



Program LMI Endorsement Criteria			
	Met ☐	Partially Met ☐	Not Met ☐
Supply Gap:	The OC COE predicates endorsement only for middle-skill occupations. Since this proposed new program includes above middle-skill occupations only, we are unable to evaluate the labor market information endorsement criteria.		
Self-Sufficiency Standard Living Wage ¹ :	Met ☐	Partially Met ☐	Not Met ☐
Education:	Met ☐	Partially Met ☐	Not Met ☐

This LMA brief is valid for 12 months and expires October 2027.

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 markets related to two occupations:

- Above Middle-Skill – denoted with a caret (^) throughout this report
 - Database Administrators (15-1242)^
 - Database Architects (15-1243)^

The OC COE predicates endorsement only for middle-skill occupations. **Since this proposed program includes above middle-skill occupations only, we are unable to evaluate the labor market information endorsement criteria.**

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
Database Administrators (15-1242)^	LA: 85 OC: 34 TTL: 118	LA: 159 OC: 40 TTL: 199	OC: \$38.76	Bachelor's degree	17%
Database Architects (15-1243)^	LA: 61 OC: 27 TTL: 88	<i>Accounted for Above</i>	OC: \$54.55	Bachelor's degree	17%
Total	206	199	N/A	N/A	N/A

Demand

- In Los Angeles and Orange counties, the number of jobs related to database systems occupations is projected to decrease 0.1% through 2030, equating to 206 annual job openings.
- Hourly entry-level wages for database systems occupations range from \$38.76 to \$54.55 in Orange County; all annual openings have entry-level wages above the Self-Sufficiency Standard living wage.
- There were 4,145 online job postings for database systems occupations over the past 12 months. The highest number of postings were for data engineers, database administrators, and data architects.
- The typical entry-level education for database systems occupations is a bachelor's degree.
- Approximately 17% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply

- Between 2022 to 2024, an average of 108 awards were conferred by 14 community colleges for the above middle-skill occupations in Los Angeles and Orange counties.
- From 2021 to 2024, non-community college institutions conferred an average of 91 awards for the above middle-skill occupations.
- In the 2023-24 academic year, Orange County community college students that exited database design and administration programs had a median annual wage of \$66,832 (\$32.13 per hour) post-exit, and 63% attained the regional living wage.
- In 2022-23, 31% of Orange County database design and administration students that exited their programs reported working a job closely related to their field of study.

Demand

Occupational Projections

Exhibit 2 shows the annual percentage change in jobs for database systems occupations from 2020 through 2030. Beginning in 2025, Orange County job levels are projected to grow at a similar rate than all occupations through 2030.

Exhibit 2: Annual Percentage Change in Jobs for Database Systems Occupations, 2020-2030

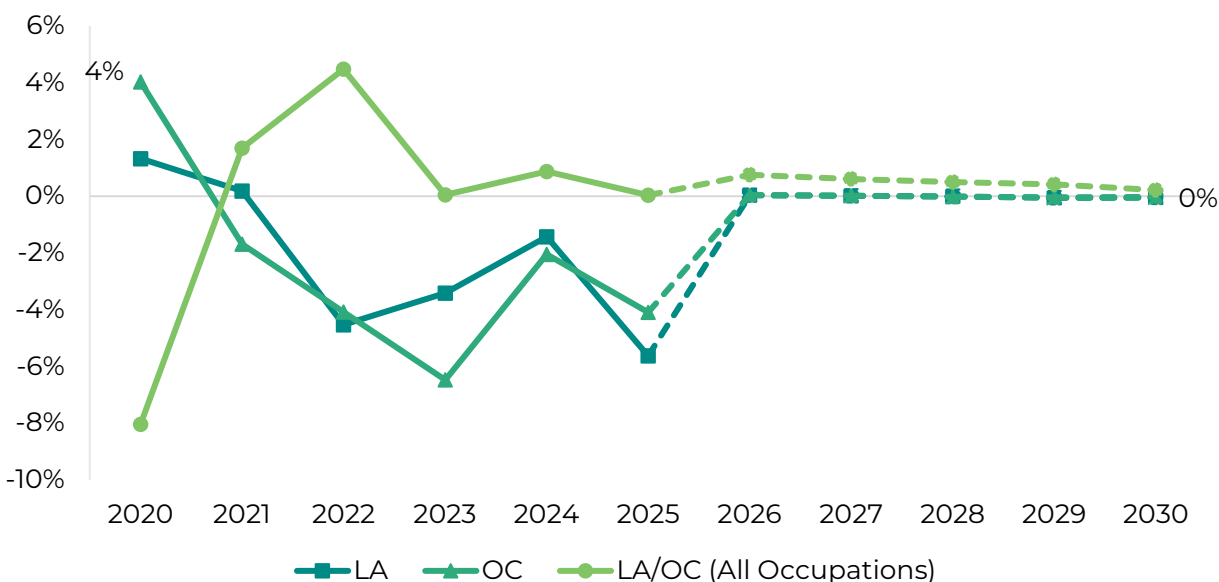


Exhibit 3 shows the five-year occupational demand projections for database systems occupations. In Los Angeles and Orange counties, the number of jobs related to this occupation is projected to decrease 0.1% through 2030. There is projected to be 206 jobs available annually.

Exhibit 3: Middle-Skill Occupational Demand in Los Angeles and Orange Counties²

Geography	2025 Jobs	2030 Jobs	2025-2030 Change	2025-2030 % Change	Annual Openings
Los Angeles	2,877	2,875	(2)	(0.1%)	60
Orange	1,184	1,184	(0)	(0%)	60
Total	4,061	4,059	(2)	(0.1%)	206

Wages

The labor market endorsement in this report considers the entry-level hourly wage for these database systems occupations in Orange County as it relates to the county's living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

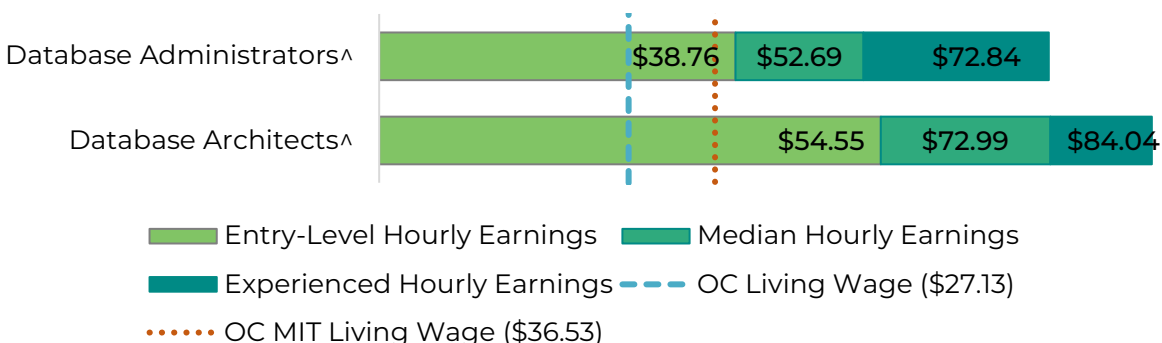
In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage (updated on February 15, 2026) is provided as a reference. Currently, the MIT Living Wage in Orange County is \$36.53. Both figures account for geographic-specific costs of necessities

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.

such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

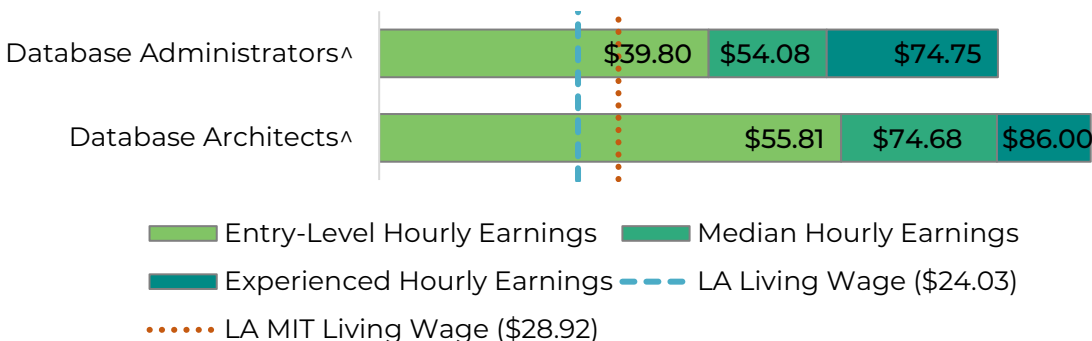
In Orange County, all annual openings for these database systems occupations have entry-level wages above the Self-Sufficiency living wage of \$27.13 for a single adult, ranging from \$38.76 to \$54.55. Exhibit 4 shows the wage range for database systems occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 4: Wages by Occupation in Orange County



In Los Angeles County, all annual openings for these database systems occupations have entry-level wages above the Self-Sufficiency living wage of \$24.03 for a single adult, ranging from \$39.80 to \$55.81. Exhibit 5 shows the wage range for database systems occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 5: Wages by Occupation in Los Angeles County



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

Exhibit 6 shows if the occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2026 U.S. News & World Report (USN&WR) Best Job³. Both database systems occupations met the criteria for COVID-19 Pandemic Recession-Resilient Job.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2026 USN&WR Best Job
Database Administrators^	☐	☒	☐
Database Architects^	☐	☒	☐

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.

There were 4,145 online job postings related to database systems occupations listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation.

Exhibit 7: Number of Job Postings by Occupation (n=4,145)

Occupation	Job Postings	Percentage of Job Postings
Database Architects^	2,384	58%
Database Administrators^	1,761	42%
Total Postings	4,145	100%

The top job titles for these database systems occupations in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Job Titles by Number of Job Postings for the Above Middle-Skill Occupations (n=4,145)

Job Titles	Job Postings	Percentage
Data Engineers	717	17%
Database Administrators	113	3%
Data Architects	109	3%
Lead Data Engineers	58	1%
Salesforce Administrators	50	1%
Infrastructure Architects	45	1%
Manager/Data Engineers	44	1%
Data Product Managers	40	<1%
Data Coordinators	36	<1%
Data Specialists	34	<1%

³ "100 Best Jobs," U.S. News & World Report, accessed January 12, 2026, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

The top employers for these database systems occupations in the region, by number of job postings, are shown in Exhibit 9.

Exhibit 9: Top Employers by Number of Job Postings for the Above Middle-Skill Occupations (n=4,145)

Employer	Job Postings	Percentage of Job Postings
Robert Half	144	3%
Insight Global	74	2%
PricewaterhouseCoopers	70	2%
Southern California Edison	50	1%
Walt Disney	39	<1%
Accenture	38	<1%
Amazon	35	<1%
Anduril Industries	34	<1%
Contact Government Services	33	<1%
TEKsystems	32	<1%

The top specialized, soft, and computer skills for these database systems occupations listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 10.

Exhibit 10: Top Skills by Number of Job Postings for the Above Middle-Skill Occupations (n=4,145)

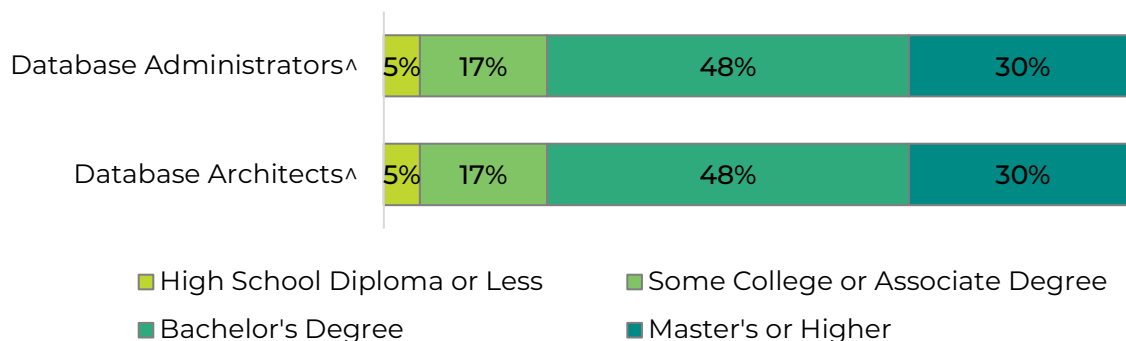
Top Specialized Skills	Top Soft Skills	Top Computer Skills
SQL (Programming Language) (1,844)	Communication (2,092)	SQL (Programming Language) (1,844)
Data Engineering (1,583)	Management (1,279)	Python (Programming Language) (1,406)
Scalability (1,566)	Leadership (1,197)	Amazon Web Services (1,214)
Python (Programming Language) (1,406)	Operations (1,145)	Microsoft Azure (980)
Data Quality (1,352)	Problem Solving (1,012)	Snowflake (Data Warehouse) (849)
Workflow Management (1,274)	Troubleshooting (Problem Solving) (954)	Databricks (732)
Amazon Web Services (1,214)	Detail Oriented (683)	Dashboard (676)
Data Modeling (1,199)	Planning (585)	Apache Airflow (560)
Extract Transform Load (ETL) (1,186)	Innovation (580)	Power BI (539)
Computer Science (1,154)	Mentorship (534)	Application Programming Interface (API) (519)

Educational Attainment

The Bureau of Labor Statistics (BLS) lists bachelor's degree as the typical entry-level education for *database administrators*[^] and *database architects*[^].

The national-level educational attainment data indicates that 17% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 11 shows the educational attainment for this occupation.

Exhibit 11: National-level Educational Attainment for Occupations



Requested Minimum Education Requirement

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

- 56% (2,337) of Above Middle-Skill Job Postings
 - 12% (287) requested a high school diploma or associate degree
 - 84% (1,953) requested a bachelor's degree

Educational Supply

The following tables display the total educational supply for the TOP and CIP codes associated with the middle-skill occupation.

Community College Supply

Exhibit 12 shows the three-year average number of awards conferred by community colleges in the related TOP code:

- Computer Software Development (0707.00)
- Database Design and Administration (0707.20)

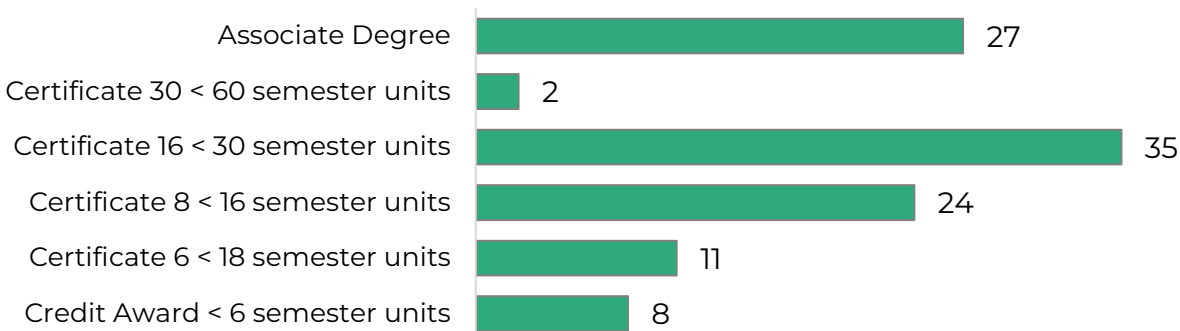
The colleges with the most completions in the region are Saddleback (24), followed by Long Beach (16), and Mt San Antonio (14). Over the past 12 months, there was one related program recommendation requests from regional community colleges.

Exhibit 12: Regional Community College Awards (Certificates and Degrees), 2022-2025

2022-2023						
TOP Code	Program	College	2022-2023 Awards	2023-2024 Awards	2024-2025 Awards	3-Year Award Average
0707.00	Computer Software Development	LA Harbor	2	0	1	1
		LA Mission	0	0	1	0
		LA Pierce	7	9	22	13
		Santa Monica	2	0	2	1
		West LA	1	4	3	3
		LA Subtotal	12	13	29	18
		Golden West	1	1	1	1
		Saddleback	16	24	31	24
		OC Subtotal	17	25	32	25
Supply Subtotal/Average			29	38	61	43
0707.20	Database Design and Administration	Citrus	0	1	0	0
		Long Beach	10	24	14	16
		Mt San Antonio	22	10	9	14
		Pasadena	10	12	9	10
		Santa Monica	5	10	13	9
		LA Subtotal	47	57	45	50
		Cypress	2	3	2	2
		Irvine	0	3	5	3
		Santa Ana	5	16	10	10
		OC Subtotal	7	22	17	15
Supply Subtotal/Average			54	79	62	65
Supply Total/Average			83	117	123	108

Exhibit 13 shows the annual average community college awards by type from 2022-23 to 2024-25. The plurality of the awards are for certificate 16 to 30 semester units, followed by associate degree then certificate 8 to 16 semester units.

Exhibit 13: Annual Average Community College Awards by Type, 2022-2025



Community College Student Outcomes

Exhibit 14 shows the Strong Workforce Program (SWP) metrics for database design and administration programs in Rancho Santiago Community College District (RSCCD), the Orange County Region, and California. According to the California Community Colleges Curriculum Inventory (COCI), the district offers one program under Database Design and Administration (0707.20); however, DataVista reports insufficient data regarding student outcomes at the district level.

Orange County students that exited database design and administration programs in the 2023-24 academic year had lower median annual earnings (\$66,832 or \$32.13 per hour) compared to all database design and administration students in California (\$68,892 or \$33.12 per hour). A lower percentage of Orange County database design and administration students attained the living wage (63%) when compared to all database design and administration students in California (67%).

Exhibit 14: Database Design and Administration (0707.20) Strong Workforce Program Metrics, 2022-25⁴

SWP Metric	RSCCD	OC Region	California
SWP Students	Insufficient Data	230	2,680
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	Insufficient Data	43%	46%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	78%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	11	74
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2023-24)	Insufficient Data	27	238
SWP Students with a Job Closely Related to Their Field of Study (2022-23)	Insufficient Data	31%	32%
Median Annual Earnings for SWP Exiting Students (2023-24)	Insufficient Data	\$66,832 (\$32.13)	\$68,892 (\$33.12)
Median Change in Earnings for SWP Exiting Students (2023-24)	Insufficient Data	25%	12%
SWP Exiting Students Who Attained the Living Wage (2023-24)	Insufficient Data	63%	67%

⁴ All SWP metrics are for 2024-25 unless otherwise noted.

Non-Community College Supply

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering database design and administration programs. Exhibit 15 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) codes:

- Data Modeling/Warehousing and Database Administration (11.0802)

The available data covers 2021 to 2024. During this period, non-community college institutions in the region conferred an average of 91 awards annually in related programs.

Exhibit 15: Regional Non-Community College Awards, 2021-2024

CIP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
11.0802	Data Modeling/ Warehousing and Database Administration	ABCO Technology	93	3	0	32
		University of Southern California	39	76	63	59
Supply Total/Average			132	79	63	91

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 16 compares the ethnicity of Orange County community college students enrolled in database design and administration programs, the overall Orange County population, and occupation-specific data for database systems occupations.

Asian representation in database design and administration programs (39%) closely mirrors their representation in the workforce (36%). However, Hispanic or Latino individuals account for 29% of students but only 12% of workers, suggesting a potential gap between education and employment. Conversely, White individuals comprise 19% of students but 44% of the database workforce, suggesting many enter these roles through alternative training pathways or prior industry experience.

Exhibit 16: Program and County Demographics by Ethnicity

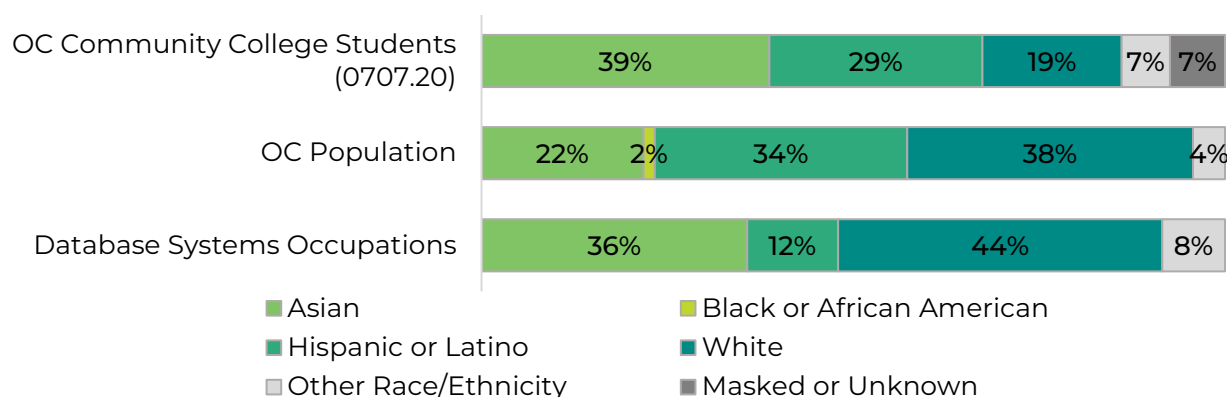
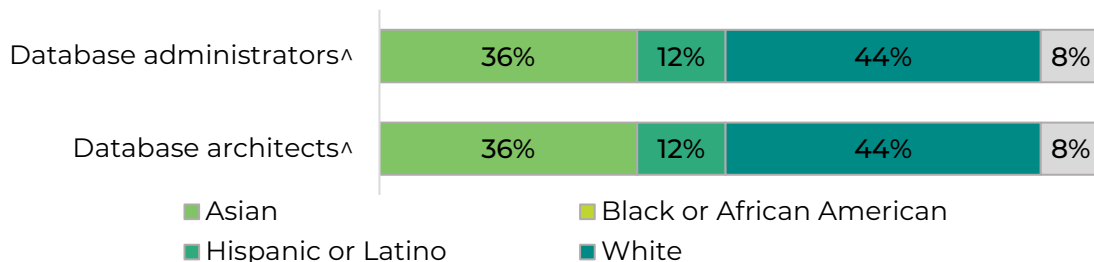


Exhibit 17 shows the disaggregated ethnicity data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Both occupations share similar demographics, with White individuals holding the largest representation, followed by Asian and Hispanic or Latino workers.

Exhibit 17: Disaggregated Ethnic Distribution by Occupation



Age

Exhibit 17 compares the age of Orange County community college students enrolled in database design and administration programs, the overall Orange County population, and occupation-specific data for these database systems occupations.

While over half (52%) of database design and administration students are under 25, the workforce consists of older individuals with nearly half of workers aged 50 and above (45%). This suggests recent graduates likely need step-stone roles before advancing into the field.

Exhibit 18: Program and County Demographics by Age

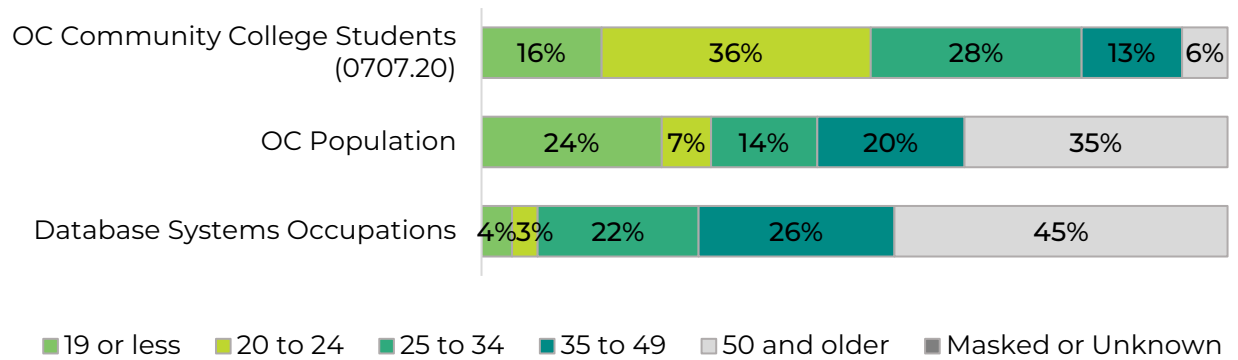
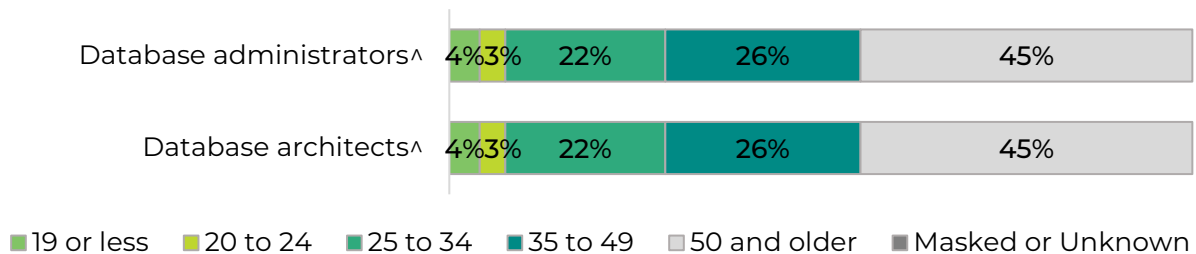


Exhibit 19 shows the disaggregated age data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Both occupations share similar demographics, with the largest share being individuals aged 50 and older.

Exhibit 19: Disaggregated Age Distribution by Occupation



Sex

Exhibit 18 compares the sex of Orange County community college students enrolled in database design and administration programs, the overall Orange County population, and occupation-specific data for database systems occupations.

Though the population is split evenly between women and men, only 24% of database systems occupations and 37% of community college students are women.

Exhibit 20: Program and County Demographics by Sex

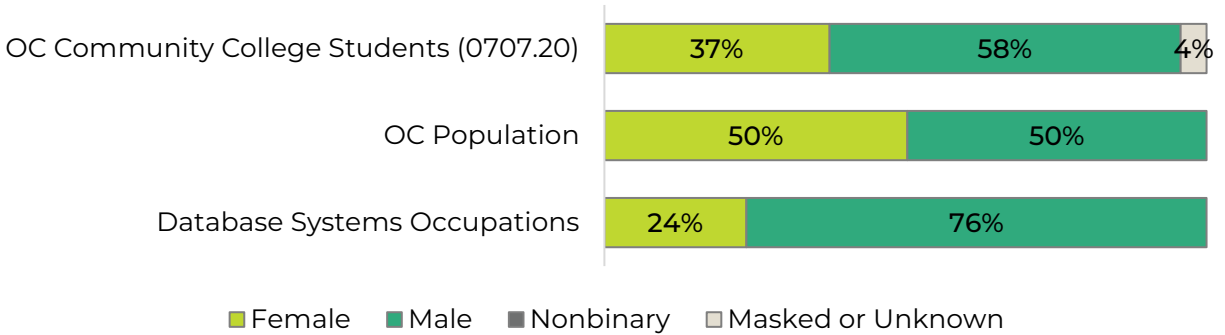
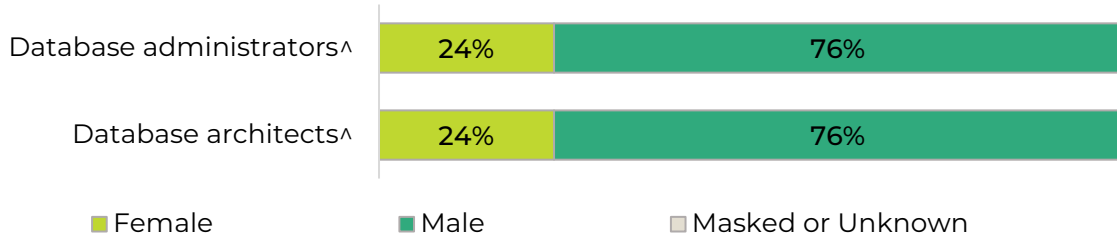


Exhibit 21 shows the disaggregated sex data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Both occupations share similar demographics, with only 24% of workers are women.

Exhibit 21: Disaggregated Sex Distribution 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. Traditional labor market data was used to 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 are captured using data from Lightcast (v.2026.3), a labor market analytics firm.
Living Wage	Per the CCCCCO's 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 15, 2026, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$36.53.
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 CCCCCO 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.

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