



Labor Market Analysis for Program Recommendation

IT Technical Support Occupations

De Anza College

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

Based on all available data, there appears to be an “undersupply” of Information Technology (IT) Technical Support 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 4,088 students in the Bay region and 1,580 students in the Silicon Valley Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0708.20 Computer 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 De Anza College and in the region.

This report profiles Information Technology (IT) Technical Support Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at De Anza College.

- **Computer Network Support Specialists (15-1231):** Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption. Excludes “Network and Computer Systems Administrators” (15-1142) and “Computer Network Architects” (15-1143).
Entry-Level Educational Requirement: Associate’s degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 41%
- **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 IT Technical Support Occupations in Bay Region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Computer Network Support Specialists	5,615	6,507	891	16%	3,496	699	\$33	\$66
Computer User Support Specialists	28,162	32,436	4,273	15%	17,236	3,447	\$29	\$61
Total	33,777	38,943	5,166	15%	20,732	4,146		

Source: EMSI 2021.3

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 Technical Support Occupations in Silicon Valley Sub-region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Computer Network Support Specialists	2,190	2,543	352	16%	1,368	274	\$31	\$65
Computer User Support Specialists	10,208	11,965	1,756	17%	6,530	1,306	\$25	\$58
Total	12,398	14,508	2,110	17%	7,898	1,580	\$26.06	\$59.24

Source: EMSI 2021.3

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 (Dec 2020 - Nov 2021)

Occupation	Bay Region	Silicon Valley
Computer User Support Specialists	11,498	3,813
Computer Network Support Specialists	1,191	551

Source: Burning Glass

Table 4a. Top Job Titles for IT Technical Support Occupations for latest 12 months (Dec 2020 - Nov 2021)
Bay Region

Title	Bay	Title	Bay
It Support Specialist	355	Desktop Support Analyst	95
Technical Support Engineer	223	It Specialist	92
Desktop Support Technician	217	It Help Desk Technician	70
Desktop Support	201	Hardware Technician	64
Technical Support Specialist	173	Geek Squad Consultation Agent	63

Title	Bay	Title	Bay
It Technician	144	Desktop Support Specialist	59
It Support Technician	137	Technician Lead	59
Field Service Technician	110	Desktop Technician	56
Help Desk Technician	100	It Support	56

Source: Burning Glass

**Table 4b. Top Job Titles for IT Technical Support Occupations for latest 12 months (Dec 2020 - Nov 2021)
Silicon Valley Sub-Region**

Title	Silicon Valley	Title	Silicon Valley
Technical Support Engineer	100	Technical Support Specialist	32
It Support Specialist	80	It Help Desk Technician	31
Desktop Support	79	Customer Success Engineer	28
Desktop Support Technician	69	Desktop Support Analyst	27
It Technician	53	Help Desk Technician	27
Hardware Technician	42	Customer Support Engineer	25
It Support Technician	39	It Support	22
Technician Lead	38	Field Service Technician	21
It Specialist	32	Network Technician	21

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring IT Technical Support Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2020)	Jobs in Industry (2025)	% Change (2020-25)	% Occupation Group in Industry (2020)
Custom Computer Programming Services	7,485	9,166	22%	22%
Computer Systems Design Services	4,053	4,685	16%	12%
Software Publishers	3,475	4,134	19%	10%
Data Processing, Hosting, and Related Services	2,032	2,484	22%	6%
Internet Publishing and Broadcasting and Web Search Portals	1,924	2,388	24%	6%
Other Computer Related Services	1,087	1,375	26%	3%
Electronic Computer Manufacturing	747	841	13%	2%
Corporate, Subsidiary, and Regional Managing Offices	815	756	-7%	2%

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2020)	Jobs in Industry (2025)	% Change (2020-25)	% Occupation Group in Industry (2020)
Colleges, Universities, and Professional Schools	673	717	6%	2%
Colleges, Universities, and Professional Schools (State Government)	662	665	0%	2%

Source: EMSI 2021.3

Table 6. Top Employers Posting IT Technical Support Occupations in Bay Region and Silicon Valley Sub-Region (Dec 2020 - Nov 2021)

Employer	Bay	Employer	Silicon Valley
Microsoft Corporation	214	Microsoft Corporation	147
Best Buy	161	Palo Alto Networks	87
Palo Alto Networks	87	IBM	39
Amazon	68	Cynet Systems	33
University Of California	67	Best Buy	32
Milestone Technologies	60	Google Inc.	31
Cynet Systems	59	Applied Materials	28
Anthem Blue Cross	54	Anthem Blue Cross	25
Accenture	49	Adobe Systems	24
Lucid Motors Inc	48	Excell	23

Source: Burning Glass

Educational Supply

There are eight (8) community colleges in the Bay Region issuing 58 awards on average annually (last 3 years ending 2018-19) on TOP 0708.20 Computer Support. In the Silicon Valley Sub-Region, there are no community colleges that issued awards on average annually (last 3 years) on this TOP code.

Table 7a. Community College Awards on TOP 0708.20 Computer Support in Bay Region

College	Subregion	Associate	Certificate Low	Total
Cabrillo	SC-Monterey	3	7	10
Contra Costa	East Bay	0	4	4
Diablo Valley	East Bay	3	1	4
Hartnell	SC-Monterey	2	1	3
Ohlone	East Bay	1	1	2
San Francisco	Mid-Peninsula	0	26	26
Santa Rosa	North Bay	0	9	9

College	Subregion	Associate	Certificate Low	Total
Skyline	Mid-Peninsula	0	0	0
Total		9	49	58

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 4,146 annual openings for the IT Technical Support occupational cluster and 58 annual (3-year average) awards for an annual undersupply of 4,088 students. In the Silicon Valley Sub-Region, there is also a gap with 1,580 annual openings and no annual (3-year average) awards for an annual undersupply of 1,580 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0708.20 Computer Support

Metric Outcomes	Bay All CTE Programs	De Anza All CTE Programs	State 0708.20	Bay 0708.20	Silicon Valley 0708.20	De Anza 0708.20
Students with a Job Closely Related to Their Field of Study	73%	73%	70%	66%	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$44,575	\$41,081	\$36,367	\$40,766	\$39,158	N/A
Median Change in Earnings for SWP Exiting Students	30%	31%	18%	23%	34%	N/A
Exiting Students Who Attained the Living Wage	53%	50%	48%	40%	N/A	N/A

Source: Launchboard Strong Workforce Program Median of 2016-18.

Skills, Certifications and Education

Table 9. Top Skills for IT Technical Support Occupations in Bay Region (Dec 2020 - Nov 2021)

Skill	Posting	Skill	Posting
Technical Support	5,579	Computer Installation and Setup	1,070
Customer Service	3,872	Software Installation	1,047
Repair	2,492	Hardware and Software Configuration	1,028
It Support	2,136	Project Management	1,027
Help Desk Support	1,955	Virtual Private Networking (VPN)	1,016
Microsoft Active Directory	1,868	SQL	997
Printers	1,841	Network Troubleshooting	921
Hardware and Software Installation	1,574	Transmission Control Protocol / Internet Protocol (TCP / IP)	872
Microsoft Operating Systems	1,390	Domain Name System (DNS)	858

Skill	Posting	Skill	Posting
Troubleshooting Technical Issues	1,382	Scheduling	842
MacIntosh OS	1,273	Cisco	814
Linux	1,224	Python	811
Hardware Troubleshooting	1,199	Technical Writing / Editing	785
Customer Contact	1,197	Onboarding	776

Source: Burning Glass

Table 10. Certifications for IT Technical Support Occupations in Bay Region (Dec 2020 - Nov 2021)

Certification	Posting	Certification	Posting
Driver's License	869	Project Management Certification	89
Certified A+ Technician	799	Cisco Certified Network Professional (CCNP)	72
IT Infrastructure Library (ITIL) Certification	590	Certified Information Systems Security Professional (CISSP)	48
CompTIA Network+	348	Apple Certified Macintosh Technician	43
Microsoft Certified Professional (MCP)	268	Certified Information Systems Auditor (CISA)	42
Cisco Certified Network Associate (CCNA)	251	Registered Behavior Technician	40
Microsoft Certified Solutions Associate (MCSA)	184	Microsoft Certified Desktop Support Technician (Legacy)	35
Security Clearance	169	Certified Information Security Manager (CISM)	30
Microsoft Certified Solutions Expert (MCSE)	149	Cisco Certified Internetwork Expert (CCIE)	29
CompTIA Security+	116	ITIL Foundation	28

Source: Burning Glass

Note: 76% 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 Information Technology Technical Support Occupations in Bay Region

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	1,881	27%
Associate's degree	780	11%
Bachelor's degree and higher	4,283	62%

Source: Burning Glass

Note: 45% 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 CCCCCO 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

For more information, please contact:

- Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), leila@baccc.net

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