	55
Certified Ethical Hacker	113		

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Table 11. Education Requirements for IT Networking & Security Occupations in the Bay Region

Education Level	Job Postings	% of Total
High school or GED	812	16%
Associate degree	588	12%
Bachelor's degree & higher	3,642	72%

Source: Lightcast 2024.4; "Job Posting Analytics." Jan. 2024 - Dec. 2024

Note: 47% 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 job descriptions and skills listed in O*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCC Data Mart and CTE Launchboard.

Sources

O*Net Online

Lightcast

CTE LaunchBoard www.calpassplus.org

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

CCCCO Data Mart

Contacts

For more information, please contact:

- Yumi Huang, Research Analyst, Bay Region Center of Excellence, yuhuang@cabrillo.edu or (831) 275-0043
- Marcela Reyes, Director, Research and Center of Excellence, mareyes@cabrillo.edu or (831) 219-8875