



Labor Market Analysis: 0702.00 – Computer Information Systems 30.7101– Data Analytics, General

Data Science – Associate of Science (A.S.) degree

Los Angeles Center of Excellence, September 2026

Program Endorsement:	Endorsed: All Criteria Met ☐	Endorsed: Some Criteria Met ☒	Not Endorsed ☐
Program Endorsement Criteria			
Supply Gap:	Yes ☐	No ☒ (see below)	
Living Wage: (Entry-Level, 25th)	Yes ☒	No ☐	
Education:	Yes ☐	No ☒	
Emerging Occupation(s)			
Yes ☒		No ☐	

SUMMARY

This report analyzes whether local labor market demand is being met by community college programs aligned with the identified middle-skill occupations¹ or whether a shortage of workers exists. Labor market demand is measured by annual job openings while education supply is measured by the number of awards (degrees and certificates) conferred on average each year.

Based on the available data, there does not appear to be a supply gap for the five identified occupations in the region. However, there are several complicated factors influencing this. One complicating factor within this labor market analysis is that there is no dedicated TOP code for the emerging field of data science. When there is not a dedicated TOP code for a specific program area, it is challenging to accurately gauge relevant completions, which increases the margin of error on the supply side analysis (overestimating the supply estimates as these information technology and computer science programs prepare students for employment across a variety of computer occupations beyond the five included in this report). In order to provide a more nuanced view of the regional job market for the field of data science, real-time labor market data is included in this report as well as traditional labor market information. In the past 12 months, there were 12,905 online job postings for these five target occupations, signaling that there may be local demand in the labor market not captured by traditional labor market information. While entry-level wages for these occupations are above the self-sufficiency standard in Los Angeles and Orange County, the majority of annual openings in the region typically require a bachelor's degree for employment.

¹ Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree. The COE classifies middle-skill jobs as the following:

- 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.

Recommendation: Due to one of three program endorsement criteria being met, the Los Angeles Center of Excellence for Labor Market Research (LA COE) endorses this proposed program.

Key Findings

Supply Gap

- 2,367 annual job openings are projected in the region through 2030. This number is less than the three-year average of 4,773 awards conferred by educational institutions in the region.
 - There is no dedicated TOP code for the emerging field of data science, making it challenging to accurately gauge relevant completions. Therefore, supply data may be overestimated.
 - Over the past 12 months, there were **12,905 online job postings related to these target occupations related to data science**. The highest number of job postings were for data analysts, network engineers, data scientists, systems analysts, and business intelligence analysts.

Living Wage

- All five occupations have entry-level wages **above** Los Angeles County's self-sufficiency standard hourly wage (\$24.03/hour).²

Educational Attainment

- 86% of the annual job openings typically require a bachelor's degree for middle-skill occupations related to data science in the LA/OC region.
- 10%-39% of workers in the field have completed some college or an associate degree, according to national educational attainment data.
 - 47%-87% of current workers in the field hold a bachelor's degree or more education.

Community college supply

- 29 community colleges issued awards related to data science in the greater LA/OC region.
- 1,521 awards (degrees and certificates) were conferred on average each year between 2023 and 2025.

Other postsecondary supply

- 31 educational institutions in the LA/OC region have conferred awards in programs related to data science over the past three years.
- 3,252 awards were conferred on average each year by other postsecondary institutions throughout the greater LA/OC region between 2022 and 2024.

² Center for Women's Welfare, University of Washington. (2024). *The self-sufficiency standard for California 2024*. <http://selfsufficiencystandard.org/California>.

TARGET OCCUPATIONS

LA COE prepared this report to provide regional labor market and postsecondary supply data related to five target occupations. Currently, there is not a standard occupational classification (SOC) code for a middle-skill occupation in the field of data science. While four of the occupations in this report typically require a bachelor's degree and are not traditionally considered middle skill, these occupations are most closely aligned with the knowledge, skills, and abilities required for an entry-level job seeker in the emerging field of data science. [For full occupation descriptions, please see Appendix.](#)

- **Computer Systems Analysts (15-1211)**³
- **Computer Network Support Specialists (15-1231)**⁴
- **Computer Network Architects (15-1241)**⁵
- **Data Scientists (15-2051)**⁶
- **Statistical Assistants (43-9111)**⁷

OCCUPATIONAL DEMAND

Exhibit 1 shows the five-year occupational demand projections for these occupations related to data science. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to increase by 3% through 2030. There will be nearly 2,400 job openings per year through 2030 due to job growth and replacements. The majority of jobs in 2025 for these target occupations (69%) were located in Los Angeles County.

Exhibit 1: Current employment and occupational demand, Los Angeles and Orange counties⁸

Geography	2025 Jobs	2030 Jobs	2025-2030 Change	2025-2030 % Change	Annual Openings
Los Angeles	26,047	26,794	747	3%	1,629
Orange	11,631	12,042	411	4%	738
Total	37,678	38,836	1,158	3%	2,367

Detailed Occupation Data

Exhibit 2 displays the current employment and projected occupational demand for each of the target occupations in Los Angeles County. The average percentage of workers aged 55+ across all occupations in the Los Angeles/Orange County region is 26%; occupations with a larger share of workers aged 55 and older typically have greater replacement needs to offset the amount of

³ [Computer Systems Analysts \(bls.gov\)](#)

⁴ [Computer Support Specialists \(bls.gov\)](#)

⁵ [Computer Network Architects \(bls.gov\)](#)

⁶ [Data Scientists \(bls.gov\)](#)

⁷ [Statistical Assistants \(bls.gov\)](#)

⁸ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

impending retirements. On average, 81% of workers across all occupations in California are employed full-time.

Exhibit 2: Detailed employment and occupational demand, Los Angeles County⁹

Occupation	2025 Jobs	2030 Jobs	5-Yr % Change	Annual Openings	% Aged 55 and older	% Full Time Workers
Computer Systems Analysts	12,409	12,422	0%	690	21%	100%
Computer Network Support Specialists	3,884	3,761	(3%)	233	18%	96%
Computer Network Architects	2,545	2,604	2%	136	18%	100%
Data Scientists	7,081	7,880	11%	553	14%	Data unavailable
Statistical Assistants	129	127	(1%)	16	32%	Data unavailable
Total	26,047	26,794	3%	1,629	-	-

WAGES

The labor market endorsement in this report considers the entry-level hourly wages for these target data science occupations in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater Los Angeles/Orange County region.

Los Angeles County

All five occupations have entry-level wages above the self-sufficiency standard wage for one adult (\$24.03 in Los Angeles County). Typical entry-level hourly wages are in a range between \$24.09 and \$57.14. (Exhibit 3). Experienced workers can expect to earn wages between \$39.25 and \$83.55.

Exhibit 3: Earnings for occupations in Los Angeles County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Computer Systems Analysts	\$47.93	\$58.38	\$67.86	\$121,400
Computer Network Support Specialists	\$24.09	\$27.54	\$39.25	\$57,300
Computer Network Architects	\$57.14	\$70.36	\$83.55	\$146,400
Data Scientists	\$43.63	\$62.46	\$81.57	\$129,900
Statistical Assistants	\$28.26	\$36.97	\$45.97	\$76,900

*Rounded to the nearest \$100

⁹ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Orange County

The majority, 85%, of annual openings for these target occupations have entry-level wages above the self-sufficiency standard wage for one adult (\$27.13 in Orange County). Typical entry-level hourly wages are in a range between \$24.14 and \$57.74 (Exhibit 4).

Three occupations have entry-level wages above the self-sufficiency standard wage:

- *Computer network architects*, \$57.74
- *Computer systems analysts*, \$47.59
- *Data scientists*, \$42.68

Experienced workers can expect to earn wages between \$39.39 and \$84.37, which are higher than the self-sufficiency standard.

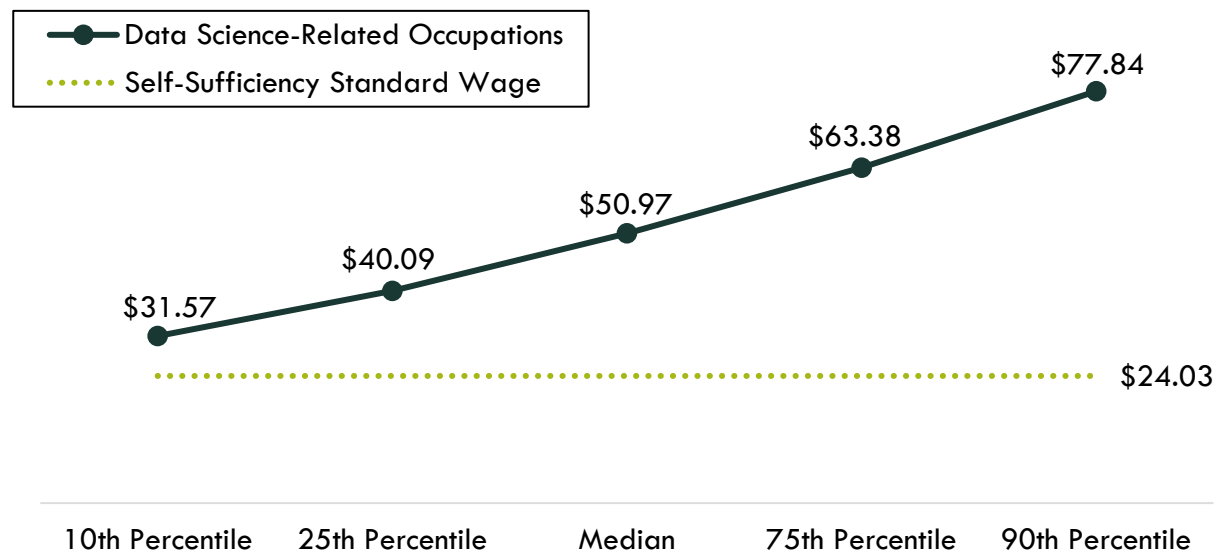
Exhibit 4: Earnings for occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Computer Systems Analysts	\$47.59	\$57.91	\$67.30	\$120,500
Computer Network Support Specialists	\$24.14	\$27.60	\$39.39	\$57,400
Computer Network Architects	\$57.74	\$71.08	\$84.37	\$147,800
Data Scientists	\$42.68	\$61.05	\$79.71	\$127,000
Statistical Assistants	\$26.33	\$34.48	\$43.34	\$71,700

*Rounded to the nearest \$100

Across the greater Los Angeles and Orange County region, the average entry-level hourly earnings for the occupations in this report are \$40.09; this is above the living wage for one single adult in Los Angeles County (\$24.03). Exhibit 5 shows the average hourly wage for the occupations in this report, for entry-level to experienced workers.

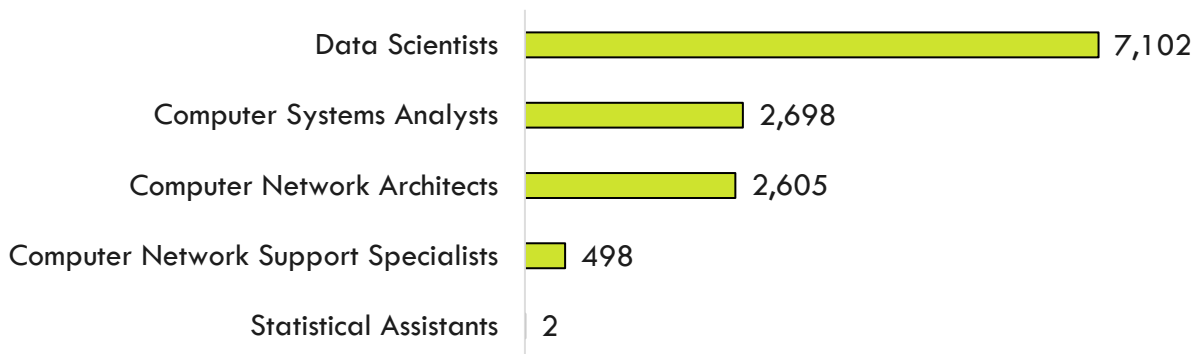
Exhibit 5: Average hourly earnings for target occupations, Los Angeles and Orange counties



JOB POSTINGS

There were 12,905 online job postings related to data science occupations listed in the past 12 months in Los Angeles and Orange counties. Exhibit 6 displays the number of job postings by occupation. The majority of job postings (55%) were for *data scientists*, followed by *computer systems analysts* (21%) and *computer network architects* (20%).

Exhibit 6: Job postings by occupation (last 12 months), Los Angeles and Orange counties



Job postings were analyzed for the most common job titles, skills, and employers associated with the target occupations in this report (Exhibit 7).

Exhibit 7: Most commonly requested job titles, skills and employers in job postings, Los Angeles and Orange counties

Top Job Titles	Top Skills	Top Employers
• Data analysts • Network engineers • Data scientists • Systems analysts • Business intelligence analysts • Automation engineers • Enterprise architects • Configuration analysts	• Data analysis • Workflow management • Computer science • SQL (programming language) • Python (programming language) • Automation • Scalability	• Northrop Grumman • Accenture • Amerit Consulting • Anduril Industries • Robert Half* • Ledgent* • Insight Global* • University of California • Infosys

*Staffing company

In the greater Los Angeles/Orange County region, 65% of the target job postings listed a minimum educational requirement. Exhibit 8 details the number and percentage of job postings by educational level.

Exhibit 8: Education levels requested in job postings for target occupations, Los Angeles and Orange counties

Education Level	Job Postings	% of Job Postings
Bachelor's degree	6,918	83%
Associate degree	510	6%
High school diploma or vocational training	924	11%

EDUCATIONAL ATTAINMENT

In the greater Los Angeles/Orange County region, the majority of annual job openings (86%) typically require a bachelor's degree (Exhibit 9). Furthermore, the national-level data indicates between 10% and 39% of workers in the field have completed some college or an associate degree as their highest level of educational attainment, and 47%-87% of workers have completed a bachelor's degree or more education. The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

Exhibit 9: Entry-level education preferred by employers nationally, Bureau of Labor Statistics

Occupation	Education Level
Computer Systems Analysts	Bachelor's degree
Computer Network Architects	Bachelor's degree
Data Scientists	Bachelor's degree
Statistical Assistants	Bachelor's degree
Computer Network Support Specialists	Associate degree

EDUCATIONAL SUPPLY

Community College Supply

Exhibit 10 shows the annual and three-year average number of awards conferred by community colleges in programs that have historically trained for the occupations of interest. The colleges with the most completions in the region are Orange Coast, Santa Monica, and Mt. San Antonio.

Exhibit 10: Regional community college awards (certificates and degrees), 2023-2025

TOP Code	Program	College	2022-23 Awards	2023-24 Awards	2024-25 Awards	3-Year Average
0702.00	Computer Information Systems	Citrus	2	5	4	4
		Compton	4	4	1	3
		East LA	23	42	57	41
		El Camino	19	27	34	27
		Glendale	11	5	5	7
		LA City	4	20	21	15
		LA Harbor	2	3	5	3
		LA Mission	-	-	2	1
		LA Southwest	20	10	-	10
		LA Trade-Tech	35	18	25	26
		Long Beach	6	26	45	26
		Mt San Antonio	41	41	44	42
		Pasadena	-	-	2	1
		Rio Hondo	13	14	10	12
		Santa Monica	2	6	45	18
		West LA	8	7	12	9
		LA Subtotal	190	228	312	243
		Coastline	7	11	3	7
		Fullerton	48	51	46	48
		N. Orange Continuing Ed.	-	-	10	3
		Orange Coast	-	-	246	82
		Saddleback	-	1	2	1
		Santa Ana	8	23	31	21
		Santiago Canyon	5	2	-	2
		OC Subtotal	68	88	338	165
		Supply Subtotal/Average	258	316	650	408
0706.00	Computer Science (transfer)	Cerritos	26	12	17	18
		Citrus	57	49	55	54
		El Camino	19	31	45	32
		Glendale	14	25	12	17
		LA City	11	17	24	17
		LA Harbor	-	-	6	2
		LA Mission	3	2	-	2
		LA Southwest	-	1	-	0
		Long Beach	25	30	30	28
		Rio Hondo	9	10	25	15
		Santa Monica	64	85	84	78
		West LA	7	5	9	7
		LA Subtotal	235	267	307	270

TOP Code	Program	College	2022-23 Awards	2023-24 Awards	2024-25 Awards	3-Year Average
		Cypress	16	35	46	32
		Fullerton	-	25	26	17
		Golden West	2	18	19	13
		Irvine	55	27	63	48
		Orange Coast	-	2	116	39
		Saddleback	38	27	31	32
		Santa Ana	28	41	27	32
		Santiago Canyon	19	28	23	23
		OC Subtotal	158	203	351	237
		Supply Subtotal/Average	393	470	658	507
0707.00	Computer Software Development	LA Harbor	2	-	1	1
		LA Mission	-	-	1	0
		LA Pierce	7	9	22	13
		Santa Monica	2	-	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
0707.10	Computer Programming	Cerritos	2	2	2	2
		Citrus	7	9	10	9
		East LA	1	2	6	3
		Glendale	-	1	1	1
		LA City	19	30	25	25
		LA Harbor	6	1	4	4
		LA Mission	6	15	25	15
		LA Pierce	7	7	8	7
		LA Southwest	3	3	6	4
		LA Valley	15	15	35	22
		Long Beach	4	4	8	5
		Mt San Antonio	65	68	76	70
		Pasadena	37	46	51	45
		Santa Monica	55	77	153	95
		West LA	-	1	-	0
		LA Subtotal	227	281	410	306

TOP Code	Program	College	2022-23 Awards	2023-24 Awards	2024-25 Awards	3-Year Average
		Cypress	5	6	10	7
		Fullerton	-	1	2	1
		Orange Coast	250	202	14	155
		Santa Ana	-	5	2	2
		Santiago Canyon	3	4	1	3
		OC Subtotal	258	218	29	168
Supply Subtotal/Average			485	499	439	474
0707.20	Database Design and Administration	Citrus	-	1	-	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	-	3	5	3
		Santa Ana	5	16	10	10
		OC Subtotal	7	22	17	15
Supply Subtotal/Average			54	79	62	65
0799.00	Other Information Technology	Glendale	-	2	2	1
		Mt San Antonio	1	24	26	17
		LA Subtotal	1	26	28	18
		Santa Ana	5	10	3	6
		OC Subtotal	5	10	3	6
Supply Subtotal/Average			6	36	31	24
Supply Total/Average			1,225	1,438	1,901	1,521

Exhibit 11 displays the community college awards broken down by award type. In this case, the majority of awards issued by community colleges are associate degrees (54%).

Exhibit 11: Community college awards by award type, 2023-2025

Award Type	# of Awards	% of Awards
A.A./A.S./A.A.-T./A.S.-T. degrees	817	54%
Certificates	688	45%
Noncredit awards	16	1%
Total	1,521	100%

Other Postsecondary Supply

For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs related to data science. Exhibit 12 shows the number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent data is from 2022 to 2024. Between 2022 and 2024, other postsecondary college institutions in the region conferred an average of 3,252 bachelor's and

sub-baccalaureate awards. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards that typically take fewer than four years to complete.

There are two CIP codes that are relevant to data science, but have no bachelor's or sub-baccalaureate award completions in the last three years:

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

Exhibit 12: Other regional postsecondary awards, 2022-2024

CIP Code	Program	Postsecondary Institution	2021-22 Awards	2022-23 Awards	2023-24 Awards	3-Year Average
11.0103	Information Technology	Bethesda University	-	1	2	1
		Brand College	18	23	13	18
		CSU-Dominguez Hills	17	19	14	17
		CSU-Los Angeles	90	86	101	92
		CSU-Northridge	45	43	37	42
		Platt College-Anaheim	12	16	12	13
		Platt College-LA	3	6	3	4
		Univ. of La Verne	15	7	8	10
		Univ. of Mass. Global	1	1	4	2
		Westcliff University	1	2	-	1
11.0701	Computer Science	Azusa Pacific Univ.	9	8	5	7
		Biola University	15	13	12	13
		CA Institute of Tech.	77	67	94	79
		CSPU-Pomona	202	264	323	263
		CSU-Dominguez Hills	82	83	84	83
		CSU-Fullerton	325	369	449	381
		CSU-Long Beach	254	306	335	298
		CSU-Los Angeles	148	170	184	167
		CSU-Northridge	251	256	235	247
		Chapman University	50	56	74	60
		Claremont McKenna College	13	5	9	9
		Concordia Univ.-Irvine	3	9	16	9
		Harvey Mudd College	48	53	37	46
		Occidental College	31	30	26	29
		Pitzer College	10	2	2	5
		Pomona College	49	49	65	54
		Scripps College	6	1	-	2
		Southern California Institute of Technology	5	-	6	4
		UC-Irvine	729	454	589	591
		UC-Los Angeles	348	340	352	347
		USC	287	305	352	315

CIP Code	Program	Postsecondary Institution	2021-22 Awards	2022-23 Awards	2023-24 Awards	3-Year Average
11.0802	Data Modeling/ Warehousing and Database Administration	ABCO Technology	93	3	-	32
30.3001	Computational Science	Chapman University	1	11	16	9
Supply Total/Average			3,238	3,058	3,459	3,252

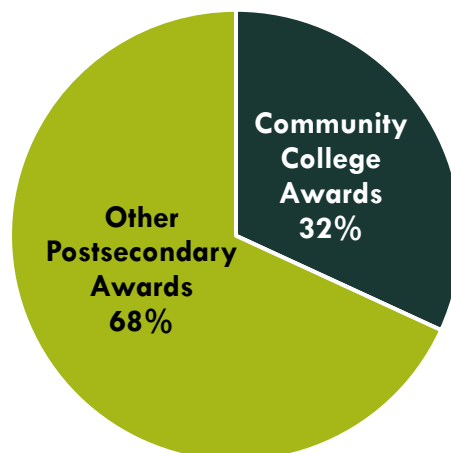
Exhibit 13 shows the breakdown of other postsecondary awards by award type. The majority of awards issued by other postsecondary schools are bachelor's degrees (98%).

Exhibit 13: Other postsecondary awards by award type, 2022-2024

Award Type	# of Awards	% of Awards
Bachelor's degrees	3,184	98%
Sub-baccalaureate awards	68	2%
Total	3,252	100%

Exhibit 14 shows the proportion of community college awards conferred in the greater Los Angeles/Orange County region compared to the number of other postsecondary awards for the programs in this report. The majority of awards conferred in these programs are awarded by other institutions in the greater Los Angeles/Orange County region.

Exhibit 14: Percentage of community college awards compared to other postsecondary institution awards in the Los Angeles/Orange County region



APPENDIX: OCCUPATION DESCRIPTIONS

LA COE prepared this report to provide regional labor market supply and demand data related to these target occupations:

- **Computer Systems Analysts (15-1211)** Analyze science, engineering, business, and other data processing problems to develop and implement solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions, improve existing computer systems, and review computer system capabilities, workflow, and schedule limitations. May analyze or recommend commercially available software.¹⁰
- **Computer Network Support Specialists (15-1231)** Analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WAN), cloud networks, servers, and other data communications networks. Perform network maintenance to ensure networks operate correctly with minimal interruption.¹¹
- **Computer Network Architects (15-1241)** Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning, including analysis of capacity needs for network infrastructures. May also design network and computer security measures. May research and recommend network and data communications hardware and software.¹²
- **Data Scientists (15-2051)** Develop and implement a set of techniques or analytics applications to transform raw data into meaningful information using data-oriented programming languages and visualization software. Apply data mining, data modeling, natural language processing, and machine learning to extract and analyze information from large structured and unstructured datasets. Visualize, interpret, and report data findings. May create dynamic data reports.¹³
- **Statistical Assistants (43-9111)** Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Includes actuarial clerks.¹⁴

¹⁰ [Computer Systems Analysts \(bls.gov\)](#)

¹¹ [Computer Support Specialists \(bls.gov\)](#)

¹² [Computer Network Architects \(bls.gov\)](#)

¹³ [Data Scientists \(bls.gov\)](#)

¹⁴ [Statistical Assistants \(bls.gov\)](#)

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DATA SOURCES

POWERED BY



- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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