Labor Market Analysis for Program Recommendation: 0707.10/Computer Programming CIP: 30.7101 Data Analytics, General *(Data Analytics)*

Orange County Center of Excellence, December 2025

⚠ Endorsed: Caution Advised			
Program LMI Endorsement Criteria			
	Met ☑	Partially Met ☐	Not Met ☐
Supply Gap:	There are **14 projected annual job openings** for *statistical assistants* in Los Angeles and Orange counties, and **no completions were reported by local education institutions**. Notably, the training program aligns with **16 related occupations**, collectively **accounting for an additional 15,047 annual openings**, indicating strong demand for data skills.		
	Met ☑	Partially Met ☐	Not Met ☐
Self-Sufficiency Standard Living Wage[1]:	**All annual job openings** for *statistical assistants* **have entry-level hourly wages above the OC living wage of $27.13**.		
	Met ☐	Partially Met ☑	Not Met ☐
Education:	**All annual job openings** for *statistical assistants* typically require a bachelor's degree. However, **37% of workers in the field have completed some college or an associate degree as their highest level of education.**		

Summary

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles and Orange counties regional labor market related to one middle-skill occupation:

- *Statistical Assistants (43-9111)*

Although no completions were reported by local educational institutions, the low supply is likely due to the middle-skill occupation's limited recognition in education and industry. As such, these roles are often grouped under—and overshadowed by—broader, above-middle skill job titles such as "data scientists" or "data analysts." Additionally, demand is likely understated because related educational programs train for an additional sixteen (16) occupations. When considering the strong demand across these occupations, it is likely the region is experiencing a supply gap.

Furthermore, while the typical education requirement for this occupation is listed as a bachelor's degree, the actual workforce often aligns with a community college-level education. Finally, all annual job openings have entry-level wages above the Self-Sufficiency Standard living wage. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

[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; Orange County's living wage of $27.13, was last updated in March 2024.

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the middle-skill occupation 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
Statistical Assistants (43-9111)	LA: 11 OC: 3	LA: 0 OC: 0	OC: $28.53	Bachelor's Degree	37%
Middle-Skill Total	**14**	**0**	**N/A**	**N/A**	**N/A**
Total	**14**	**0**	**N/A**	**N/A**	**N/A**

Demand

- In Los Angeles and Orange counties, the number of jobs related to *statistical assistants* is projected to maintain similar rates (0% growth) through 2029, equating to 14 annual job openings.
- Hourly entry-level wages for *statistical assistants* are $28.53 in Orange County; all annual openings have entry-level wages above the Self-Sufficiency Standard living wage.
- There were 24 online job postings for *statistical assistants* over the past 12 months. The highest number of postings were for accounting and data analyst, data technician, and accounting and data assistant.
- The typical entry-level education for *statistical assistants* is a bachelor's degree.
- About 37% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply

- Between 2021 to 2024, no awards were conferred for *statistical assistants* by community colleges in Los Angeles and Orange counties.
    - Community colleges conferred an average of 782 awards for the above middle-skill occupation, *data scientists^*.
- From 2020 to 2023, non-community college institutions conferred no awards for *statistical assistants*.
    - Non-community colleges conferred an average of 21 awards applicable towards *data scientists^*.
- In the 2022-23 academic year, Orange County community college students that exited computer programming programs had a median annual wage of $36,394 ($17.50 per hour) post-exit, and 32% earned a living wage.
- In the 2021-22 academic year, 61% of Orange County computer programming students that exited their programs reported working a job closely related to their field of study.

Above Middle-Skill Occupations

Although the endorsement summary is based on occupations attainable at the community college level, including the related above middle-skill occupation (^) can help illustrate potential career pathways and emerging labor market trends. Since the related program may serve as a stepping-stone toward further education and training, the following above middle-skill occupation, which requires a bachelor's degree or higher, is included in this report:

- Above Middle-Skill – denoted with a caret (^) throughout this report.
    - *Data Scientists (15-2051)^*

Exhibit 2 lists the occupational demand, supply, typical entry-level education, and educational attainment for *data scientists^* included in this report.

Exhibit 2: Labor Market Summary for Above Middle-Skill Occupation

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Data Scientists (15-2051)^	LA: 601 OC: 238	LA: 470 OC: 332	OC: $38.65	Bachelor's degree	10%
Total	**839**	**802**	**N/A**	**N/A**	**N/A**

Demand

Occupational Projections

Exhibit 3 shows the annual percentage change in jobs for these data analytics occupations from 2019 through 2029. Between 2019 and 2020, employment levels across Los Angeles and Orange counties declined sharply due to the broader economic impacts of the COVID-19 pandemic. However, data analytics occupations diverged from this trend and experienced significant growth during the downturn. From 2021 to 2022, the region experienced rapid growth, followed by continued strong growth in 2023. Beginning in 2024, job levels are projected to grow at a faster rate than all occupations through 2029.

Exhibit 3: Annual Percentage Change in Jobs for Data Analytics Occupations, 2019-29

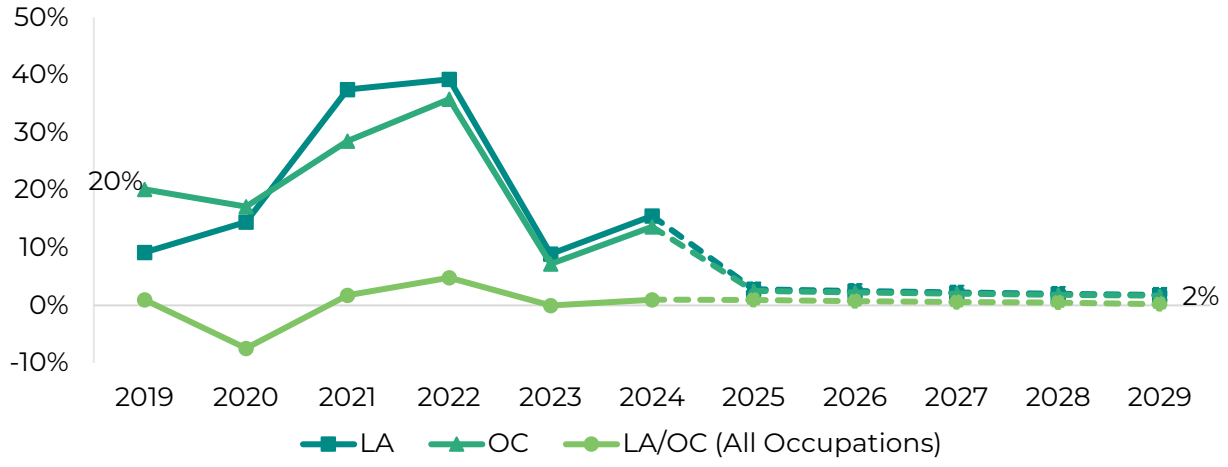


Exhibit 4 shows the five-year occupational demand projections for *statistical assistants*. In Los Angeles and Orange counties, the number of jobs related to this occupation is projected to remain steady (0%) through 2029, with 14 available annually.

Exhibit 4: Middle-Skill Occupational Demand
in Los Angeles and Orange Counties

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	98	98	0	0%	11
Orange	26	26	0	0%	3
Total	**124**	**124**	**0**	**0%**	**14**

Exhibit 5 shows the five-year occupational demand projections for *data scientists^*. In Los Angeles and Orange counties, the number of jobs related to this occupation is projected to increase 12% through 2029, with 839 available annually.

Exhibit 5: Above Middle-Skill Occupational Demand
in Los Angeles and Orange Counties

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	7,244	8,116	872	12%	601
Orange	2,963	3,284	321	11%	238
Total	**10,207**	**11,400**	**1,193**	**12%**	**839**

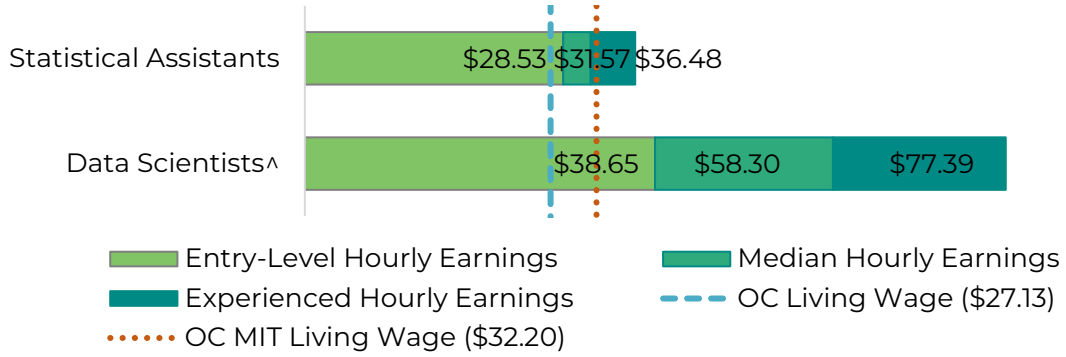
Wages

The labor market endorsement in this report considers the entry-level hourly wages for these data analytics occupations in Orange County as they relate to the county's living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC 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 Orange County is $32.20. 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.

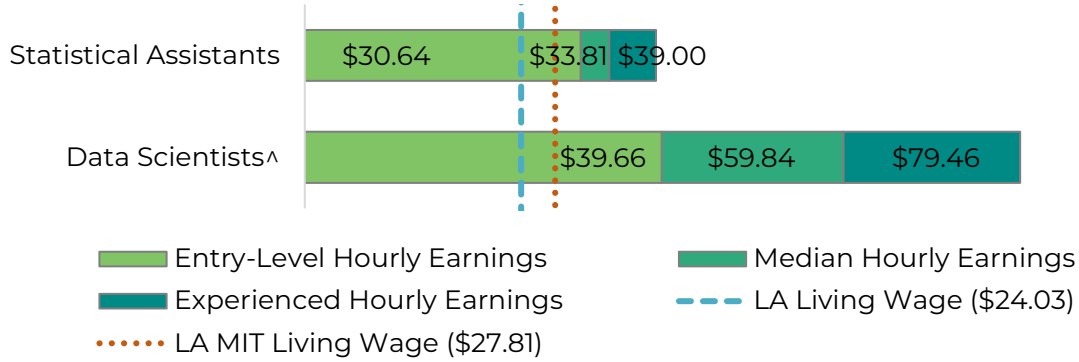
In Orange County, all annual openings for these data analytics occupations have entry-level wages above the Self-Sufficiency living wage of $27.13 for a single adult, ranging between $28.53 and $38.65. Exhibit 6 shows the wage range for each of these data analytics occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 6: Wages by Occupation in Orange County



In Los Angeles County, all annual openings for these data analytics occupations have entry-level wages above the Self-Sufficiency living wage of $24.03 for a single adult, ranging between $30.64 and $39.66. Exhibit 7 shows the wage range for each of these data analytics occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 7: Wages by Occupation in Los Angeles County



Resilient Jobs and U.S. News & World Report Best Jobs

Exhibit 8 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2025 U.S. News & World Report (USN&WR) Best Job[2]. Of the occupations included in this report, *data scientists^* are considered both a COVID-19 Pandemic Recession-Resilient Job and a 2025 USN&WR Best Job, while *statistical assistants* did not meet the criteria for any of these designations.

Exhibit 8: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Data Scientists^	☐	☑	☑
Statistical Assistants	☐	☐	☐

[2] "100 Best Jobs," U.S. News & World Report, accessed January 28, 2025, https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs.

Job Postings

Important Job Postings Data Note: *There are limitations when analyzing job postings. A single job posting may not represent a single job opening for a variety of reasons. Job postings data was sourced from JobsEQ rather than Lightcast when no job postings data was returned for a given occupation.* [3]

As seen in Exhibit 9, there were 6,717 online job postings related to these data analytics occupations listed in the past 12 months. Exhibit 9 shows the number of job postings by occupation. Almost all job postings were for *data scientists^* (99.9%) whereas less than 1% were for *statistical assistants*.

Exhibit 9: Number of Job Postings by Occupation (n=6,717)

Occupation	Job Postings	Percentage of Job Postings
Data Scientists^	6,693	99.9%
Statistical Assistants	24	<1%
Total Postings	**6,717**	**100%**

Job Postings for Middle-Skill Occupations

The top job titles for *statistical assistants* in the region, by number of job postings, are shown in Exhibit 10.

Exhibit 10: Top Job Titles by Number of Job Postings for *Statistical Assistants* (n=24)

Job Titles	Job Postings	Percentage
Data Analyst	8	33%
Data Technician	4	17%
Accounting and Data Assistant	1	4%
Data Analyst - Claims	1	4%
Data Analyst - Hospital	1	4%
Data Analyst II	1	4%
Data Assistant	1	4%
Education Data Technician	1	4%
Entry Level Data Analyst	1	4%
Health Informatics Data Specialist	1	4%

The top employers for *statistical assistants* in the region, by number of job postings, are shown in Exhibit 11.

Exhibit 11: Top Employers by Number of Job Postings for *Statistical Assistants* (n=24)

Employer	Job Postings	Percentage of Job Postings
Akkodis	2	8%
ExecutivePlacements.com	2	8%
Hawthorne School District	2	8%
ASC	1	4%
Alisa Dalla-Staffing	1	4%

[3] *No job postings were found via Lightcast for the middle-skill occupation statistical assistants.* The OC COE utilized JobsEQ, another labor market and job postings data analysis tool, to analyze postings for this occupation.

Employer	Job Postings	Percentage of Job Postings
Children's Paradise Inc	1	4%
Dignity Health	1	4%
EdgeAll	1	4%
Get It - Executive	1	4%
Living Advantage, Inc.	1	4%

The top specialized, soft, and computer skills for *statistical assistants* listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 12.

Exhibit 12: Top Skills by Number of Job Postings for *Statistical Assistants* (n=24)

Hard Skills	Soft Skills
Microsoft Excel (9)	Communication (Verbal and written skills) (8)
Data Analysis (6)	Cooperative/Team Player (7)
Structured Query Language (SQL) (6)	Analytical (5)
Data Entry (4)	Detail Oriented/Meticulous (5)
Presentation (4)	Prioritize (5)
Statistics (3)	Problem Solving (3)
Tableau (3)	Ability to Work in a Fast-Paced Environment (2)
Data Modeling (2)	Confidentiality/Information Sensitivity (2)
Extract, Transform, Load (ETL) (2)	Project Management (2)
Microsoft Office (2)	Self-Motivated/Ability to Work Independently/Self Leadership (2)

Job Postings for Above Middle-Skill Occupation

The top job titles *data scientists^* in the region, by number of job postings, are shown in Exhibit 13.

Exhibit 13: Top Job Titles by Number of Job Postings for *Data Scientists^* (n=6,693)

Job Titles	Job Postings	Percentage
Data Analysts	595	9%
Data Scientists	508	8%
Business Intelligence Analysts	166	2%
Enterprise Architects	70	1%
Data Analytics Managers	68	1%
Data Science Managers	65	1%
Epic Application Analysts	59	1%
SAP Consultants	56	1%
Directors of Data Science	48	1%
Analytics Managers	46	1%

The top employers for *data scientists^* in the region, by number of job postings, are shown in Exhibit 14.

Exhibit 14: Top Employers by Number of Job Postings for *Data Scientists^* (n=6,693)

Employer	Job Postings	Percentage of Job Postings
Deloitte	140	2%
The Judge Group	120	2%
PIH Health	100	1%
Amazon	92	1%
University of California	82	1%
Accenture	75	1%
Disney	64	1%
Kaiser Permanente	62	1%
Robert Half	61	1%
Infosys	56	1%

The top specialized, soft, and computer skills for *data scientists* listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 15.

Exhibit 15: Top Skills by Number of Job Postings for *Data Scientists^* (n=6,693)

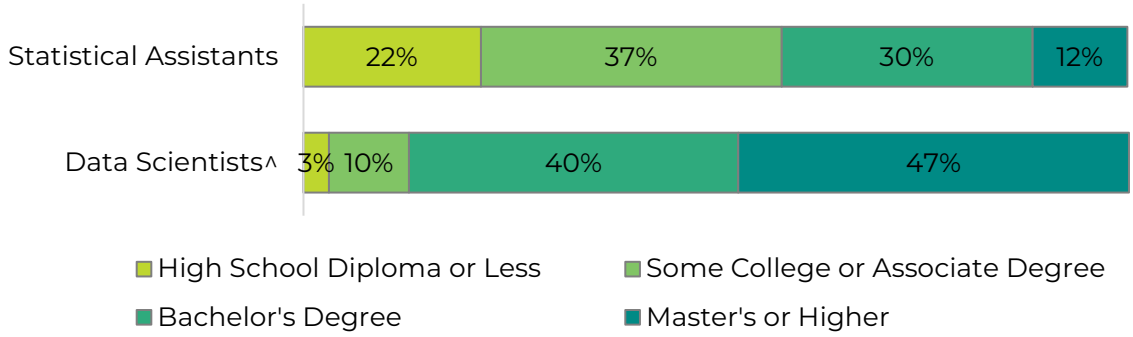
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Data Analysis (2,868)	Communication (3,401)	SQL (Programming Language) (2,592)
SQL (Programming Language) (2,592)	Management (1,793)	Python (Programming Language) (2,179)
Python (Programming Language) (2,179)	Leadership (1,788)	Dashboard (1,514)
Computer Science (1,969)	Problem Solving (1,788)	Tableau (Business Intelligence Software) (1,462)
Data Science (1,736)	Operations (1,446)	Power BI (1,182)
Dashboard (1,514)	Research (1,112)	Microsoft Excel (1,085)
Tableau (Business Intelligence Software) (1,462)	Detail Oriented (1,092)	R (Programming Language) (1,037)
Statistics (1,435)	Microsoft Excel (1,085)	SAP Applications (920)
Workflow Management (1,364)	Troubleshooting (Problem Solving) (1,042)	Amazon Web Services (681)
Machine Learning (1,297)	Presentations (1,036)	Microsoft Azure (562)

Educational Attainment

The Bureau of Labor Statistics (BLS) lists a bachelor's degree for *statistical assistants* and *data scientists^*.

The national-level educational attainment data indicates between 10% and 37% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 16 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 16: National-level Educational Attainment for Occupations



Requested Minimum Education Requirement

Of the cumulative job postings for these data analytics occupations in Los Angeles and Orange counties that listed a minimum education requirement:

- 33% (8) of *Statistical Assistants* Job Postings
  - 50% (4) requested a high school diploma or associate degree
  - 50% (4) requested a bachelor's degree
- 70% (4,681) of *Data Scientists^* Job Postings
  - 9% (421) requested a high school diploma or an associate degree
  - 80% (3,725) requested a bachelor's degree

Educational Supply

The following supply tables display the total supply for these data analytics occupations that align with these TOP and CIP codes and program needs.

Community College Supply

Exhibit 17 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Computer Information Systems (0702.00)
- Computer Programming (0707.10)

All awards conferred were designated towards the above-middle skill occupation, *data scientists^*. The colleges with the most completions in the region are Orange Coast (204), followed by Mt San Antonio (136), and Santa Monica (70). Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

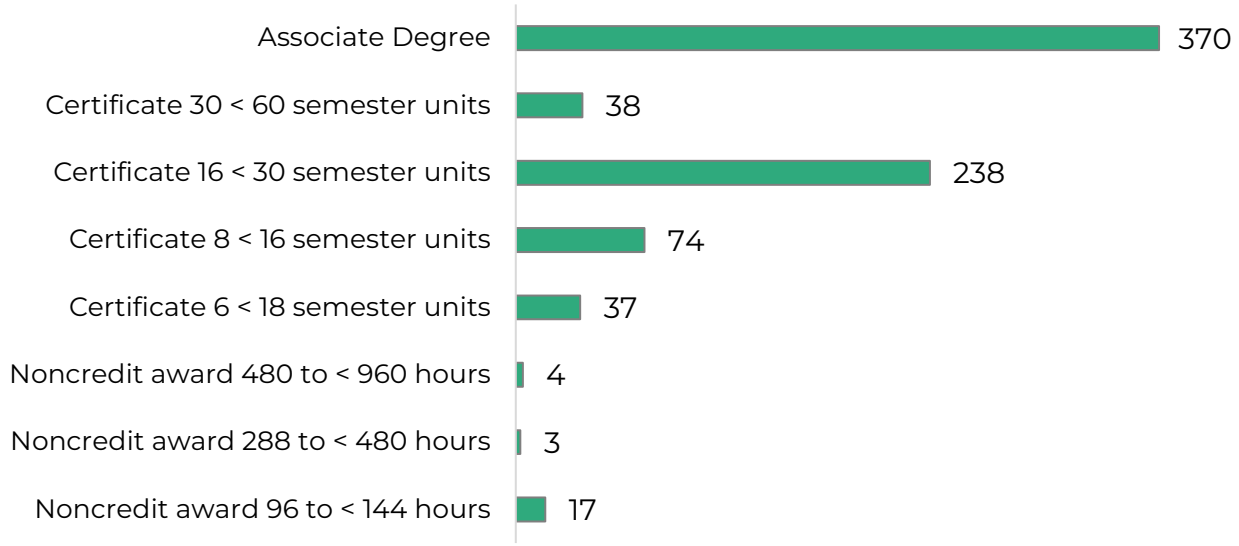
Exhibit 17: Regional Community College Awards (Certificates and Degrees), 2021-2024

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0702.00	Computer Information Systems	Citrus	6	2	5	4
		Compton	12	4	4	7
		East LA	11	23	42	25
		El Camino	28	19	27	25
		Glendale	8	11	5	8
		LA City	3	4	20	9
		LA Harbor	1	2	3	2
		LA Mission	1	0	0	0
		LA Swest	21	20	10	17
		LA Trade	17	35	18	23
		Long Beach	0	6	26	11
		Mt San Antonio	68	41	41	50
		Rio Hondo	15	14	14	14
		Santa Monica	0	2	6	3
		West LA	14	8	7	10
		LA Southwest	21	20	10	17
		LA Subtotal	**205**	**191**	**228**	**208**
		Coastline	2	7	11	7
		Fullerton	49	48	51	49
		Irvine	0	1	0	0
		Orange Coast	1	0	0	0
		Saddleback	0	1	1	1
		Santa Ana	18	8	23	16

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		Santiago Canyon	1	5	2	3
		OC Subtotal	**71**	**70**	**88**	**76**
Supply Subtotal/Average			**276**	**261**	**316**	**284**
0707.10	Computer Programming	Cerritos	7	2	2	4
		Citrus	9	7	9	8
		East LA	0	1	2	1
		Glendale	0	0	1	0
		LA City	10	19	30	20
		LA Harbor	4	6	1	4
		LA Mission	7	6	15	9
		LA Pierce	5	7	7	6
		LA Swest	2	3	3	3
		LA Valley	8	15	15	13
		Long Beach	7	4	4	5
		Mt San Antonio	125	65	68	86
		Pasadena	23	37	46	35
		Santa Monica	71	55	77	68
		West LA	0	0	1	0
		LA Southwest	2	3	3	3
		LA Subtotal	**278**	**227**	**281**	**262**
		Coastline	1	2	0	1
		Cypress	5	5	6	5
		Fullerton	28	32	1	20
		Orange Coast	160	250	202	204
		Santa Ana	0	0	5	2
		Santiago Canyon	2	3	4	3
		OC Subtotal	**196**	**292**	**218**	**235**
Supply Subtotal/Average			**474**	**519**	**499**	**497**
Supply Total/Average			**750**	**780**	**815**	**782**

Exhibit 18 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for associate degrees, followed by certificates between 16 to 30 semester units and certificates between 8 to 16 semester units.

Exhibit 18: Annual Average Community College Awards by Type, 2021-2024



Community College Student Outcomes

Exhibit 19 shows the Strong Workforce Program (SWP) metrics for computer programming programs in South Orange County Community College District (SOCCCD), the Orange County region, and California. Due to the low number of students, no student data is available at the district level.

Students in Orange County that exited computer programming programs in the 2022-23 academic year had higher median annual earnings ($36,394 or $17.50 per hour) compared to all computer programming students in the state ($45,284 or $21.77 per hour). However, a higher percentage of students in Orange County that exited their programs attained the living wage (35%) as all students that exited these programs in the state (30%).

Exhibit 19: Computer Programming (0707.10) Strong Workforce Program Metrics, 2021-24[4]

SWP Metric	SOCCCD	OC Region	California
SWP Students	Insufficient Data	3,570	44,066
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	Insufficient Data	30%	24%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	65%	76%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	119	1,027
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	Insufficient Data	268	2,923

[4] All SWP metrics are for 2023-24 unless otherwise noted.

SWP Metric	SOCCCD	OC Region	California
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	Insufficient Data	61%	67%
Median Annual Earnings for SWP Exiting Students (2022-23)	Insufficient Data	$36,394 ($17.50)	$45,284 ($21.77)
Median Change in Earnings for SWP Exiting Students (2022-23)	Insufficient Data	35%	30%
SWP Exiting Students Who Attained the Living Wage (2022-23)	Insufficient Data	32%	44%

Non-Community College Supply

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering computer programming programs. Exhibit 20 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) codes:

- Data Analytics, General (30.7101)
- Data Science, General (30.7001)

No awards were conferred under the related CIP codes: Data Science, General (30.7001) and Data Visualization (30.7103).

The available data covers 2020 to 2023. During this period, non-community college institutions in the region conferred an average of 21 awards annually in related program.

Exhibit 20: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
30.7101	Data Analytics, General	University of Massachusetts Global	7	8	10	8
		Westcliff University	0	0	37	12
Supply Subtotal/Average			**7**	**8**	**47**	**21**
Supply Total/Average			**7**	**8**	**47**	**21**

Regional Demographics

The following section presents occupational, community college program, and population demographic data for Orange County. This comparison can help identify possible equity gaps between the local workforce and the student pipeline who are preparing for these occupations. These insights can inform program development, outreach, and support strategies to better align community college programs with current labor market needs.

Ethnicity

Exhibit 21 compares the ethnicity of Orange County community college students enrolled in computer programming programs, the overall Orange County population, and occupation-specific data for the five data analytics occupations included in this report.

Combined, white and Asian individuals make up 82% of the data analytics workforce compared to just 54% of program enrollments. Notably, white individuals account for 38% of workers but only 16% of students. In contrast, Hispanic or Latino students represent 35% of program enrollments but only 13% of the workforce. These disparities may indicate a potential disconnect between training and equitable hiring within data analytics occupations.

Exhibit 21: Program and County Demographics by Ethnicity

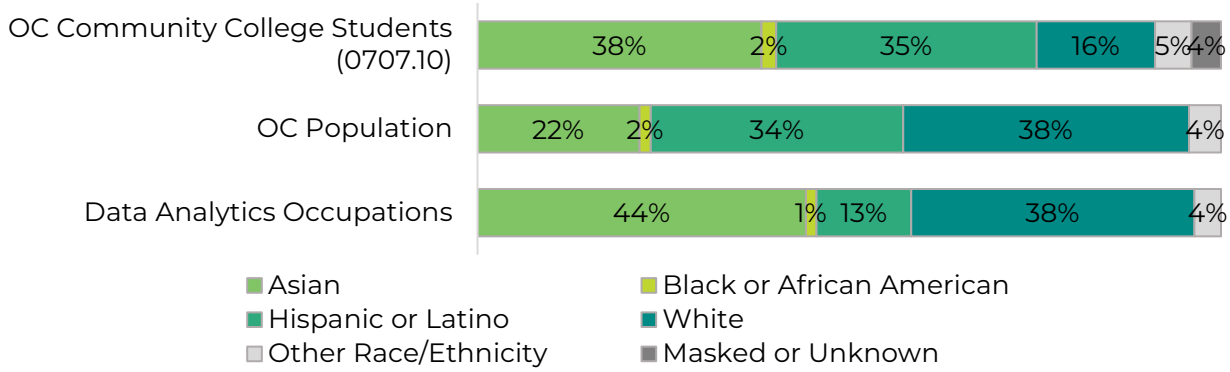
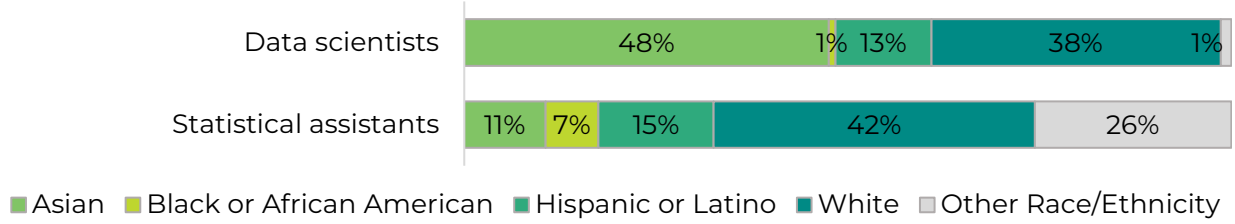


Exhibit 22 shows the disaggregated ethnicity data for each occupation reveals possible disparities in entry into well-paying occupations and/or career advancement.

White and Hispanic or Latino workers show aligned representation across both the lower-paying occupation, *statistical assistants* (42% and 15%, respectively), and the higher-paying occupation, *data scientists^* (38% and 13%). However, Asian workers are significantly more represented among *data scientists^* (48%) compared to *statistical assistants* (11%). In contrast, Black or African American workers represent 7% of *statistical assistants* and only 1% of *data scientists^*.

Exhibit 22: Disaggregated Ethnicity Data by Occupation



Age

Exhibit 23 compares the age of Orange County community college students enrolled in computer programming programs, the overall Orange County population, and occupation-specific data for the five data analytics occupations included in this report.

Notably, 73% of data analytics workers are aged 25 to 49, whereas 72% of community college computer programming students are 24 and younger. This contrast suggests that while many students begin training at a younger age, they may need more time and experience to build the skills required for data analytics roles and transition into the workforce.

Exhibit 23: Program and County Demographics by Age

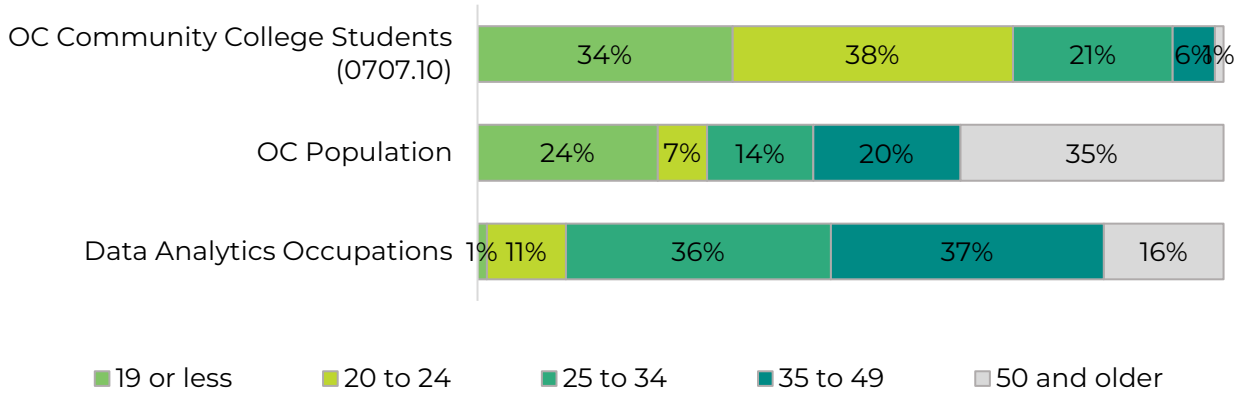
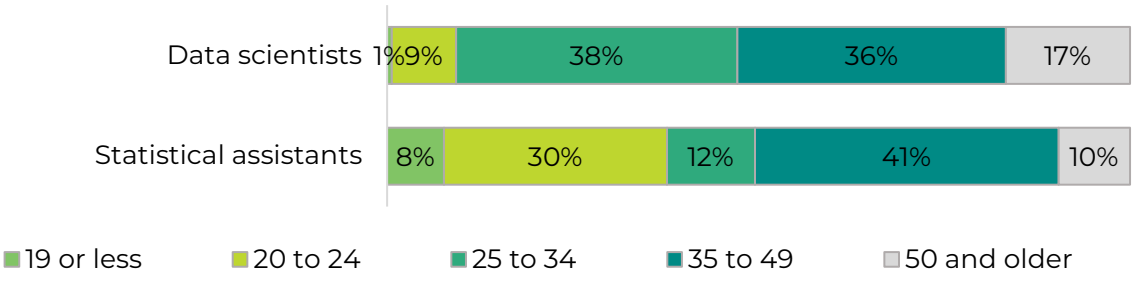


Exhibit 24 shows disaggregated age data for each occupation reveals possible disparities in entry into well-paying occupations and/or career advancement.

*Data scientists^* are primarily concentrated in the 25 to 34 (38%) and 35 to 49 (36%) age groups. In contrast, *statistical assistants* show an uneven age distribution, with only 12% in the 25 to 34 age group and stronger representation among those aged 35 to 49 (41%). Notably, 30% of *statistical assistants* are aged 20 to 24, suggesting either emerging demand for newer skill sets or that this occupation may serve as an entry point into the data analytics workforce, supporting future succession planning.

Exhibit 24: Disaggregated Age Data by Occupation



Sex

Exhibit 25 compares the sex of Orange County community college students enrolled in computer programming programs, the overall Orange County population, and occupation-specific data for these data analytics occupations.

Women make up just 21% of community college data analytics enrollments but 48% of workers in data analytics occupations, while men account for 75% of students and 52% of the workforce. This suggests women may break into data analytics through alternative pathways or prior work experience.

Exhibit 25: Program and County Demographics by Sex

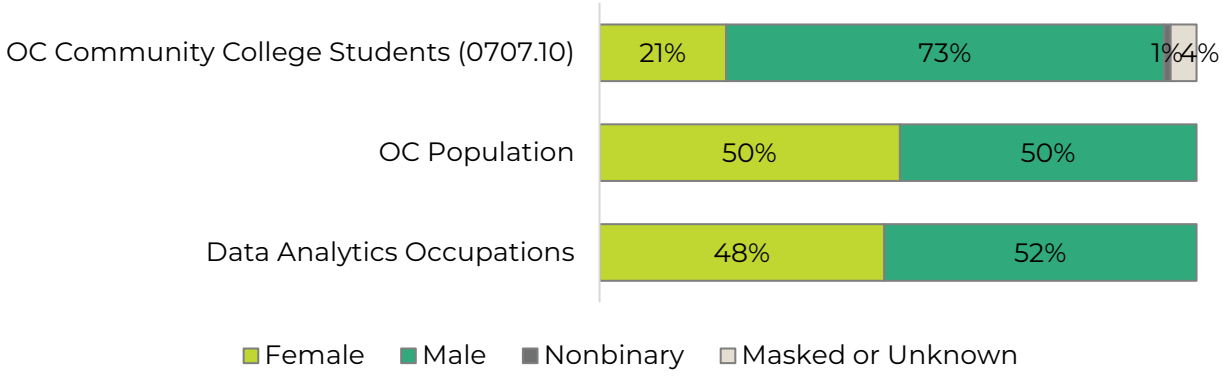
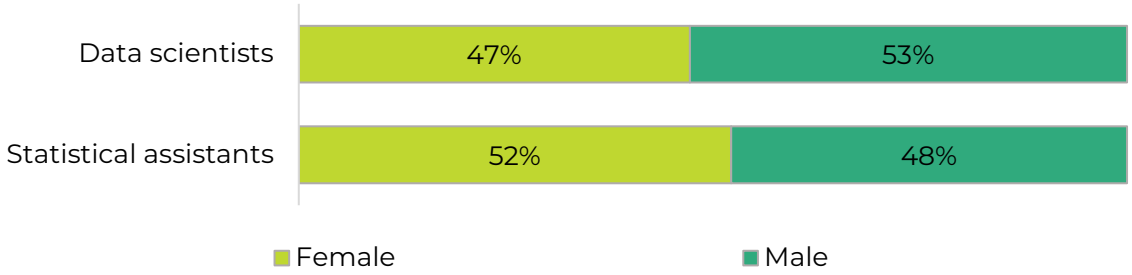


Exhibit 26 shows disaggregated sex data for each occupation reveals possible disparities in entry into well-paying occupations and/or career advancement.

Women are similarly represented in both data analytics occupations as men, with slightly lower representation in the higher-paying occupation (47%) compared to the lower-paying occupation (52%).

Exhibit 26: Disaggregated Sex Data by Occupation



Appendix A: Methodology

OC COE prepared this report by analyzing occupational and educational program data. Occupational data comes from Lightcast, a labor market analytics firm which compiles information from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other agencies. Analysis of emerging occupations is predicated on online job postings data combined with Occupational Information Network (O*NET) profile descriptions. Program supply data was sourced from the California Community Colleges Chancellor's Office Data Mart (MIS Data Mart) (datamart.cccco.edu) and the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS, which was integrated into the COE's Supply Table. (IPEDS).

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

- All occupations that have 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 OC COE determined labor market supply for each occupation (SOC code) by analyzing the number of 3-year average program completers or awards in related TOP and CIP codes. TOP code data comes from MIS Data Mart and CIP code data comes from the IPEDS. The 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 throughout the United States and Canada. The California Community Colleges are the only system that use TOP codes.

The analysis reflects labor market demand for occupations closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. assess current and projected employment based on data trends for detailed occupations, as well as annual average awards granted by regional postsecondary educational institutions. Real-time labor market information (online job postings) assesses employer preferences but cannot be used to measure the quantity of open positions, number of jobs, or annual openings.

All findings are based on the most current available data and a combination of primary and secondary sources. While care was taken to ensure accuracy, the OC COE, its host district, and the California Community Colleges Chancellor's Office are not responsible for individual decisions made based on this report.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional and real-time labor market information for are captured using data from Lightcast (v.2025.3), a labor market analytics firm. Due to limitations with Lightcast data for the middle-skill occupation, the OC COE utilized JobsEQ to analyze job postings in this report. For more information on this labor market and job posting analysis tool, see https://www.chmura.com/.
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, which is $27.13 per hour ($57,294 annually) in Orange County. The MIT Living Wage, updated on February 10, 2025, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is $32.20.
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, knowledge, 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 (v.2.0), 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.

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December 2025