



# IT Operations Occupations Labor Market Information Report Monterey Peninsula 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 Operations workers compared to the demand for this cluster of occupations in the Bay region and in the SC-Monterey sub-region (Monterey, San Benito, and Santa Cruz Counties). There is a projected annual gap of about 7,011 students in the Bay region and 54 students in the SC-Monterey Sub-Region.

This report also 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 Monterey Peninsula College and in the region.

## Introduction

This report profiles IT Operations Occupations in the 12 county Bay region and in the SC-Monterey sub-region for a proposed new Basic IT Operations Essentials Certificate of Achievement at Monterey Peninsula College.

- 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 Systems Analysts (15-1121 / 15-1211):** Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 21%

## Occupational Demand

**Table 1. Employment Outlook for IT Operations Occupations in Bay Region**

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Average Annual Openings	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 Systems Analysts	30,588	34,750	4,162	14%	15,935	3,187	\$44.23	\$56.99

<b>TOTAL</b>	<b>64,004</b>	<b>73,247</b>	<b>9,244</b>	<b>14%</b>	<b>35,773</b>	<b>7,155</b>	<b>\$34.99</b>	<b>\$45.53</b>
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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 Operations Occupations in SC-Monterey Sub-Region**

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Average Annual Openings	25% Hourly Wage	Median Hourly Wage
Computer User Support Specialists	747	807	60	8%	379	76	\$24.49	\$29.62
Computer Systems Analysts	498	538	40	8%	229	46	\$37.23	\$45.97
<b>TOTAL</b>	<b>1,245</b>	<b>1,345</b>	<b>100</b>	<b>8%</b>	<b>608</b>	<b>122</b>	<b>\$29.59</b>	<b>\$36.16</b>

Source: EMSI 2020.3

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

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

**Table 3. Number of Job Postings by Occupation for latest 12 months (Sept 2019 - Aug 2020)**

Occupation	Bay Region	SC-Monterey Sub-Region
Computer Systems Analysts	16,664	133
Computer User Support Specialists	13,803	353
Informatics Nurse Specialists	13	1
<b>TOTAL</b>	<b>30,480</b>	<b>487</b>

Source: Burning Glass

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

Common Title	Bay	Common Title	Bay
Business Systems Analyst	3,229	Information Technology Business Analyst	317
Developer	1,344	Field Service Technician	317
Desktop Support	886	Business Analyst	309
Systems Analyst	784	Information Technology Analyst	303
Technical Support Engineer	690	Oracle Consultant	233
Information Technology Specialist	488	PC Technician	211
Technical Consultant	458	Computer Technician	207
Desktop Support Technician	425	Information Technology Support Technician	206
Information Technology Technician	411	Information Technology Consultant	197
Information Technology Support Specialist	387	Aem Developer	195
Help Desk Technician	362	Mulesoft Developer	181
Technical Support Specialist	325	Oracle Functional Consultant	178
Lead Technician	324	Help Desk Support	173
Technical Analyst	317	Desktop Support Specialist	161

**Table 4b. Top Job Titles for IT Operations Occupations for latest 12 months (Sept 2019 - Aug 2020) SC-Monterey Sub-Region**

Common Title	SC-Monterey	Common Title	SC-Monterey
Information Technology Specialist	69	Technical Analyst	7
Mechanic	22	Desktop Support	7
Information Technology Technician	20	Team Lead	6
Information Technology Support Technician	18	Applications Analyst	6
Help Desk Technician	18	Technical Support Technician	5
Systems Analyst	17	Support Agent	5

Business Systems Analyst	15	Desktop Support Technician	5
Geek Squad Agent	11	Technology Specialist	4
Field Service Technician	11	Technology Analyst	4
Help Desk Specialist	10	Technical Support Specialist	4
Help Desk Support	9	Rehabilitation Support Technician/Hunter, Information And Technology Industry	4
Computer Technician	9	Information Technology Consultant	4
Service Technician	8	Computer Repair Technician	4
Country Lead Monitor	8	Water Systems Specialist	3

Source: Burning Glass

## Industry Concentration

**Table 5. Industries hiring IT Operations 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)	14,464	17,599	22%	23%
Computer Systems Design Services (541512)	8,313	9,678	16%	13%
Software Publishers (511210)	4,492	5,633	25%	7%
Internet Publishing and Broadcasting and Web Search Portals (519130)	3,483	4,383	26%	5%
Electronic Computer Manufacturing (334111)	2,925	3,088	6%	5%
Data Processing, Hosting, and Related Services (518210)	2,773	3,842	39%	4%
Corporate, Subsidiary, and Regional Managing Offices (551114)	2,355	2,406	2%	4%
Other Computer Related Services (541519)	2,054	2,591	26%	3%
Colleges, Universities, and Professional Schools (State Government) (902612)	1,425	1,545	8%	2%
Colleges, Universities, and Professional Schools (611310)	1,249	1,376	10%	2%
Local Government, Excluding Education and Hospitals (903999)	1,100	1,138	3%	2%
Temporary Help Services (561320)	888	901	1%	1%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715)	835	873	5%	1%
Custom Computer Programming Services (541511)	14,464	17,599	22%	23%
Computer Systems Design Services (541512)	8,313	9,678	16%	13%
Software Publishers (511210)	4,492	5,633	25%	7%
Internet Publishing and Broadcasting and Web Search Portals (519130)	3,483	4,383	26%	5%
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Corporate, Subsidiary, and Regional Managing Offices (551114)	2,355	2,406	2%	4%
Other Computer Related Services (541519)	2,054	2,591	26%	3%
Colleges, Universities, and Professional Schools (State Government) (902612)	1,425	1,545	8%	2%

Source: EMSI 2020.3

**Table 6. Top Employers Posting IT Operations Occupations in Bay Region and SC-Monterey Sub-Region (Sept 2019 - Aug 2020)**

Employer	Bay	Employer	Bay	Employer	SC-Monterey
Accenture	217	Ascent Technology Services	77	Stanley Black & Decker	21
Wells Fargo	198	Xoriant Incorporated	74	Best Buy	17
Amazon	178	Excell	73	US Government	12
Stanley Black & Decker	148	Genentech	67	US Department of Defense	12
Pacific Gas and Electric Company	135	NTT Data	66	University California	10
Best Buy	122	Intelliswift Software	65	UC Santa Cruz	8
Google Inc.	118	Diverse Lynx	64	Reynolds & Reynolds	8
Facebook	103	University Of California Berkeley	60	Bayer Corporation	8
Deloitte	101	Trinamix	59	United States Fleet Forces Command	7
Wipro	99	University California	58	California State University	7
Kaiser Permanente	93	Vmware Incorporated	57	Lintech Global, Inc	6
IBM	90	Vings Technologies	54	Joby Aviation	5
Milestone Technologies Incorporated	87	Cloudious Llc	50	Employnet	5
Apple Inc.	87	Idc Technologies	49	Army / Army Reserves	5
Milestone Technologies	81	Anthem Blue Cross	49	Threshold Enterprises Limited	4
Infosys	80	Systel Incorporated	47	Salinas City Elementary	4
Infobahn Softworld Incorporated	79	Microsoft Corporation	47	Pajaro Valley Unified School District	4

Source: Burning Glass

## Educational Supply

There are seven (7) Community colleges in the Bay Region issuing 57 awards on average annually (last 3 years ending 2018-19) on TOP 0708.20-Computer Support. There are two (2) colleges in the SC-Monterey Sub-Region issuing 13 awards on average annually (last 3 years) on this TOP code.

There are four (4) Other Educational Institutions in the Bay Region issuing 87 Bachelor's Degrees on TOP 0708.20-Computer Support. There is one (1) Other Educational Institution in the SC-Monterey Sub-Region issuing 55 Bachelor's Degrees on average annually (last 3 years) on this TOP code.

**Table 7a. Awards on TOP 0708.20-Computer Support in Bay Region**

College	Sub-Region	Associates	Certificate Low Unit	Total
Cabrillo	SC - Monterey	3	7	10
Contra Costa	East Bay		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		26	26
Santa Rosa	North Bay		9	9
<b>Total Bay Region</b>		<b>9</b>	<b>48</b>	<b>57</b>
<b>Total SC-Monterey Sub-Region</b>		<b>5</b>	<b>8</b>	<b>13</b>

Source: Data Mart

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

**Table 7b. Bachelor's Degree Awards on TOP 0708.20-Computer Support in Bay Region**

College	Sub-Region	Bachelor's Degree
Academy of Art University	Mid-Peninsula	22

Cogswell College	Silicon Valley	3
ITT Technical Institute-Concord	East Bay	7
University of California-Santa Cruz	SC - Monterey	55
<b>Total Bay Region</b>		<b>87</b>
<b>Total SC-Monterey Sub-Region</b>		<b>55</b>

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 7,155 annual openings for the IT Operations occupational cluster and 144 annual (3-year average) awards from community colleges and Other Educational Institutions for an annual undersupply of 7,011 students. In the SC-Monterey Sub-Region, there is also a gap with 122 annual openings and 68 annual (3-year average) awards from community colleges and Other Educational Institutions for an annual undersupply of 54 students.

## Student Outcomes

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

2017-18	Bay All CTE Programs	Monterey Peninsula College All CTE Programs	State 0708.20	Bay 0708.20	SC- Monterey 0708.20	Monterey Peninsula College 0708.20
% Employed Four Quarters After Exit	74%	70%	62%	57%	n/a	n/a
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$8,510	\$9,357	\$10,166	n/a	n/a
Median % Change in Earnings	46%	58%	21%	40%	n/a	n/a
% of Students Earning a Living Wage	63%	54%	54%	39%	n/a	n/a

Source: Launchboard Pipeline (version available on (9/10/20))

## Skills, Certifications and Education

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

Skill	Postings	Skill	Postings	Skill	Postings
Technical Support	6,897	JavaScript	2,235	Atlassian JIRA	1,439
Customer Service	5,214	Salesforce	2,117	Troubleshooting Technical Issues	1,434
SQL	4,582	Help Desk Support	2,108	Software as a Service (SaaS)	1,422
Business Process	4,214	Information Systems	2,106	MacIntosh OS	1,389
Project Management	3,929	It Support	2,104	Hardware and Software Configuration	1,333
Oracle	3,750	Microsoft Active Directory	2,103	Scrum	1,323
Business Systems Analysis	3,620	Printers	2,093	Hardware Troubleshooting	1,285
Business Systems	3,516	Linux	2,080	Software Installation	1,285
SAP	3,398	Hardware and Software Installation	1,982	Change Management	1,276
Java	3,076	Customer Contact	1,928	Budgeting	1,256
Repair	2,853	Enterprise Resource Planning (ERP)	1,900	Technical Writing / Editing	1,196
Business Analysis	2,725	Quality Assurance and Control	1,811	Computer Installation and Setup	1,127
Systems Analysis	2,604	Scheduling	1,636	UNIX	1,096
Software Development	2,529	Microsoft Operating Systems	1,539	Software Engineering	1,070

Python	2,399	Data Analysis	1,451	Network Troubleshooting	1,064
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Source: Burning Glass

**Table 10. Certifications for IT Operations Occupations in Bay Region (Sept. 2019 – Aug. 2020)**

Note: 84% 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	1,121	Certified Salesforce Administrator	113
IT Infrastructure Library (ITIL) Certification	966	Certified Information Systems Security Professional (CISSP)	89
Certified A+ Technician	897	Cisco Certified Network Professional (CCNP)	86
CompTIA Network+	364	SAP Certification	85
Project Management Certification	349	Certified Information Systems Auditor (CISA)	73
Security Clearance	315	Microsoft Certified Desktop Support Technician (Legacy)	69
Microsoft Certified Professional (MCP)	302	ITIL Foundation	56
Cisco Certified Network Associate (CCNA)	276	Certified Business Analysis Professional (CBAP)	56
Microsoft Certified Solutions Expert (MCSE)	215	Mbe Certified	49
Microsoft Certified Solutions Associate (MCSA)	209	Certified Scrum Professional (CSP)	47
Project Management Professional (PMP)	145	Cisco Certified Internetwork Expert (CCIE)	46
CompTIA Security+	140	Six Sigma Certification	43

Source: Burning Glass

**Table 11. Education Requirements for IT Operations Occupations in Bay Region**

Note: 54% 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	1,777	13%
Associate Degree	926	7%
Bachelor's Degree or Higher	10,508	80%

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