

# Labor Market Analysis for Program Review: 0501.00/ Business and Commerce, General (Business Administration)

South Central Coast Center of Excellence, March 2025



## Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input type="checkbox"/>	Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
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## Program LMI Endorsement Criteria

	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Supply Gap:	<i>Comments:</i> there is projected to be <b>3,117 annual job openings</b> in the South Central Coast (SCC) region for these business administration occupations, <b>which is more than the 3,661 awards conferred by educational institutions</b> . However, the educational programs that train for these 4 occupations also train for over 60 other occupations that account for over 15,832 annual openings. Therefore, <b>supply is overstated and there is likely a supply gap present for general business occupations</b> .	
Self-Sufficiency Standard Living Wage <sup>1</sup> :	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> <b>Over half (62%) of annual job openings</b> for these business administration occupations <b>have entry-level hourly wages below the Ventura County living wage of \$24.53</b> .	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> though <b>the majority (57%) of annual job openings</b> for these business administration occupations typically require a <b>high school diploma or equivalent, between 31% and 42% of workers in the field have completed some college or an associate degree as their highest level of education</b> .	

Additional Considerations			
Emerging Occupation(s):	Yes <input type="checkbox"/>	Some <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> N/A		

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 four middle-skill occupations:

- *General and Operations Managers (11-1021)*
- *Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)*
- *Customer Service Representatives (43-4051)*
- *Order Clerks (43-4151)*

<sup>1</sup> At the direction of the California Community College Chancellor's Office, 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, to determine the living wage for Los Angeles, San Luis Obispo, Santa Barbara, and Ventura counties, last updated in March 2024.

Based on the available data there is likely a supply gap present for general business occupations. While the supply figures in this report are greater than demand, the educational programs that train for these four occupations also train for over 60 other occupations that account for over 15,000 annual openings. Therefore, supply is overstated and there is likely a supply gap for general business occupations. Typical education requirements for these occupations align with a community college education. However, the majority of annual job openings have entry-level wages below the Self-Sufficiency Standard living wage. **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 (25 <sup>th</sup> Percentile)	Typical Entry-Level Education	Community College Educational Attainment
General and Operations Managers (11-1021)	1,250	3,485	Ventura: \$37.54	Bachelor's degree	35%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)	604	73	Ventura: \$24.00	High school diploma or equivalent	31%
Customer Service Representatives (43-4051)	1,189	5	Ventura: \$17.49	High school diploma or equivalent	42%
Order Clerks (43-4151)	74	98	Ventura: \$17.31	Some college, no degree	37%
<b>Total</b>	<b>3,117</b>	<b>3,661</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

### Demand:

- The number of jobs related to these business administration occupations is projected to increase 1% through 2028 in the SCC region. There is projected to be 3,117 annual job openings due to new job creation and replacements.
- Hourly entry-level wages for these business administration occupations in Ventura County range from \$17.31 to \$37.54; 62% of annual job openings have entry-level wages below the Self-Sufficiency Standard living wage (\$24.53 for Ventura County).
- There were 7,620 online job postings for these business administration occupations over the past 12 months. The highest number of postings were for customer service representatives, sales representatives, and customer service associates.
- The typical entry-level education for these business administration occupations ranges from some college, no degrees to a bachelor's degree.
- Between 31% and 42% of workers in the field have completed some college or an associate degree as their highest level of education.

## Supply:

- There was an average of 2,496 awards conferred by eight community colleges in the SCC Region from 2020 to 2023.
- Eight non-community college institutions conferred an average of 1,164 awards from 2019 to 2022.
- SCC community college students that exited Business and Commerce, General programs in the 2021-22 academic year had a median annual wage of \$34,232 (\$16.46 per hour) after exiting the program and 40% attained the regional living wage (Self-Sufficiency Standard).
- Throughout the SCC Region, 76% of Business and Commerce, General students that exited their program in 2020-21 reported that they are working in a job closely related to their field of study.

## Demand

### Occupational Projections:

Exhibit 2 compares historical and projected changes in employment for these occupations compared to the number of jobs in 2018. Notably, employment for these business administration occupations in San Luis Obispo grew 14% from 2018 to 2023, which is significantly higher when compared to employment for these occupations in California, the SCC Region, and all other counties in the SCC region. From 2023 to 2028, employment for these business administration occupations is projected to steadily grow in San Luis Obispo and Santa Barbara County, whereas there is expected to be a slow decline in Northern Los Angeles and Ventura County.

**Exhibit 2: Historical and Projected Employment for Business Administration Occupations in the SCC Region, 2018-2028**

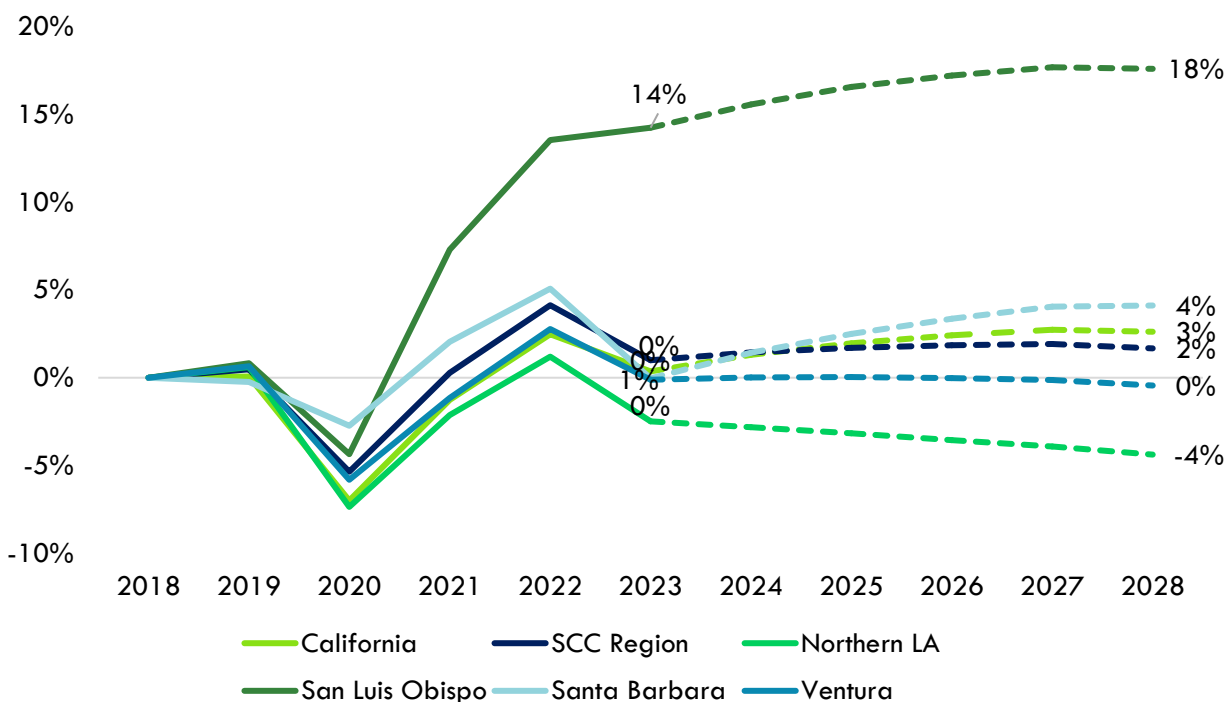


Exhibit 3 shows the five-year occupational demand projections for these business administration occupations. In the SCC Region, the number of jobs related to these occupations is projected to increase 1% through 2028. There is projected to be 3,117 jobs available annually. Ventura County has the highest number of jobs and annual openings, but employment is projected to remain flat through 2028.

**Exhibit 3: Occupational Demand in SCC Region<sup>2</sup>**

Geography	2023 Jobs	2028 Jobs	2023-2028 Change	2023- 2028 % Change	Annual Openings
Northern LA	6,750	6,619	(131)	(2%)	687
San Luis Obispo	3,884	3,999	115	3%	407
Santa Barbara	6,252	6,510	259	4%	679
Ventura	13,052	13,009	(43)	(0.3%)	1,326
<b>SCC Region</b>	<b>29,938</b>	<b>30,138</b>	<b>200</b>	<b>1%</b>	<b>3,117</b>

## Wages:

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

At the direction of the California Community College Chancellor's Office, 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, to determine each county's living wage (last updated in March 2024). Additionally, data for the MIT Living Wage, updated on February 10, 2025, is provided as a reference. Both figures, which account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, are included in the exhibits below.

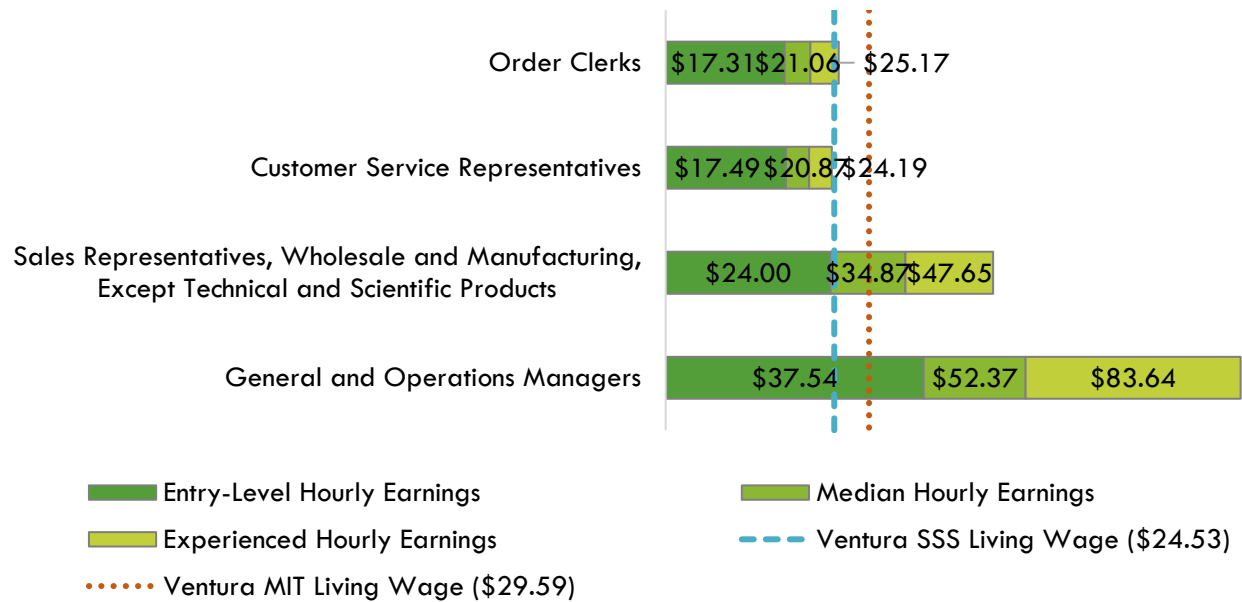
### Ventura

More than half (62%) of annual openings for these business administration occupations have entry-level wages below the Self-Sufficiency Standard living wage for one adult (\$24.53 in Ventura County). Typical entry-level hourly wages range between \$17.31 and \$37.54.

*General and Operations Managers (11-1021)* is the only occupation with entry-level wages above the living wage in Ventura County. Notably, wages for *Customer Service Representatives (43-4051)* are below the living wage even at the experienced level. Exhibit 4 shows the wage range for each of these business administration occupations in Ventura County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

<sup>2</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations. It is important to note that adding jobs, change, and annual openings for each geographic area may not add to the total listed in the SCC Region row. This is due to how data is reported at the county vs. ZIP code level. For more information, see Appendix A: Methodology.

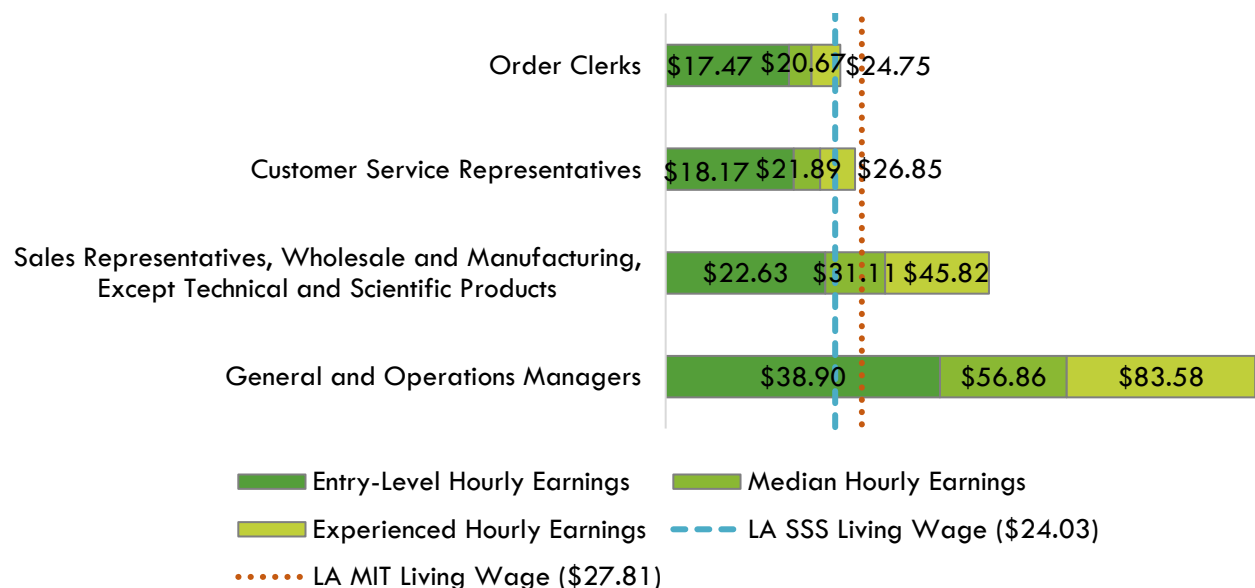
#### Exhibit 4: Wages by Occupation in Ventura County



#### Northern Los Angeles

More than half (61%) of annual openings for these business administration occupations have entry-level wages below the Self-Sufficiency Standard living wage for one adult (\$24.03 in Los Angeles County). Typical entry-level hourly wages range between \$17.47 and \$38.90. *General and Operations Managers (11-1021)* is the only occupation with entry-level wages above the living wage in Northern LA County. Additionally, median hourly earnings for *Sales Representatives, Wholesales and Manufacturing, Except Technical and Scientific Products (41-4012)* are above the living wage. Though entry-level and median earnings are below the living wage for the other two occupations, experienced level wages are above it. Exhibit 5 shows the wage range for each of these business administration occupations in Northern Los Angeles and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

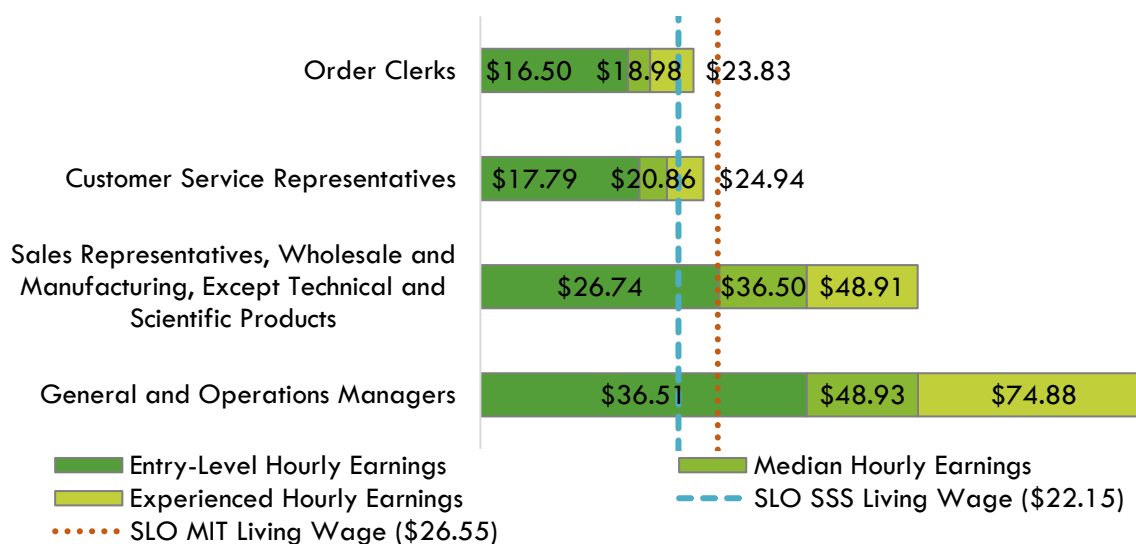
#### Exhibit 5: Wages by Occupation in Northern Los Angeles County



## San Luis Obispo

Notably, (64%) of annual openings for these business administration 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 range between \$16.50 and \$36.51. *General and Operations Managers (11-1021)* and *Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)* have entry-level wages above the living wage in San Luis Obispo County. Though entry-level and median earnings are below the living wage for the other two occupations, experienced level wages are above it. Exhibit 6 shows the wage range for each of these business administration 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

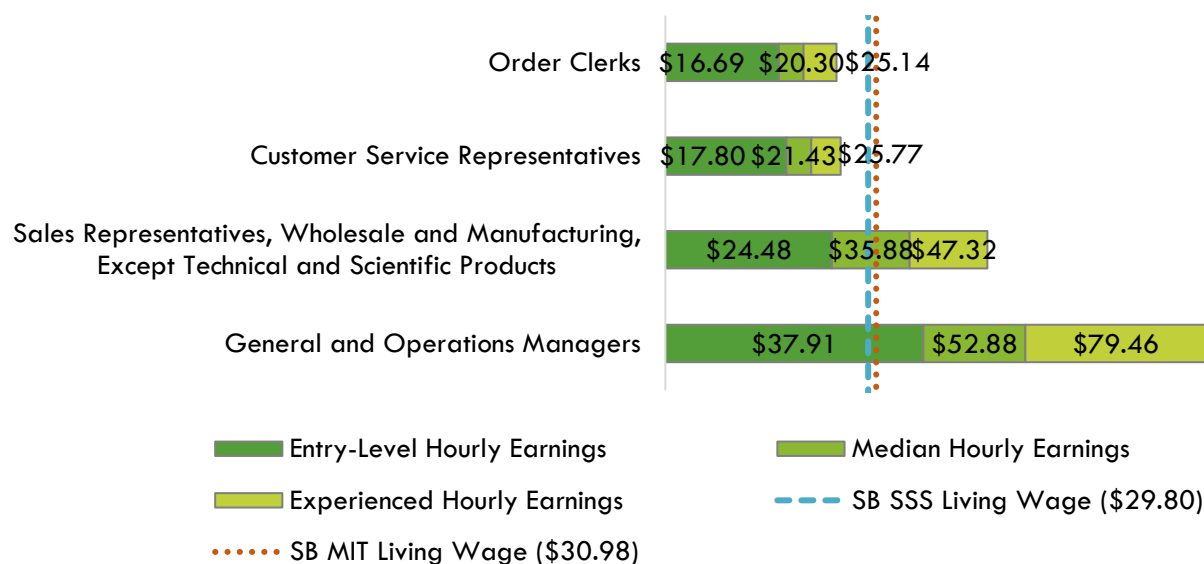


## Santa Barbara

Over half (57%) of annual openings for these business administration occupations have entry-level wages below the below the Self-Sufficiency Standard living wage for one adult (\$29.80 in Santa Barbara County). Typical entry-level hourly wages range between \$16.69 and \$37.91.

*Sales Representatives, Wholesales and Manufacturing, Except Technical and Scientific Products (41-4012)*, and *General and Operations Managers (11-1021)* are the two occupations that have entry-level wages above the living wage. Notably, wages for *Order Clerks (43-4151)*, and *Customer Service Representatives (43-4051)* are below the living wage even at the experienced level. Exhibit 7 shows the wage range for each of these business administration occupations in Santa Barbara County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

## Exhibit 7: Wages by Occupation in Santa Barbara County



## Job Postings:

There were 7,620 online job postings related to these business administration occupations listed in the past 12 months in the SCC Region. Exhibit 8 shows the number of job postings by occupation. Approximately 46% of job postings were in Ventura County.

### Exhibit 4: Number of Job Postings by Sub-Region (n=7,620)

County	Job Postings	Percentage of Job Postings
Ventura	3480	46%
Northern Los Angeles	1729	23%
Santa Barbara	1503	20%
San Luis Obispo	908	12%
<b>Total Postings</b>	<b>7,620</b>	<b>100%</b>

Of the 7,620 postings, almost half (45%) were for *Customer Service Representatives* (43-4051), followed by *Sales Representatives*, followed by *Wholesales and Manufacturing, Except Technical and Scientific Products* (41-4012).

### Exhibit 5: Number of Job Postings by Occupation (n=7,620)

Occupation	Job Postings	Percentage of Job Postings
Customer Service Representatives	3,424	45%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,009	26%
General and Operations Managers	1,924	25%
Order Clerks	263	3%
<b>Total Postings</b>	<b>7,620</b>	<b>100%</b>

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

**Exhibit 6: Top Employers by Number of Job Postings (n=7,620)**

Employer	Job Postings	Percentage of Job Postings
Domino's Pizza	126	2%
Chevron	122	2%
Walmart	122	2%
CVS Health	104	1%
AppleOne	98	1%
Walgreens Boots Alliance	81	1%
Circle K	47	1%
UPMC Mercy School of Nursing	44	1%
Kroger	42	1%
Procore Technologies	39	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 7: Top Skills by Number of Job Postings (n=7,620)**

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Marketing (934)	Customer Service (4875)	Microsoft Office (906)
Selling Techniques (928)	Sales (3797)	Microsoft Excel (710)
Merchandising (756)	Communication (3442)	Microsoft Outlook (528)
Customer Relationship Management (736)	Management (2298)	Microsoft PowerPoint (325)
Cash Register (601)	Operations (1591)	Salesforce (320)
Sales Prospecting (599)	Leadership (1418)	Microsoft Word (296)
Product Knowledge (445)	Detail Oriented (1268)	Customer Relationship Management (CRM) Software (136)
Customer Inquiries (407)	Problem Solving (1097)	Web Browsers (119)
Business To Business (365)	Multitasking (981)	Spreadsheets (77)
Inventory Management (365)	Microsoft Office (906)	Google Workspace (69)

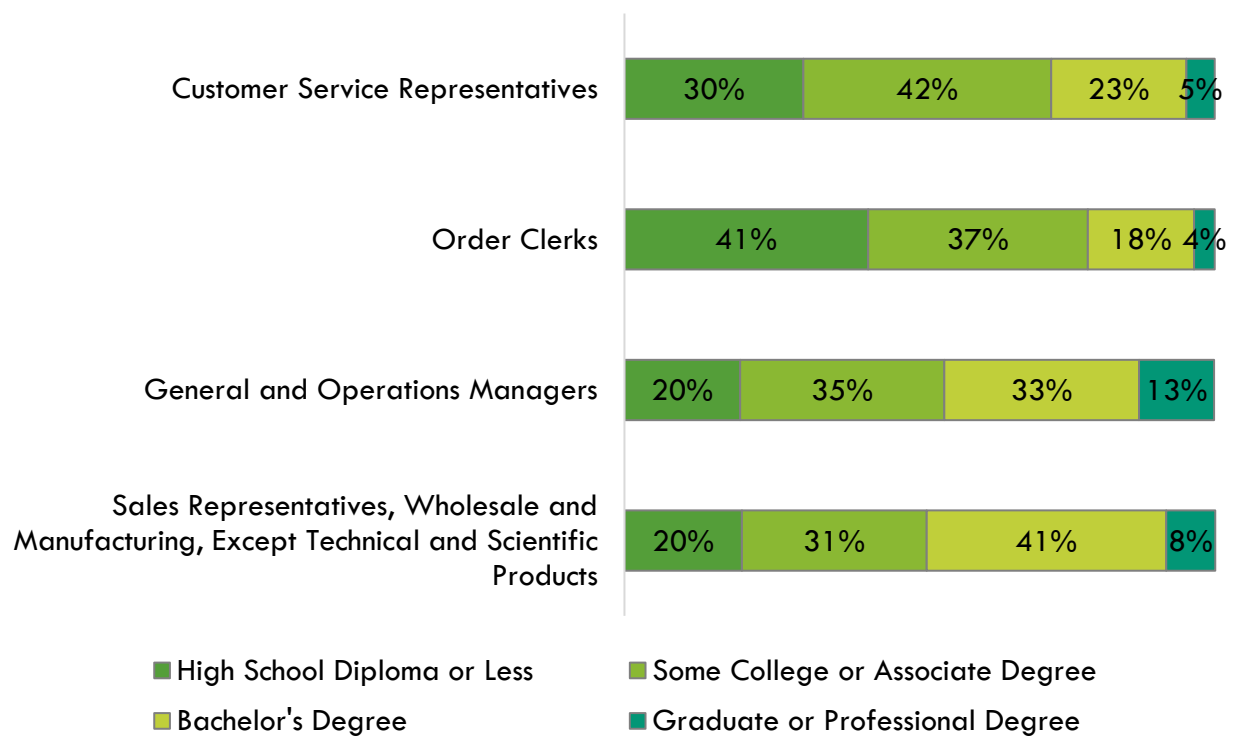
## Educational Attainment:

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

- Some College, no degree
  - *Order Clerks (43-4151)*
- High School Diploma or Equivalent
  - *Customer Service Representatives (43-4051)*
  - *Sales Representatives, Wholesales and Manufacturing, Except Technical and Scientific Products (41-4012)*
- Bachelor's Degree
  - *General and Operations Managers (11-1021)*

The national-level educational attainment data indicates between 31% and 42% 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 8: National-level Educational Attainment for Occupations**



Of the 49% cumulative job postings for these business administration occupations that listed a minimum education requirement in the SCC Region, 67% (2,494) requested a high school diploma or an associate degree 31% (1,158) requested a bachelor's degree, and 2% (60) 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:

- Banking and Finance (0504.00)
- Business Administration (0505.00)
- Business Management (0506.00)
- Small Business Entrepreneurship (0506.40)
- Marketing and Distribution (0509.00)
- Office Technology/ Office Computer Applications (0514.00)
- Business and Commerce, General (0501.00)
- Customer Service (0518.00)
- Retail Store Operations and Management (0506.50)
- International Business and Trade (0508.00)

The college with the most completions in the region is Cuesta (762), followed by College of the Canyons (515), and Moorpark College (306).

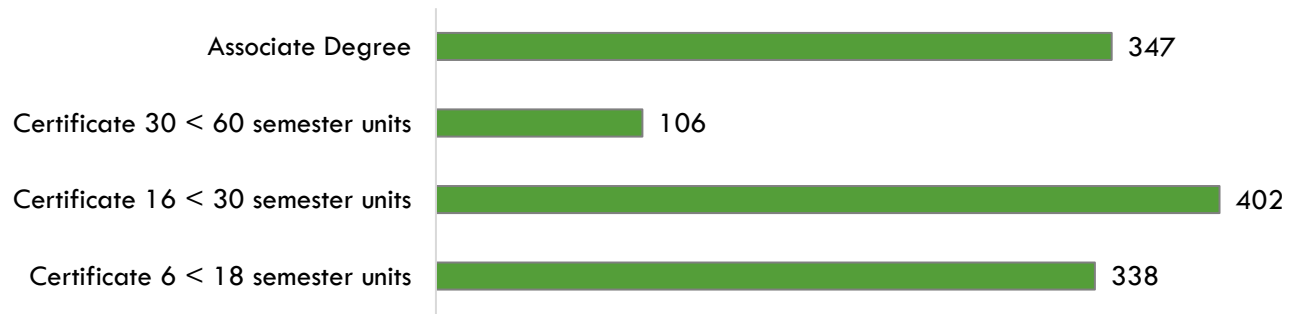
### Exhibit 9: Regional Community College Awards (Certificates and Degrees), 2020-2023

TOP Code	Program	College	2020- 2021 Awards	2021- 2022 Awards	2022- 2023 Awards	3-Year Award Average
0504.00	Banking and Finance	Santa Barbara	5	6	7	6
Supply Subtotal/Average			5	6	7	6
0505.00	Business Administration	Allan Hancock	153	107	94	118
		Antelope Valley	123	150	120	131
		Canyons	261	307	285	284
		Cuesta	180	159	297	212
		Moorpark	215	254	218	229
		Oxnard	83	82	78	81
		Santa Barbara	115	116	145	125
		Ventura	126	128	118	124
Supply Subtotal/Average			1,256	1,303	1,355	1,305
0506.00	Business Management	Allan Hancock	14	12	14	13
		Canyons	179	148	83	137
		Cuesta	19	4	6	10
		Moorpark	25	3	40	23
		Oxnard	6	19	9	11
		Santa Barbara	5	11	0	5
Supply Subtotal/Average			352	324	284	320
		Allan Hancock	0	1	2	1

TOP Code	Program	College	2020- 2021 Awards	2021- 2022 Awards	2022- 2023 Awards	3-Year Award Average
0506.40	Small Business and Entrepreneurship	Antelope Valley	2	0	1	1
		Canyons	31	33	40	35
		Cuesta	11	4	1	5
		Santa Barbara	3	0	4	2
Supply Subtotal/Average			47	38	48	44
0514.00	Office Technology/Office Computer Applications	Allan Hancock	31	30	19	27
		Antelope Valley	40	23	9	24
		Canyons	22	17	12	17
		Cuesta	1	6	4	4
		Oxnard	13	5	33	17
		Santa Barbara	6	0	1	2
Supply Subtotal/Average			113	81	78	91
0051.00	Business and Commerce, General	Allan Hancock	25	32	17	25
		Antelope Valley	35	37	26	33
		Cuesta	646	243	705	531
		Moorpark	46	75	42	54
Supply Subtotal/Average			752	387	790	643
0518.00	Customer Service	Allan Hancock	8	2	4	5
Supply/Subtotal/Average			8	2	4	5
0506.50	Retail Store Operations and Management	Canyons	0	2	2	1
Supply Subtotal/Average			0	2	2	1
0508.00	International Business and Trade	Moorpark	0	0	1	0
		Santa Barbara	14	10	2	9
Supply Subtotal/Average			14	10	3	9
Supply Total/Average			2,635	2,223	2,631	2,496

Exhibit 14 shows the annual average community college awards by type from 2020-21 to 2022-23. The plurality of the awards are for certificates between 16 and less than 30 semester units, followed by associate degrees, certificates between 6 and less than 18 semester units, and lastly certificates between 30 and less than 60 semester units.

## Exhibit 10: Annual Average Community College Awards by Type, 2020-2023



## Community College Student Outcomes:

Exhibit 15 shows the Strong Workforce Program (SWP) metrics for Business and Commerce, General programs at Ventura County Community College District (VCCCD), the SCC Region, and California. Of the 4,665 Business and Commerce, General students throughout the SCC Region in the 2022-23 academic year, 31% (1,462) attended a VCCCD college.

VCCCD students that exited Business and Commerce, General programs in the 2021-22 academic year had similar median annual earnings (\$33,500 or \$16.11 per hour) compared to all Business and Commerce, General students in the SCC Region (\$34,232 or \$16.46 per hour); both figures are lower than statewide (\$37,844 or \$18.19). A lower percentage of VCCCD (45%) and SCC (40%) Business and Commerce, General students attained the living wage when compared to all Business and Commerce, General students in the state (53%).

### Exhibit 11: Business and Commerce, General (0501.00) Strong Workforce Program Metrics, 2022-23<sup>34</sup>

SWP Metric	VCCCD	SCC Region	California
SWP Students	1,462	4,665	62,091
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	28%	30%	30%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Data unavailable	48%	67%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	3%	15%	4%
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2021-22)	11%	8%	7%
SWP Students with a Job Closely Related to Their Field of Study (2020-21)	74%	76%	71%
Median Annual Earnings for SWP Exiting Students (2021-22)	\$33,500 (\$16.10)	\$34,232 (\$16.46)	\$37,844 (\$18.19)
Median Change in Earnings for SWP Exiting Students (2021-22)	57%	41%	37%
SWP Exiting Students Who Attained the Living Wage (2021-22)	45%	40%	53%

<sup>3</sup> All SWP metrics are for 2022-23 unless otherwise noted.

<sup>4</sup> Data that is not available in DataVista is denoted in Exhibit 15 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 business administration training programs. Over the past three years (2019-2022), there were 1,164 awards conferred by non-community college institutions under the related Classification of Instructional Programs (CIP) codes:

- Business Administration and Management, General (52.0201)
- General Office Occupations and Clerical Services (52.0408)

No awards were conferred for the following CIP codes:

- Business/Commerce, General (52.0101)Customer Service Support/Call Center/Teleservice Operation (52.0411)
- Entrepreneurship/Entrepreneurial Studies (52.0701)
- Finance, General (52.0801)
- Financial Risk Management (52.0810)
- International Business/Trade/Commerce (52.1101)
- Retail Management (52.0212)
- Sales, Distribution, and Marketing Operations, General (52.1801)
- Social Entrepreneurship (52.0704)

### Exhibit 12: Regional Non-Community College Awards, 2019-2022

CIP Code	Program	College	2019- 2020 Awards	2020- 2021 Awards	2021- 2022 Awards	3-Year Award Average
52.0201	Business Administration and Management, General	Antioch University- Santa Barbara	0	1	3	1
		California Lutheran University	126	105	87	106
		California Polytechnic State University-San Luis Obispo	654	766	753	724
		California State University-Channel Islands	302	307	213	274
		Laurus College	21	43	80	48
		Ventura Adult and Continuing Education	7	4	1	4
Supply Subtotal/Average			1,110	1,226	1,137	1,158
52.0408	General Office Occupations	San Joaquin Valley College- Atascadero	12	4	1	6

CIP Code	Program	College	2019- 2020 Awards	2020- 2021 Awards	2021- 2022 Awards	3-Year Award Average
	and Clerical Services	San Joaquin Valley College- Santa Maria	0	0	0	0
		Ventura Adult and Continuing Education	3	0	0	1
Supply Subtotal/Average			15	4	1	7
Supply Total/Average			1,125	1,230	1,138	1,164

## Regional Demographics

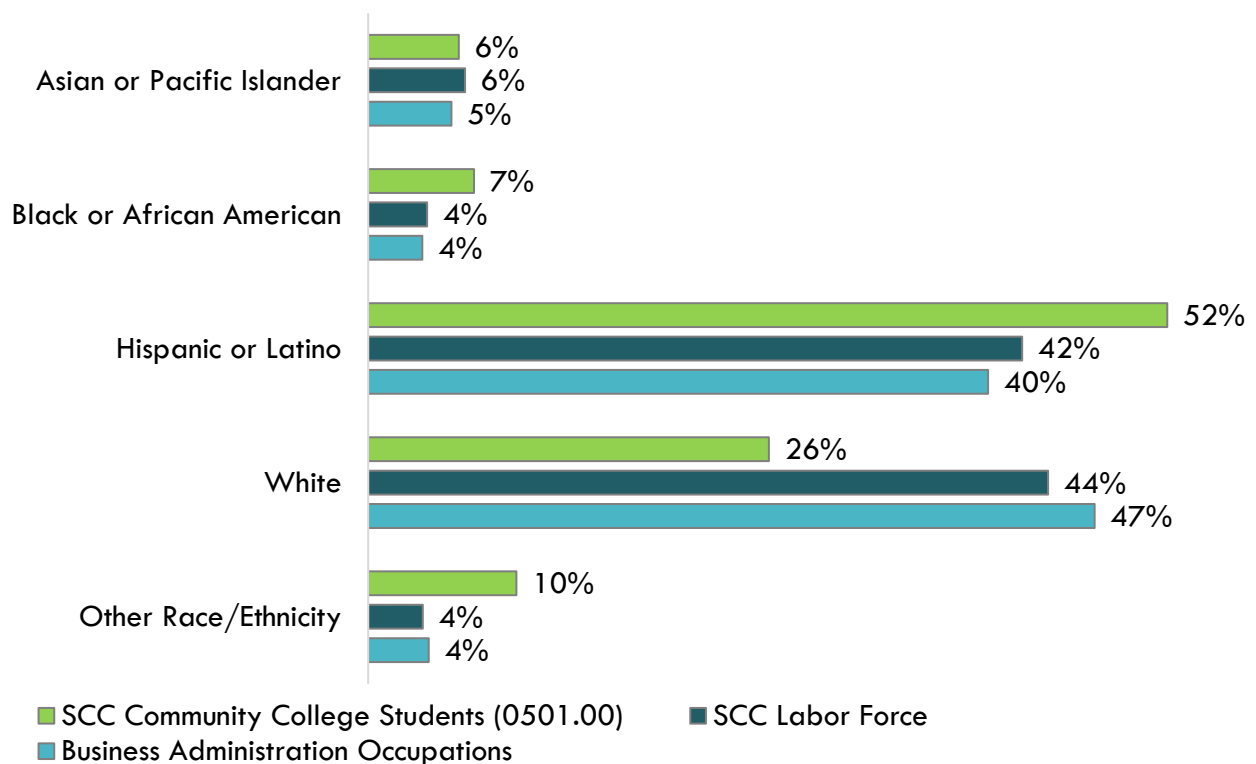
This section examines demographic data for SCC community college students in Business and Commerce, General programs compared to the SCC labor force, along with occupational data, to identify potential diversity and equity issues addressable by community college programs.

### Ethnicity:

Exhibit 17 compares the ethnicity of SCC community college students enrolled in Business and Commerce, General programs, the overall SCC labor force, and occupation-specific data for the four business administration occupations included in this report. Notably, 47% of workers in these business administration occupations are white, which is similar to the labor force (44%) but significantly higher than community college business administration students (26%). Conversely, over 52% of community college business administration students are Hispanic or Latino, which is higher than the SCC labor force (42%) and in business administration occupations (40%).

Examining disaggregated data for each occupation (not shown), the occupation with the highest percentage of Hispanic or Latino workers is *Order Clerks (43-4151)* (52%), which has the lowest entry-level wages for all four business administration occupations.

Exhibit 13: Program and County Demographics by Ethnicity

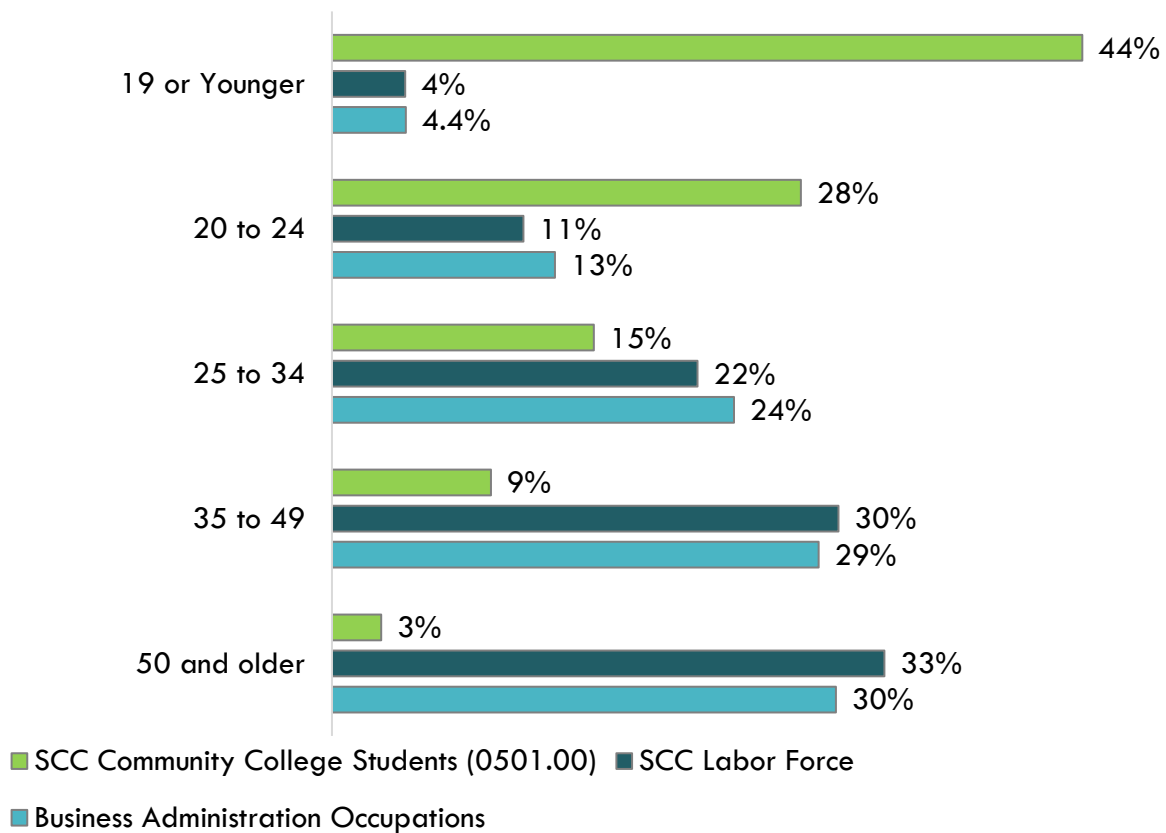


## Age:

Exhibit 18 compares the age of SCC community college students enrolled in Business and Commerce, General programs, the overall SCC labor force, and occupation-specific data for the four business administration occupations included in this report.

More than half (59%) of workers in these business administration occupations are 35 or older, which is similar to the SCC labor force but significantly higher than community college business administration students (12%). There is a significantly higher number of individuals aged 19 or younger in Business and Commerce, General programs (44%) compared to the labor force (4%) and these business administration occupations (4.4%).

**Exhibit 14: Program and County Demographics by Age**

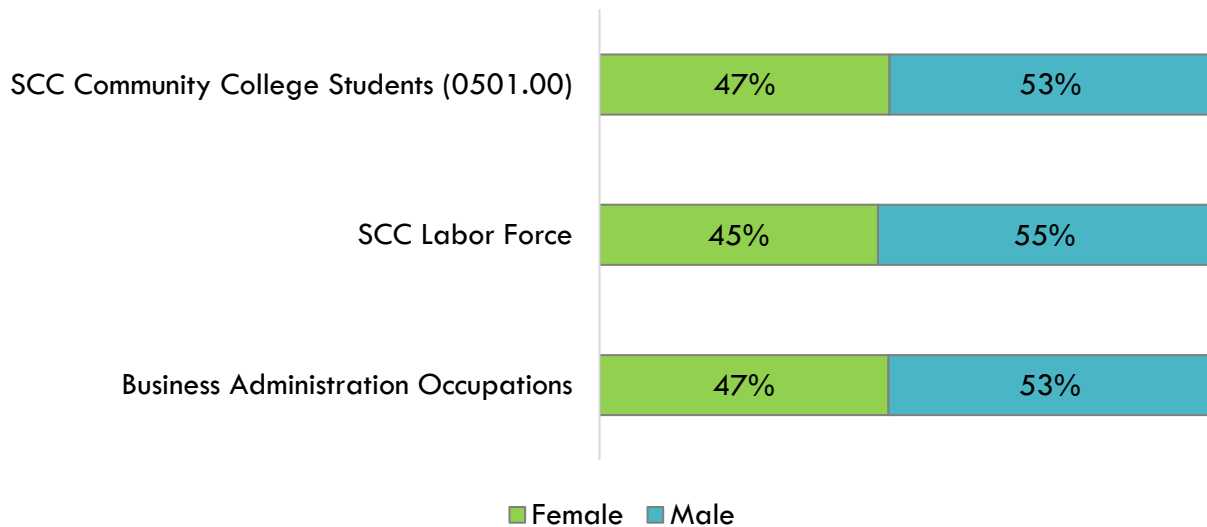


## Sex:

Exhibit 19 compares the sex of SCC community college students enrolled in Business and Commerce, General programs, the overall SCC labor force, and occupation-specific data for these business administration occupations. There is a slight majority of male students (53%) and workers in these business administration occupations (53%), which is only slightly smaller compared to the labor force (55% male).

Examining disaggregated data for each occupation (not shown), two occupations have a majority of female workers: *Order Clerks* (57%), and *Customer Service Representatives* (62%). These occupations have the two lowest entry-level wages of all four business administration occupations analyzed in this report.

Exhibit 15: 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](http://datamart.cccco.edu)) and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://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 or phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.<sup>5</sup> 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. The following 34 ZIP codes are used to define Northern Los Angeles County:

**Exhibit 16: Northern Los Angeles ZIP Codes**

ZIP Code	Primary City	ZIP Code	Primary City
91310	Castaic	93532	Lake Hughes
91321	Newhall	93534	Lancaster
91322	Newhall	93535	Lancaster
91350	Santa Clarita	93536	Lancaster
91351	Canyon Country	93539	Lancaster
91354	Valencia	93543	Littlerock
91355	Valencia	93544	Llano
91380	Santa Clarita	93550	Palmdale
91381	Stevenson Ranch	93551	Palmdale
91382	Santa Clarita	93552	Palmdale
91383	Santa Clarita	93553	Pearblossom
91384	Castaic	93563	Valyermo
91385	Valencia	93584	Lancaster
91386	Canyon Country	93586	Lancaster
91387	Canyon Country	93590	Palmdale
91390	Santa Clarita	93591	Palmdale
93510	Acton	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.

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

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. For more information, contact the SCC COE.

## Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see <a href="https://lightcast.io/">https://lightcast.io/</a>
Living Wage	<p>"Living Wage" measures the income necessary for an individual or family to afford basic expenses by assessing the costs such as housing, food, childcare, health care, transportation, and taxes. Per the CCCCO, this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard for a single adult last updated in March 2024. For more information, see: <a href="http://www.selfsufficiencystandard.org/California">http://www.selfsufficiencystandard.org/California</a></p> <p>The MIT Living Wage, updated on February 14, 2024, is a nationally recognized living wage metric and is provided for reference. For more information, see: <a href="https://livingwage.mit.edu/counties/06059">https://livingwage.mit.edu/counties/06059</a></p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. 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. For more information, see <a href="https://www.bls.gov/emp/documentation/education/tech.htm">https://www.bls.gov/emp/documentation/education/tech.htm</a></p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see <a href="https://www.onetonline.org/help/online/">https://www.onetonline.org/help/online/</a></p>

Data Type	Source
Educational Supply	The CCCC Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: <a href="https://datamart.cccco.edu">https://datamart.cccco.edu</a>
	The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see <a href="https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions">https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</a>
Student Metrics and Demographics	DataVista, 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. For more information, see: <a href="https://datavista.cccco.edu/">https://datavista.cccco.edu/</a>
Population and Occupation Demographics	The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: <a href="https://www.census.gov/programs-surveys/acs">https://www.census.gov/programs-surveys/acs</a>
	Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: <a href="https://usa.ipums.org/usa/about.shtml">https://usa.ipums.org/usa/about.shtml</a>

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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