Labor Market Analysis for Program Recommendation: TOP Code: 0708.10/Computer Networking CIP Code: 11.1003/Computer and Information Systems Security/Auditing/Information Assurance. *(Computer Networking and Cyber Security)*

South Central Coast Center of Excellence, May 2026

FOR LABOR MARKET RESEARCH
SOUTH CENTRAL COAST

Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met ☐	Endorsed: Some LMI Criteria Met ☒	Not LMI Endorsed ☐
Program LMI Endorsement Criteria			
	Yes ☐		No ☑
Supply Gap:	*Comments:* there is projected to be **137 annual job openings** in the South Central Coast (SCC) Region for these middle-skill networking and cybersecurity occupations, which **is less than the 390 awards conferred by educational institutions**. However, the educational programs that train for these three middle-skill occupations also train for 26 other occupations that account for 2,366 annual openings. Therefore, **supply is overstated and there is likely a supply gap for these networking and cybersecurity occupations.**		
	Yes ☑		No ☐
Self-Sufficiency Standard Living Wage[1]:	*Comments:* **All (100%) annual job openings** for these middle-skill cybersecurity occupations **have entry-level hourly wages above the Santa Barbara County living wage of $29.80**.		
	Yes ☑		No ☐
Education:	*Comments:* though **the majority (67%) of annual job openings** for these middle-skill cybersecurity occupations typically require a **bachelor's degree, between 37% and 40% of workers in the field have completed some college or an associate degree as their highest level of education**.		
Additional Considerations			
	Yes ☐	Some ☑	No ☐
Emerging Occupation(s):	*Comments: There currently is no single occupation within the Federal Bureau of Labor Statistics (BLS) Standard Occupational Classification (SOC) for cybersecurity. As a result, the skills required for cybersecurity have been absorbed into existing computer networking occupations. Additionally, there are three emerging cybersecurity occupations that are found under the broader Computer Occupations, All Other (15-1299) SOC Code: Penetration Testers (15-1299.04), Information Security Engineers (15-1299.05), and Digital Forensics Analysts (15-1299.06). This report includes an analysis of online job postings for these emerging occupations to further understand real-time demand from employers.*		

[1] The living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage; the living wage for Los Angeles, San Luis Obispo, Santa Barbara, and Ventura counties, last updated in March 2024.

The South Central Coast Center of Excellence for Labor Market Research (SCC COE) prepared this report to determine whether there is a supply gap in the SCC regional labor market related to three middle-skill and two above middle-skill occupations:

- Middle-Skill
  - *Computer Network Support Specialists (15-1231)*
  - *Computer Network Architects (15-1241)*
  - *Network and Computer Systems Administrators (15-1244)*
- Above Middle-Skill - denoted with an asterisk (*) throughout this report
  - *Information Security Analysts (15-1212)**
  - *Computer Occupations, All Other (15-1299)**
    - Includes the following emerging occupations:
      - *Penetration Testers (15-1299.04)*
      - *Information Security Engineers (15-1299.05)*
      - *Digital Forensics Analysts (15-1299.06)*

Based on the available data, there is likely a supply gap for these networking and cybersecurity occupations. While the supply figures in this report are greater than demand, the educational programs that train for these occupations also train for 26 other occupations that account for over 2,300 annual openings. Therefore, supply is overstated and there is likely a supply gap for these occupations. Additionally, the majority of annual job openings have entry-level wages above the Self-Sufficiency Standard living wage and typical education requirements for these occupations align with a community college education. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Computer Network Support Specialists (15-1231)	36	Accounted for below	Santa Barbara: $30.79	Associate degree	40%
Computer Network Architects (15-1241)	36	Accounted for below	Santa Barbara: $51.99	Bachelor's degree	37%
Network and Computer Systems Administrators (15-1244)	65	390	Santa Barbara: $39.66	Bachelor's degree	39%
Middle-Skill Subtotal	**137**	**390**	**N/A**	**N/A**	**N/A**
Information Security Analysts (15-1212)	45	Accounted for above	Santa Barbara: $46.22	Bachelor's degree	27%
Computer Occupations, All Others	234	Accounted for above	Santa Barbara: $39.54	Bachelor's degree	27%

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
(15-1299)					
Above Middle-Skill Subtotal	**279**	**Accounted for above**	**N/A**	**N/A**	**N/A**
Total	**416**	**390**	**N/A**	**N/A**	**N/A**

Demand:

- The number of jobs related to these middle- skill cybersecurity occupations is projected to decline 2% through 2029 in the SCC region. There are projected to be 137 annual job openings due to replacement needs.
- Hourly entry-level wages for these middle-skill networking and cybersecurity occupations in Santa Barbara County range from $30.79 to $51.99; all (100%) annual job openings have entry-level wages above the Self-Sufficiency Standard living wage ($29.80 for Santa Barbara County).
- There were 1,789 online job postings for these networking and cybersecurity occupations over the past 12 months. The highest number of postings were for Systems engineers, systems administrators, and network engineers.
- The typical entry-level education for these middle-skill networking and cybersecurity occupations ranges from an associate degree to a bachelor's degree.
- Between 37% and 40% of workers in these middle-skill occupations have completed some college or an associate degree as their highest level of education.

Supply:

- It is important to note that supply is overstated for these networking and cybersecurity occupations because the educational programs that train for these occupations also train for 26 other occupations that account for over 2,300 annual openings. Therefore, **supply is overstated and there is likely a supply gap for networking and cybersecurity occupations.**
    - There was an average of 390 awards conferred by seven community colleges in the SCC Region from 2021 to 2024.
    - Non-community college institutions conferred 469 related awards from 2020 to 2023.
- SCC community college students that exited Computer Networking (0708.10) programs in the 2022-23 academic year had median annual wages of $49,636 ($23.86 per hour) after exiting the program and 46% attained the regional living wage (Self-Sufficiency Standard).
- Throughout the state, 68% of Computer Networking students that exited their program in 2021-2022 reported that they work in a job closely related to their field of study. This data was unavailable at the regional level.

Demand

Occupational Projections:

Exhibit 2 compares historical and projected changes in employment for these occupations compared to the number of jobs in 2019. Notably, employment for these cyber security

occupations grew 15% in Ventura County from 2019 to 2024. In contrast, employment for these occupations in California, Northern Los Angeles, and San Luis Obispo declined from 2019 to 2024. Employment is projected to remain relatively flat from 2024 to 2029 in all areas.

Exhibit 2: Historical and Projected Employment for Cybersecurity Occupations in the SCC Region, 2019-2029

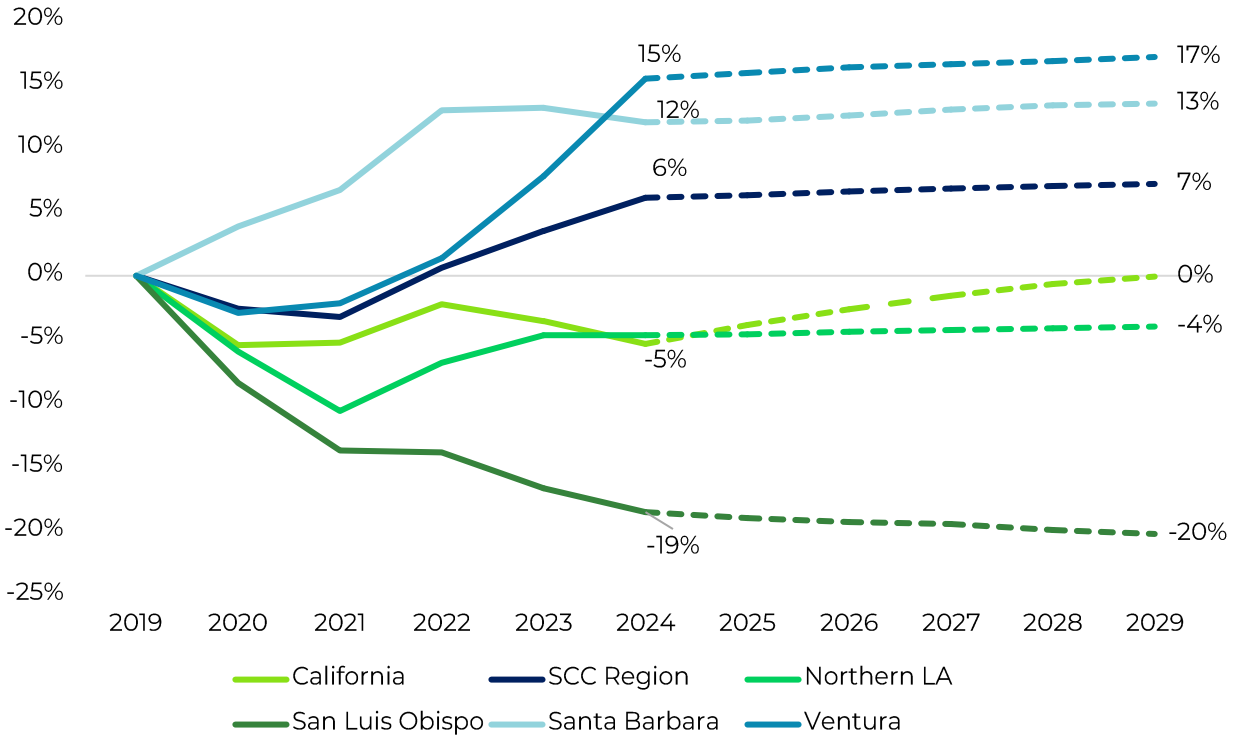


Exhibit 3 shows the five-year occupational demand projections for these cybersecurity occupations. In the SCC Region, the number of jobs related to these middle-skill occupations is projected to decline 2% through 2029. There is projected to be 137 middle-skill jobs available annually. Ventura County has the highest number of middle-skill jobs and annual openings, but employment for these middle-skill occupations is projected to slightly decline through 2029.

Exhibit 3: Occupational Demand in the SCC Region[2]

Skill-Level	Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Middle-Skill	Northern LA	510	499	(10)	(2%)	29
	San Luis Obispo	283	266	(18)	(6%)	15
	Santa Barbara	678	672	(6)	(1%)	38
	Ventura	924	913	(11)	(1%)	51
Middle-Skill Subtotal		**2,394**	**2,349**	**(45)**	**(2%)**	**137**
Above Middle-Skill	Northern LA	903	925	22	2%	61
	San Luis Obispo	241	248	7	3%	16

[2] Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Skill-Level	Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
	Santa Barbara	1,009	1,037	28	3%	67
	Ventura	1,933	1,987	54	3%	127
Above Middle-Skill Subtotal		**4,085**	**4,195**	**110**	**3%**	**279**
SCC Region		**6,478**	**6,544**	**66**	**1%**	**416**

Wages:

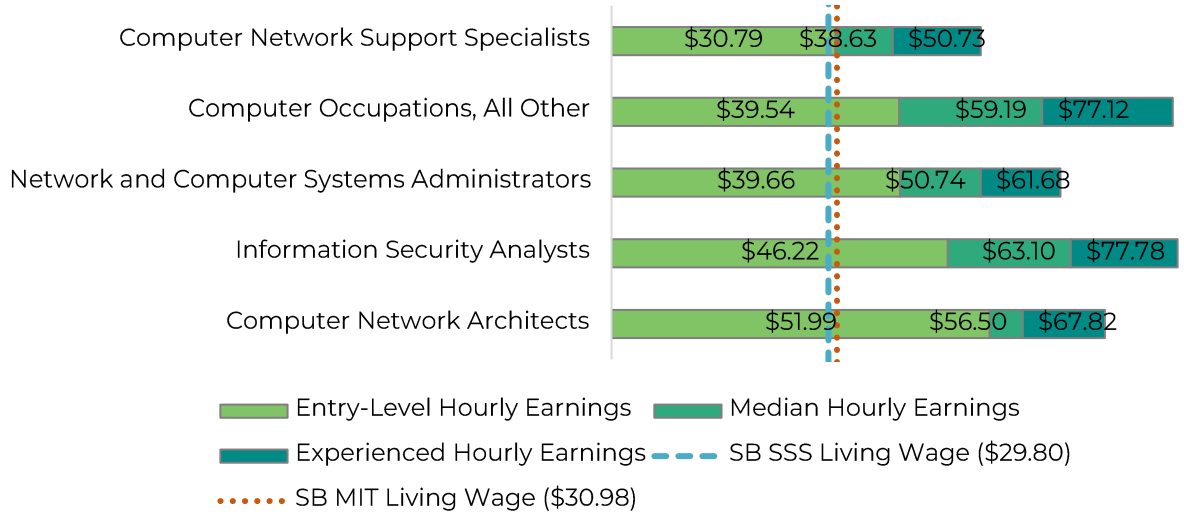
The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill networking and cybersecurity occupations in relation to the living wage of the county where the requesting community college is located. This report was requested by Santa Barbara City College, which is in Santa Barbara County. Wages for other counties are included below to provide a complete analysis of the SCC Region.

In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage, updated on February 10, 2025, is provided as a reference. Currently, the MIT Living Wage in Santa Barbara County is $30.98. Both figures account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

Santa Barbara

All (100%) annual openings for these middle-skill cybersecurity occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult ($29.80 in Santa Barbara County). Typical entry-level hourly wages range between $30.79 and $51.99. Exhibit 4 shows the wage range for each of these cybersecurity occupations in Santa Barbara County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

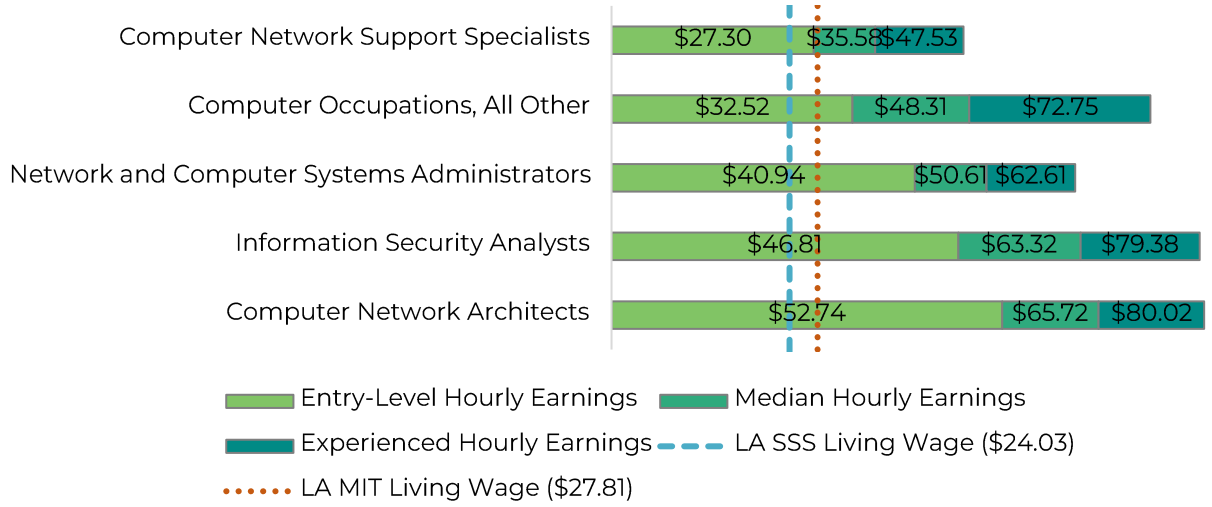
Exhibit 4: Wages by Occupation in Santa Barbara County



Northern Los Angeles

All (100%) annual openings for these middle-skill cybersecurity occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult ($24.03 in Los Angeles County). Typical entry-level hourly wages for these middle-skill occupations range between $27.30 and $52.74. Exhibit 5 shows the wage range for each of these cybersecurity occupations in Northern Los Angeles and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

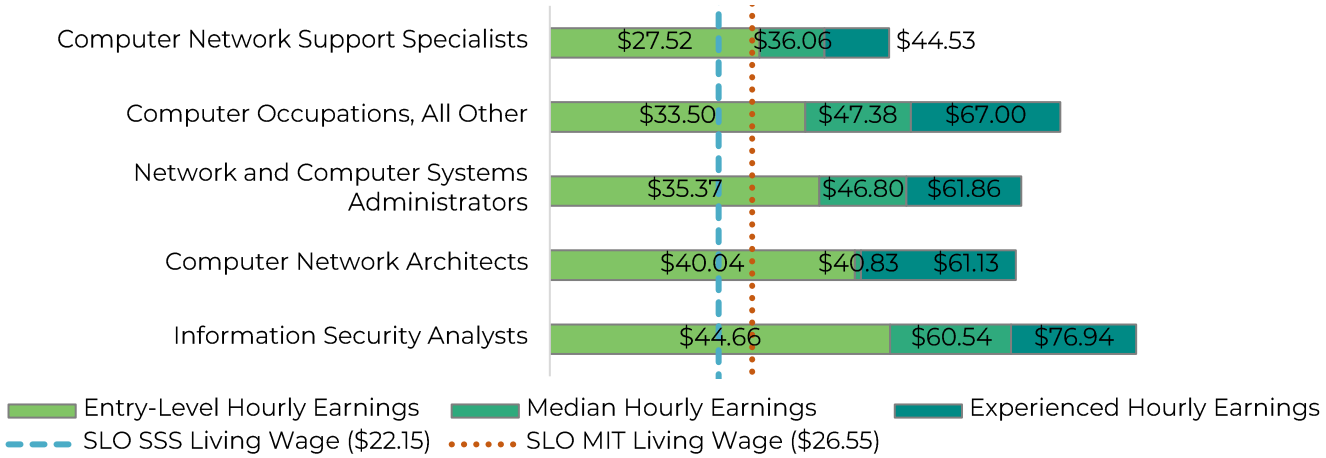
Exhibit 5: Wages by Occupation in Northern Los Angeles County



San Luis Obispo

All (100%) annual openings for these middle-skill cybersecurity occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult ($22.15 in San Luis Obispo County). Typical entry-level hourly wages for these middle-skill occupations range between $27.52 and $40.04. Exhibit 6 shows the wage range for each of these cybersecurity occupations in San Luis Obispo County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 6: Wages by Occupation in San Luis Obispo County

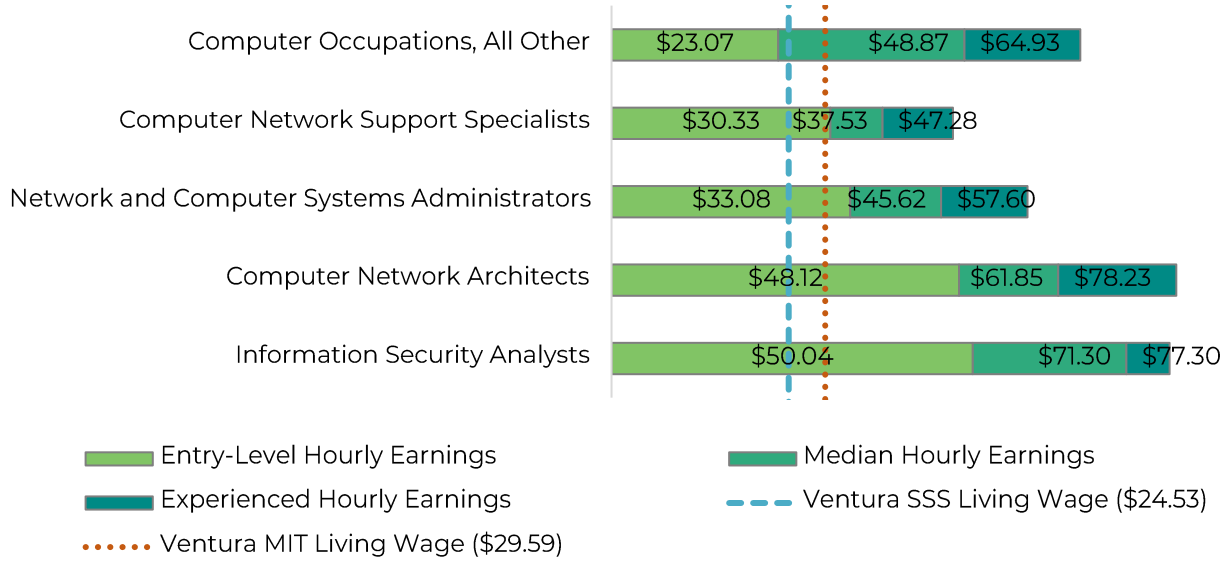


Ventura

All (100%) annual openings for these middle-skill cybersecurity occupations have entry-level wages above the Self-Sufficiency Standard living wage for one adult ($24.53 in Ventura County). Typical entry-level hourly wages for these middle-skill occupations range between

$30.33 and $48.12. Exhibit 8**.** shows the wage range for each of these cybersecurity occupations in Ventura County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 8: Wages by Occupation in Ventura County



Job Postings:

Currently, there is no single Standard Occupational Classification (SOC) code for cybersecurity roles. However, there are several cybersecurity job titles that are categorized under the *Computer Occupations, All Other (15-1299)* SOC Code. These emerging occupations include *Penetration Testers (15-1299.04), Information Security Engineers (15-1299.05),* and *Digital Forensics Analysts (15-1299.06).* The job postings analyzed in this section consider postings for these emerging occupations to better understand local employers' need for cybersecurity roles.

There were 1,789 online job postings related to these cybersecurity occupations listed in the past 12 months in the SCC Region. Exhibit 9 shows the number of job postings by county. Approximately 40% of job postings were in Ventura County.

Exhibit 9: Number of Job Postings by County (n=1,789)

County	Job Postings	Percentage of Job Postings
Ventura	665	37%
Santa Barbara	646	36%
Northern Los Angeles	351	20%
San Luis Obispo	127	7%
Total Postings	**1,789**	**100%**

Of the 1,789 postings, the majority (56%) were for *Computer Occupations, All Other (15-1299), Network and Computer Systems Administrators (15-1244)*, followed by *Computer Network Architects (15-1241)*, as shown in Exhibit 9.

Exhibit 9: Number of Job Postings by Occupation (n=1,789)

Occupation	Job Postings	Percentage of Job Postings
Computer Occupations, All Other	998	56%
Network and Computer Systems Administrators	317	18%
Computer Network Architects	294	16%
Information Security Analysts	105	6%
Computer Network Support Specialists	75	4%
Total Postings	**1,789**	**100%**

The top employers in the region, by number of job postings, are shown in Exhibit 10.

Exhibit 10: Top Employers by Number of Job Postings (n=1,789)

Employer	Job Postings	Percentage of Job Postings
Lockheed Martin	84	5%
Northrop Grumman	56	3%
RTX	49	3%
Amentum	37	2%
Huntington Ingalls Industries	32	2%
SAIC	23	1%
Pennymac	21	1%
Aerovironment	18	1%
Brandes Associates	18	1%
SpaceX	18	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 11.

Exhibit 11: Top Skills by Number of Job Postings (n=1,789)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Systems Engineering (431)	Communication (865)	Linux (250)
Computer Science (425)	Troubleshooting (Problem Solving) (666)	Microsoft Office (240)
Cyber Security (371)	Operations (612)	Microsoft Excel (237)
Automation (332)	Management (569)	Operating Systems (237)
Project Management (281)	Leadership (462)	Python (Programming Language) (237)
Linux (250)	Problem Solving (423)	Firewall (202)
Auditing (249)	Planning (343)	Microsoft PowerPoint (157)
Python (Programming Language) (235)	Information Technology (294)	Active Directory (140)
Operating Systems (234)	Coordinating (279)	Amazon Web Services (128)
Firewall (201)	Customer Service (258)	Microsoft Azure (128)

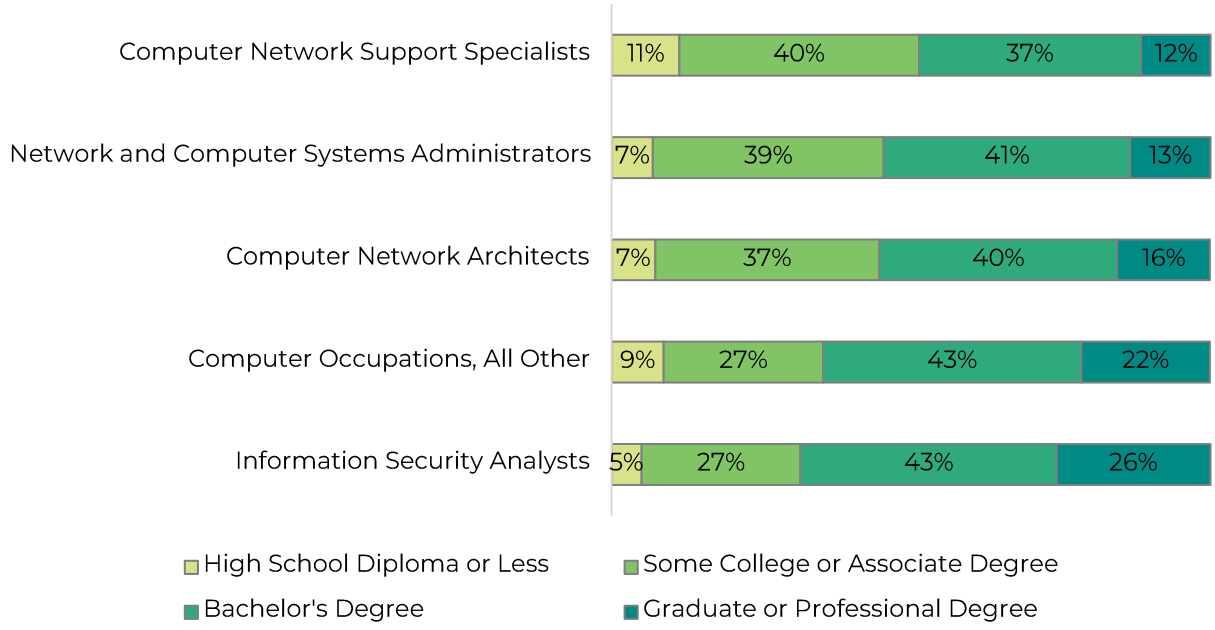
Educational Attainment:

The Bureau of Labor Statistics (BLS) lists the following as the typical entry-level education for these cybersecurity occupations:

- Associate degree
  - *Computer Network Support Specialists (15-1231)*
- Bachelor's Degree
  - *Information Security Analysts (15-1212)**
  - *Computer Occupations, All Other (15-1299)**
  - *Computer Network Architects (15-1241)*
  - *Network and Computer Systems Administrators (15-1244)*

The national-level educational attainment data indicates between 37% and 40% of workers in these middle-skill occupations have completed some college or an associate degree as their highest level of education. Exhibit 12 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 12: National-level Educational Attainment for Occupations



Of the 75% of the cumulative job postings for these networking and cybersecurity occupations that listed a minimum education requirement in the SCC Region, 31% (413) requested a high school diploma or an associate degree, 67% (895) requested a bachelor's degree, and 2% (32) requested a graduate or professional degree.

Educational Supply

Community College Supply:

Exhibit 13 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Information Technology, General (0701.00)
- Computer Information Systems (0702.00)
- Software Applications (0702.10)
- Computer Software Development (0707.00)
- Computer Programming (0707.10)
- Computer Infrastructure and Support (0708.00)
- Computer Networking (0708.10)
- Computer Support (0708.20)

The college with the most completions in the region is Allan Hancock (134), followed by Oxnard (67), and Moorpark (61).

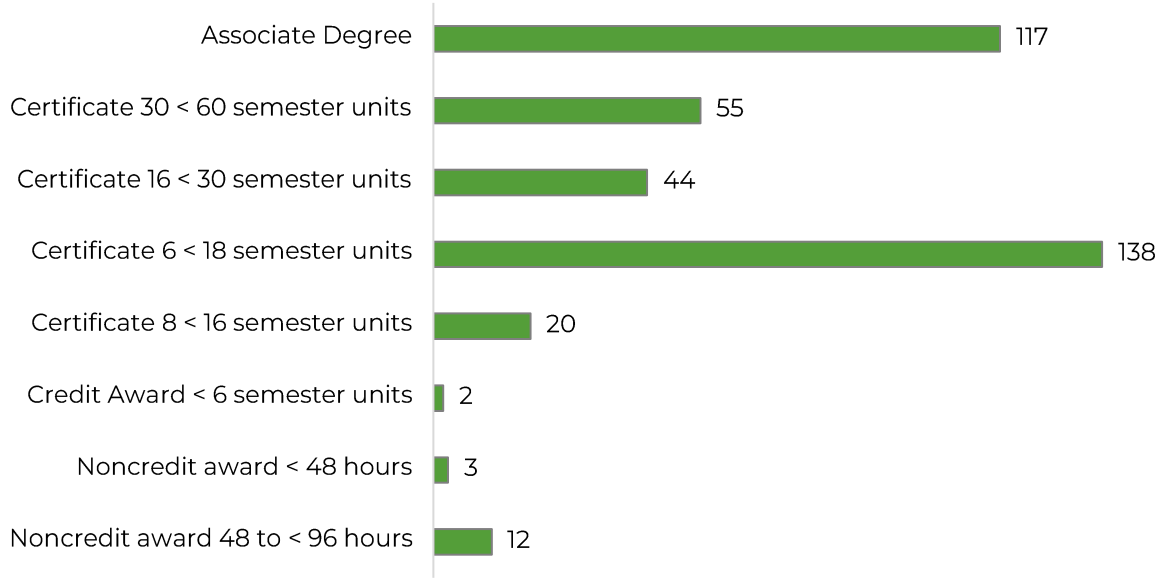
Exhibit 13: Regional Community College Awards (Certificates and Degrees), 2021-2024

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0701.00	Information Technology, General	Allan Hancock	1	0	0	0
		Cuesta	0	0	1	0
Supply Subtotal/Average			**1**	**0**	**1**	**1**
0702.00	Computer Information Systems	Allan Hancock	19	4	363	129
		Antelope Valley	16	11	27	18
		Cuesta	7	10	12	10
		Moorpark	0	1	1	1
		Santa Barbara	5	3	3	4
Supply Subtotal/Average			**47**	**29**	**406**	**161**
0702.10	Software Applications	Antelope Valley	8	5	8	7
		Canyons	11	14	9	11
		Santa Barbara	0	2	3	2
Supply Subtotal/Average			**19**	**21**	**20**	**20**
0707.00	Computer Software Development	Santa Barbara	0	0	2	1
Supply Subtotal/Average			**0**	**0**	**2**	**1**
0707.10	Computer Programing	Antelope Valley	16	14	16	15
		Moorpark	0	4	2	2
Supply Subtotal/Average			**16**	**18**	**18**	**17**
0708.00	Computer Infrastructure and Support	Cuesta	7	14	20	14
		Moorpark	15	26	53	31
		Oxnard	48	69	24	47

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		Santa Barbara	3	0	5	3
Supply Subtotal/Average			**73**	**109**	**102**	**95**
0708.10	Computer Networking	Allan Hancock	8	5	3	5
		Antelope Valley	26	12	21	20
		Canyons	4	5	17	9
		Moorpark	18	19	44	27
		Oxnard	0	0	59	20
		Santa Barbara	6	2	9	6
Supply Subtotal/Average			**62**	**43**	**153**	**86**
0708.20	Computer Support	Cuesta	1	14	15	10
Supply Subtotal/Average			**1**	**14**	**15**	**10**
Supply Total/Average			**219**	**234**	**717**	**390**

Exhibit 14 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for certificates between 6 and less than 18 semester units, followed by associate degrees, and certificates between 30 and less than 60 semester units.

Exhibit 14: Annual Average Community College Awards by Type, 2021-2024



Community College Student Outcomes:

Exhibit 15 shows the Strong Workforce Program (SWP) metrics for Computer Networking (0708.10) programs at Santa Barbara City College (SBCC), the SCC Region, and California. Of the 1,027 Computer Networking (0708.10) students throughout the region in the 2023-24 academic year, 11% (114) attended SBCC.

SBCC students that exited Computer Networking programs in the 2022-23 academic year had lower median annual earnings ($42,904 or $20.63 per hour) compared to all Computer Networking students in the SCC Region ($49,636 or $23.86 per hour); both figures are lower compared to students statewide ($54,738 or $26.32 per hour). A slightly lower percentage of SCC region Computer Networking (0708.10) students attained the living wage (46%) when compared to all Computer Networking (0708.10) students in the state (55%).

Exhibit 15: Computer Networking (0708.10)
Strong Workforce Program Metrics, 2023-24[3][4]

SWP Metric	SBCC	SCC Region	California
SWP Students	114	1,027	10,203
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	43%	43%	46%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Data Unavailable	92%	71%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Data Unavailable	9%	9%
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	Data Unavailable	3%	4%
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	Data Unavailable	Data Unavailable	68%
Median Annual Earnings for SWP Exiting Students (2022-23)	$42,904 ($20.63)	$49,636 ($23.86)	$54,738 ($26.32)
Median Change in Earnings for SWP Exiting Students (2022-23)	27%	22%	23%
SWP Exiting Students Who Attained the Living Wage (2022-23)	Data Unavailable	46%	55%

[3] All SWP metrics are for 2023-24 unless otherwise noted. Metrics data is sourced from DataVista.
[4] Data that is not available in DataVista is denoted in as “data unavailable.” Data may not be available for various reasons, including cases where data is masked to protect personally identifiable information.

Non-Community College Supply:

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering cybersecurity training programs. Over the past three years (2020-2023), there was an average of 469 awards conferred by non-community college institutions under the related classification of Institutional Programs (CIP) code:

- Computer and Information Sciences, General (11.0101)
- Information Technology (11.0103)
- Computer Science (11.0701)
- Network and System Administration/Administrator (11.1001)
- Computer Support Specialist (11.1006)

No awards were conferred for the following CIP codes

- Computer Programming/Programmer, General (11.0201)
- Computer Systems Analysis/Analyst (11.0501)
- Computer Systems Networking and Telecommunications (11.0901)
- Cloud Computing (11.0902)
- System, Networking, and LAN/WAN Management/Manager (11.1002)
- Computer and Information Systems Security/Auditing/Information Assurance (11.1003)

Exhibit 16 shows the number of awards conferred by each non-community college institution.

Exhibit 16: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
11.0101	Computer and Information Sciences, General	Westmont College	10	9	17	12
Supply Subtotal/Average			**10**	**9**	**17**	**12**
11.0103	Information Technology	California State University- Channel Islands	18	15	30	21
Supply Subtotal/Average			**18**	**15**	**30**	**21**
11.0701	Computer Science	California Lutheran University	29	32	26	29
		California Polytechnic State University- San Luis Obispo	175	159	201	178
		California State University- Channel Islands	55	65	52	57
		University of California- Santa Barbara	170	159	160	163
Supply Subtotal/Average			**429**	**415**	**439**	**428**

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
11.1001	Network and Systems Administration/ Administrator	Ventura Adult and Continuing Education	6	7	13	9
Supply Subtotal/Average			**6**	**7**	**13**	**9**
Supply Total/Average			**463**	**446**	**499**	**469**

Regional Demographics

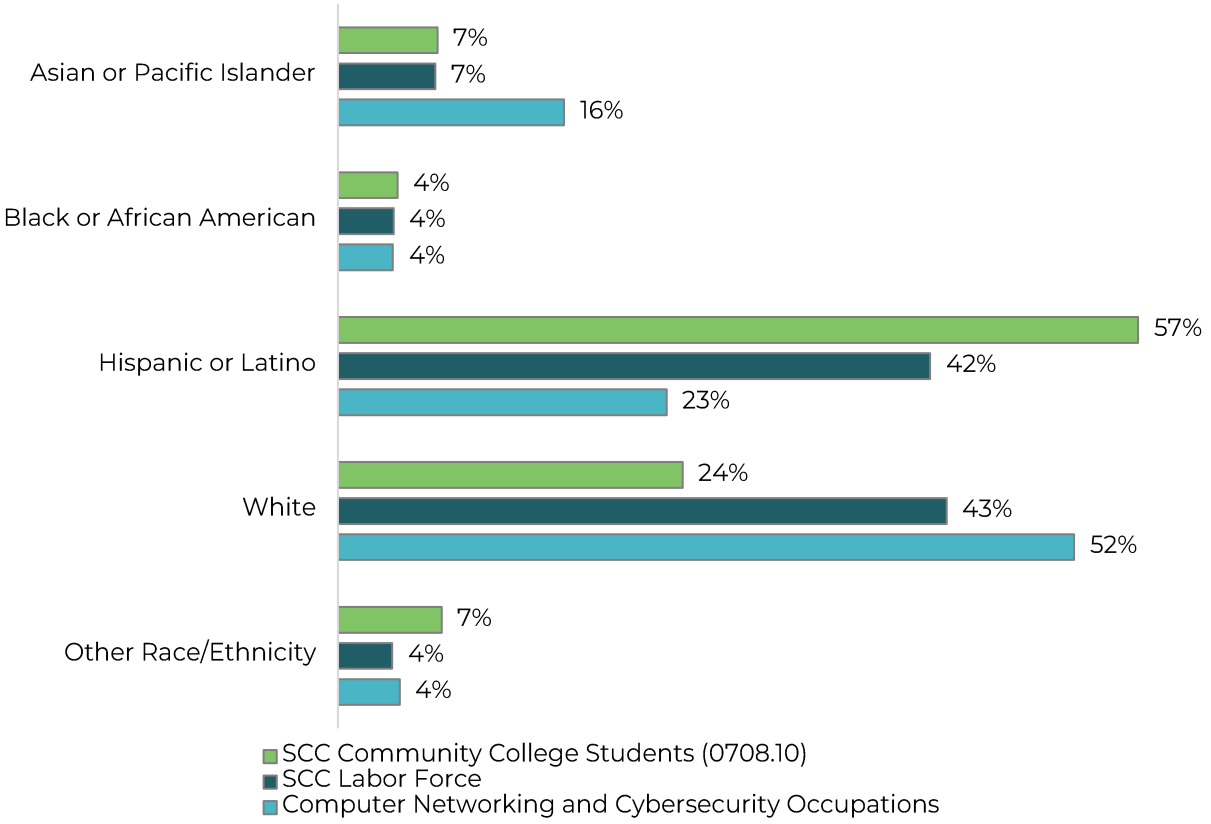
This section examines demographic data for SCC community college students in Computer Networking (0708.10) programs compared to the SCC labor force, along with occupational data, to identify potential diversity and equity issues addressable by community college programs.

Ethnicity:

Exhibit 17 compares the ethnicity of SCC community college students enrolled in Computer Networking (0708.10) programs, the overall SCC labor force, and occupation-specific data for the five networking and cybersecurity occupations included in this report.

Notably, 52% of workers employed in these networking and cybersecurity occupations are white, which is higher than the labor force (43%) and community college Computer Networking students (24%). Conversely, 57% of community college Computer Networking students are Hispanic or Latino, which is similar to the labor force (42%), but significantly higher than these cybersecurity occupations (23%).

Exhibit 17: Program and County Demographics by Ethnicity

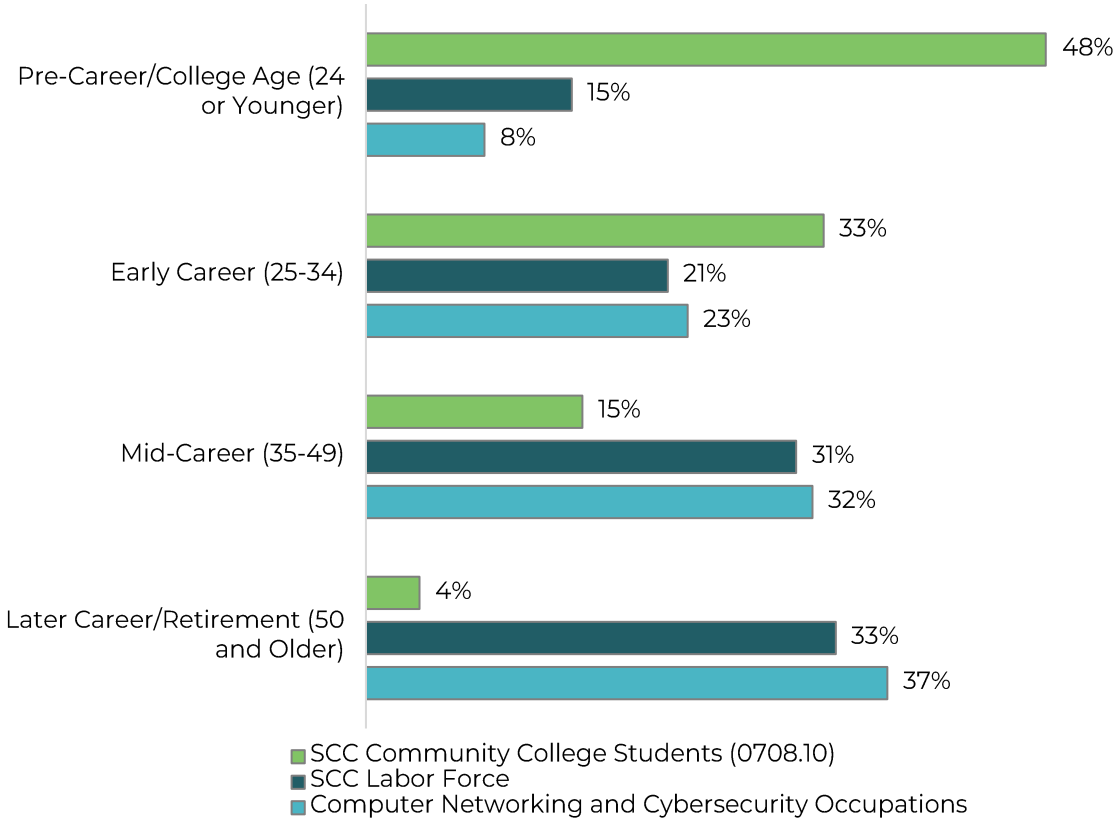


Age:

Exhibit 18 compares the age of SCC community college students enrolled in Computer Networking (0708.10) programs, the overall SCC labor force, and occupation-specific data for the five networking and cybersecurity occupations included in this report.

Notably (37%) of workers in these networking and cybersecurity occupations are Later Career/Retirement (50 and Older) age, which is higher than the labor force (33%) and community college Computer Networking (0708.10) students (4%). Conversely, 23% of workers in these cybersecurity occupations are Early Career (25 to 34) age, which is similar to the labor force (21%) but significantly lower than SCC community college students in Computer Networking (0708.10) programs (33%).

Exhibit 18: Program and County Demographics by Age

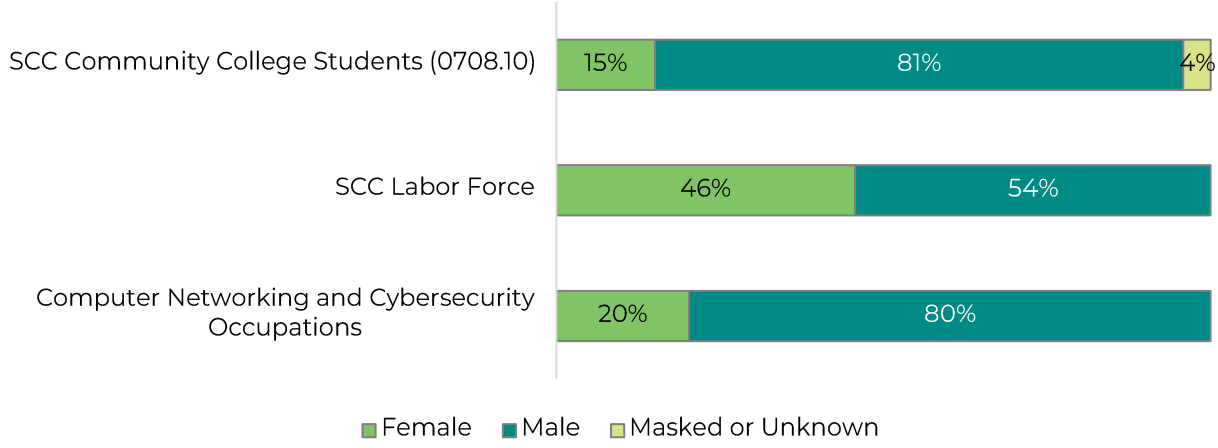


Sex:

Exhibit 19 compares the sex of SCC community college students enrolled in Computer Networking (0708.10) programs, the overall SCC labor force, and occupation-specific data for these networking and cybersecurity occupations.

There is a majority of male students (81%) and workers (80%) in these networking and cybersecurity occupations, which contrasts with the labor force (54% male). Notably, women account for only 15% of Computer Networking (0708.10) students, which is lower than these cybersecurity occupations (20%) and significantly lower than the labor force (46%).

Exhibit 19: Program and County Demographics by Sex



Appendix A: Methodology

Traditional Labor Market Data

The SCC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies.

Data included in this analysis represents the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the SCC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges.

Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the SCC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The SCC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a "supply table" with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP code data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS.

TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Online Job Postings Data

Online job postings data, also known as real-time labor market information, captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees but is not a perfect measure of the quantity of open positions. Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more.

There are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

Additionally, Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.[5] For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Geography

The South Central Coast region encompasses San Luis Obispo, Santa Barbara, and Ventura counties, as well as parts of Northern Los Angeles County. Exhibit 20 shows the 34 ZIP codes used to define Northern Los Angeles County.

Exhibit 20: Northern Los Angeles ZIP Codes

ZIP Code	Primary City
91310	Castaic
91321	Newhall
91322	Newhall
91350	Santa Clarita
91351	Canyon Country
91354	Valencia
91355	Valencia
91380	Santa Clarita
91381	Stevenson Ranch
91382	Santa Clarita
91383	Santa Clarita
91384	Castaic
91385	Valencia
91386	Canyon Country
91387	Canyon Country
91390	Santa Clarita
93510	Acton

ZIP Code	Primary City
93532	Lake Hughes
93534	Lancaster
93535	Lancaster
93536	Lancaster
93539	Lancaster
93543	Littlerock
93544	Llano
93550	Palmdale
93551	Palmdale
93552	Palmdale
93553	Pearblossom
93563	Valyermo
93584	Lancaster
93586	Lancaster
93590	Palmdale
93591	Palmdale
93599	Palmdale

Though traditional labor market information is available at the ZIP code level, it does not always add up to data reported at the county level for multiple reasons:

- ZIP codes are not official geographically bounded areas, unlike states and counties.
- ZIP codes may cross county lines, such as ZIP code 93461, which is primarily in San Luis Obispo County, but also crosses into Kern County.

For these reasons, the number of jobs and average annual openings for each county may not add up to the total for the SCC Region. However, considering jobseekers may cross county lines for opportunities, the traditional labor market data is reflective of opportunities available to jobseekers in the SCC Region.

Additionally, job postings data is available only at the city or county level. To analyze job postings for the entire SCC region, the SCC COE developed a list of cities available in Lightcast for analysis. Additionally, demographic data is not available at the ZIP code level but is available at the Census Bureau's Public Use Microdata Area (PUMA) level. Demographic data was sourced via IPUMS and analyzed by the SCC COE.

[5] K. R. Chowdhary, Fundamentals of Artificial Intelligence (Basingstoke: Springer Nature, 2020), https://link.springer.com/book/10.1007/978-81-322-3972-7.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional and real-time labor market information are captured using data from Lightcast, a labor market analytics firm.
Living Wage	Per the CCCCO, this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard last updated in March 2024. The MIT Living Wage, updated on February 10, 2025, is a nationally recognized living wage metric and is provided for reference.
Typical Education and Training Requirements, and Educational Attainment	The Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data.
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations.
Educational Supply	The CCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions).
Student Metrics and Demographics	Data Vista, a statewide data system supported by the California Community Colleges Chancellor's Office provides data on progress, success, employment, and earnings outcomes for California community college students.
Population and Occupation Demographics	The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

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