










Computer and Information Sciences Occupations

Labor Market Analysis: San Diego County

August 2025

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL OF EDUCATION
 Do Not Proceed with New Program	 	 	<input type="checkbox"/> Doctorate Degree <input type="checkbox"/> Master's Degree <input checked="" type="checkbox"/> Bachelor's Degree <input checked="" type="checkbox"/> Associate Degree <input type="checkbox"/> Some College or Certificate <input type="checkbox"/> HS Diploma or Equivalent <input type="checkbox"/> Less Than a HS Diploma <input type="checkbox"/> Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	<p>HIGH</p> 	<p>HIGH</p> 	

The San Diego & Imperial Center of Excellence (COE) developed this brief to assist the region’s community colleges with strategic planning and program development. *Computer and Information Sciences Occupations* include “Computer Network Support Specialists,” “Computer Programmers,” and “Software Developers.” According to available data, *Computer and Information Sciences Occupations* in San Diego County have a labor market demand of 1,814 annual job openings (while average demand for a single occupation in San Diego County is 289 annual job openings), and 24 institutions supply 2,515 awards for these occupations, suggesting that there is an oversupply in the labor market. On average, entry-level wages are above the living wage. This brief recommends to not proceed with developing a new program but supports a program modification because 1) there is an oversupply in San Diego County and 2) there is a high number of institutions that provide training for these occupations.

Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)¹ system:

- **Computer Network Support Specialists** (SOC 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.
- **Computer Programmers** (SOC 15-1251): Create, modify, and test the code and scripts that allow computer applications to run. Work from specifications drawn up by software and web developers or other individuals. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.
- **Software Developers** (SOC 15-1252): Research, design, and develop computer and network software or specialized utility programs. Analyze user needs and develop software solutions, applying principles and techniques of computer science, engineering, and mathematical analysis. Update software or enhance existing software capabilities. May work with computer hardware engineers to integrate hardware and software systems, and develop specifications and performance requirements. May maintain databases within an application area, working individually or coordinating database development as part of a team.

For the purpose of this report, these occupations are referred to as *Computer and Information Sciences Occupations*.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. <https://www.bls.gov/soc/>.

Projected Occupational Demand

Between 2023 and 2028, businesses in San Diego County will need to hire 1,814 employees annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example (Exhibit 1). Most of this labor market demand comes from Software Developers, which are projected to have the most annual job openings with 1,614 openings each year between 2023 and 2028.

Exhibit 1: Number of Jobs for Computer and Information Sciences Occupations (2023-2028)²

Occupational Title	2023 Jobs	2028 Jobs	2023 – 2028 Net Jobs Change	2023 – 2028 % Net Jobs Change	Annual Job Openings (Demand)
Software Developers	21,187	23,375	2,188	10%	1,614
Computer Programmers	2,899	1,878	- 1,021	- 35%	128
Computer Network Support Specialists	1,155	998	- 157	- 14%	72
Total	25,241	26,251	1,010	4%	1,814

Earnings

According to traditional³ labor market information (LMI), entry-level hourly earnings for *Computer and Information Sciences Occupations* range from \$30.95 to \$59.37 (Exhibit 2).

Exhibit 2: Hourly Earnings for Computer and Information Sciences Occupations in San Diego County⁴

Occupational Title	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Software Developers	\$59.37	\$76.32	\$83.89
Computer Programmers	\$40.68	\$62.20	\$76.56
Computer Network Support Specialists	\$30.95	\$37.18	\$45.63

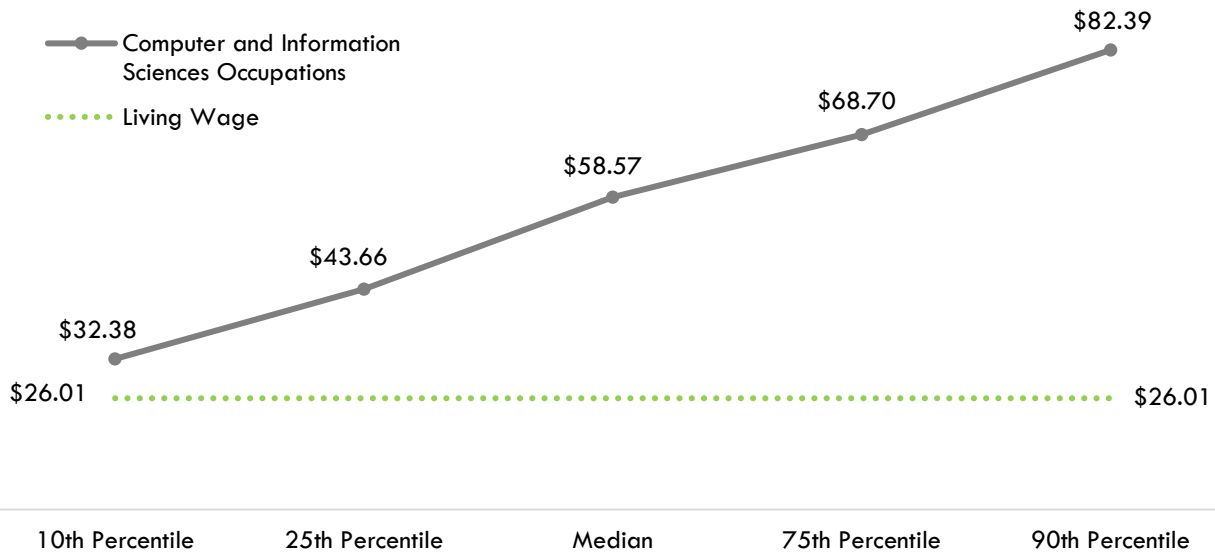
² Lightcast 2025.02; QCEW, Non-QCEW, Self-Employed.

³ Traditional LMI is generally historical data captured by the U.S. Bureau of Labor Statistics (BLS) or the California Employment Development Department (EDD). It does not account for recent technological, economic, or legislative changes that may affect labor market demand and wages.

⁴ Lightcast 2025.02; QCEW, Non-QCEW, Self-Employed.

On average, the entry-level hourly earnings for employed *Computer and Information Sciences Occupations* are \$43.66—or \$90,812.80 annual salary⁵; this is more than the living wage for a single adult in San Diego County, which is \$26.01 per hour (Exhibit 3).⁶

Exhibit 3: Hourly Earnings⁷ for *Computer and Information Sciences Occupations* in San Diego County⁸



In online job postings, however, employers advertised between \$51 to \$57 per hour between January 1, 2022 and December 30, 2024 for *Computer and Information Sciences Occupations* in San Diego County (Exhibit 4).⁹ This suggests that employers in recent years are increasing wages due to labor market forces that may not be captured in traditional LMI.

⁵ Annualized salaries assume a full-time position with 2,080 hours. Multiplying the hourly wage with 2,080 yields the annual salary.

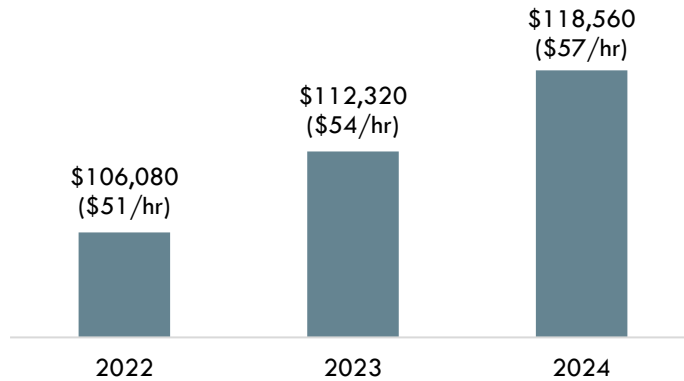
⁶ Center for Women's Welfare, University of Washington. (2024). The self-sufficiency standard for California 2024. selfsufficiencystandard.org/California.

⁷ 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

⁸ Lightcast 2025.02; QCEW, Non-QCEW, Self-Employed.

⁹ Lightcast 2025.02; "Job Posting Analytics." 2022-2024.

**Exhibit 4: Entry-Level Advertised Salaries in Online Job Postings for
Computer and Information Sciences Occupations in San Diego County (2022-2024)**



*Hourly wages are rounded to the nearest dollar amount.

Expected Level of Education

According to traditional LMI (data reported to EDD and BLS), *Computer and Information Sciences Occupations* have a national educational attainment ranging from an [associate degree](#) to a [bachelor's degree](#) (Exhibit 5).¹⁰

Exhibit 5: National Educational Attainment for *Computer and Information Sciences Occupations*¹¹

Occupational Title	Typical Entry-Level Education
Computer Programmers	Bachelor's degree
Software Developers	Bachelor's degree
Computer Network Support Specialists	Associate degree

¹⁰ Lightcast 2025.02; QCEW, Non-QCEW, Self-Employed.

¹¹ Lightcast 2025.02; QCEW, Non-QCEW, Self-Employed.

Similarly, online job postings between January 1, 2022 and December 31, 2024 in San Diego County had a [bachelor's degree](#) as the most requested educational requirement for *Computer and Information Sciences Occupations*; however, employers also expected the following certifications (Exhibit 6).¹²

Exhibit 6: Top Certifications for Computer and Information Sciences Occupations in San Diego County in Online Job Postings (2022-2024)¹³

- | | |
|--|--|
| 1. Secret Clearance | 6. IAT Level II Certification |
| 2. Security Clearance | 7. Certified Information Systems Security Professional |
| 3. Top Secret-Sensitive Compartmented Information (TS/SCI Clearance) | 8. CompTIA A+ |
| 4. Top Secret Clearance | 9. Cisco Certified Network Associate |
| 5. CompTIA Security+ | 10. Salesforce Certification |

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. There are 13 TOP codes and 24 CIP codes related to *Computer and Information Sciences Occupations* (Exhibit 7).

Exhibit 7: Related TOP and CIP Codes for Computer and Information Sciences Occupations¹⁴

TOP or CIP Code	TOP or CIP Program Title
TOP 0614.20	Electronic Game Design
TOP 0614.60	Computer Graphics and Digital Imagery
TOP 0701.00	Information Technology, General
TOP 0702.00	Computer Information Systems
TOP 0707.00	Computer Software Development
TOP 0707.10	Computer Programming
TOP 0707.20	Database Design and Administration
TOP 0707.30	Computer Systems Analysis
TOP 0708.00	Computer Infrastructure and Support
TOP 0708.10	Computer Networking
TOP 0708.20	Computer Support
TOP 0709.00	World Wide Web Administration

¹² Lightcast 2025.02; "Job Posting Analytics." 2022-2024.

¹³ Lightcast 2025.02; "Job Posting Analytics." 2022-2024.

¹⁴ This brief uses a conservative estimate of program supply and only calculates awards from the TOP code listed in Exhibit 7.

TOP or CIP Code	TOP or CIP Program Title
TOP 0934.10	Computer Electronics
CIP 11.0101	Computer and Information Sciences, General
CIP 11.0102	Artificial Intelligence
CIP 11.0103	Information Technology
CIP 11.0201	Computer Programming/Programmer, General
CIP 11.0202	Computer Programming, Specific Applications
CIP 11.0203	Computer Programming, Vendor/Product Certification
CIP 11.0204	Computer Game Programming
CIP 11.0205	Computer Programming, Specific Platforms
CIP 11.0299	Computer Programming, Other
CIP 11.0501	Computer Systems Analysis/Analyst
CIP 11.0803	Computer Graphics
CIP 11.0901	Computer Systems Networking and Telecommunications
CIP 11.0902	Cloud Computing
CIP 11.1001	Network and System Administration/Administrator
CIP 11.1002	System, Networking, and LAN/WAN Management/Manager
CIP 11.1003	Computer and Information Systems Security/Auditing/Information Assurance
CIP 11.1006	Computer Support Specialist
CIP 15.1201	Computer Engineering Technology/Technician
CIP 15.1202	Computer/Computer Systems Technology/Technician
CIP 15.1204	Computer Software Technology/Technician
CIP 30.3001	Computational Science
CIP 30.7001	Data Science, General
CIP 30.7101	Data Analytics, General
CIP 30.7103	Data Visualization

According to TOP data, nine community colleges supply the region with awards for these occupations: Cuyamaca College, Grossmont College, MiraCosta College, Palomar College, San Diego City College, San Diego College of Continuing Education, San Diego Mesa College, San Diego Miramar College, and Southwestern College. According to CIP data, 15 non-community-college institutions supply the region with awards: Alliant International University-San Diego, Ashford University, Associated Technical College-San Diego, ATA College, California Institute of Arts & Technology, California Institute of Arts & Technology-National City, ICOHS College, Platt College-San Diego, Point Loma Nazarene University, Poway Adult School, San Diego State University, United States University, University of California-San Diego, University of Saint Katherine, and Vista Adult School (Exhibit 8).

**Exhibit 8: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2020-21 Through Program Year 2023-24 Average)**

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
0614.20	Electronic Game Design	10	0	10
	Palomar	1	0	
	• Certificate 6 < 18 units	1	0	
	San Diego Mesa	5	0	
	• Associate Degree	3	0	
	• Certificate 30 < 60 units	2	0	
	Southwestern	4	0	
	• Associate Degree	3	0	
	• Certificate 16 < 30 units	1	0	
0614.60	Computer Graphics and Digital Imagery	314	0	314
	MiraCosta	33	0	
	• Associate Degree	15	0	
	• Certificate 30 < 60 units	18	0	
	Palomar	12	0	
	• Associate Degree	5	0	
	• Certificate 16 < 30 units	6	0	
	• Certificate 6 < 18 units	1	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	San Diego Cont Ed	268	0	
	• Noncredit 192 < 288 hrs	3	0	
	• Noncredit 96 < 144 hrs	247	0	
	• Noncredit 48 < 96 hrs	18	0	
	San Diego Miramar	1	0	
	• Associate Degree	1	0	
	• Certificate 30 < 60 units	0	0	
0701.00	Information Technology, General	61	0	61
	Grossmont	30	0	
	• Associate Degree	14	0	
	• Certificate 16 < 30 units	16	0	
	MiraCosta	16	0	
	• Associate Degree	7	0	
	• Certificate 16 < 30 units	9	0	
	Palomar	11	0	
	• Associate Degree	11	0	
	Southwestern	4	0	
	• Associate Degree	1	0	
	• Certificate 6 < 18 units	3	0	
0702.00	Computer Information Systems	113	0	113
	MiraCosta	10	0	
	• Associate degree	3	0	
	• Certificate 30 < 60 units	3	0	
	• Certificate 6 < 18 units	4	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	Palomar	13	0	
	• Associate degree	5	0	
	• Certificate 30 < 60 units	4	0	
	• Certificate 16 < 30 units	4	0	
	San Diego Cont Ed	55	0	
	• Noncredit 48 < 96 hrs	55	0	
	San Diego Mesa	14	0	
	• Associate degree	13	0	
	• Certificate 30 < 60 units	1	0	
	San Diego Miramar	15	0	
	• Associate degree	14	0	
	• Certificate 30 < 60 units	1	0	
	Southwestern	6	0	
	• Associate degree	6	0	
0707.00	Computer Software Development	67	0	67
	Grossmont	4	0	
	• Certificate 16 < 30 units	0	0	
	• Certificate 8 < 16 units	4	0	
	MiraCosta	24	0	
	• Associate degree	10	0	
	• Certificate 16 < 30 units	13	0	
	• Certificate 6 < 18 units	1	0	
	Palomar	2	0	
	• Associate degree	1	0	
	• Certificate 30 < 60 units	1	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	San Diego Cont Ed	37	0	
	• Noncredit 192 < 288 hrs	37	0	
0707.10	Computer Programming	154	0	154
	Grossmont	35	0	
	• Associate degree	16	0	
	• Certificate 30 < 60 units	11	0	
	• Certificate 16 < 30 units	8	0	
	Palomar	4	0	
	• Certificate 30 < 60 units	0	0	
	• Certificate 8 < 16 units	4	0	
	San Diego City	1	0	
	• Associate degree	1	0	
	• Certificate 16 < 30 units	0	0	
	San Diego Cont Ed	109	0	
	• Noncredit 288 < 480 hrs	1	0	
	• Noncredit 144 < 192 hrs	19	0	
	• Noncredit 48 < 96 hrs	89	0	
	Southwestern	5	0	
	• Associate degree	3	0	
	• Certificate 6 < 18 units	2	0	
0707.30	Computer Systems Analysis	349	0	349
	San Diego Cont Ed	349	0	
	• Noncredit 480 < 960 hrs	9	0	
	• Noncredit 192 < 288 hrs	6	0	
	• Noncredit 96 < 144 hrs	334	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
0708.00	Computer Infrastructure and Support	585	0	585
	Grossmont	55	0	
	• Associate degree	25	0	
	• Certificate 30 < 60 units	1	0	
	• Certificate 16 < 30 units	29	0	
	MiraCosta	44	0	
	• Associate degree	15	0	
	• Certificate 30 < 60 units	10	0	
	• Certificate 16 < 30 units	14	0	
	• Certificate 6 < 18 units	5	0	
	Palomar	8	0	
	• Certificate 16 < 30 units	1	0	
	• Certificate 8 < 16 units	7	0	
	San Diego City	51	0	
	• Associate degree	31	0	
	• Certificate 30 < 60 units	10	0	
	• Certificate 16 < 30 units	10	0	
	San Diego Cont Ed	427	0	
	• Noncredit 192 < 288 hrs	20	0	
	• Noncredit 96 < 144 hrs	172	0	
	• Noncredit 48 < 96 hrs	38	0	
	• Noncredit < 48 hrs	197	0	
0708.10	Computer Networking	19	0	19
	Cuyamaca	4	0	
	• Associate degree	4	0	
	• Certificate 30 < 60 units	0	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	Palomar	10	0	
	• Associate degree	5	0	
	• Certificate 16 < 30 units	5	0	
	San Diego Cont Ed	5	0	
	• Noncredit 96 < 144 hrs	5	0	
	Southwestern	0	0	
	• Associate degree	0	0	
0708.20	Computer Support	205	0	205
	MiraCosta	3	0	
	• Associate degree	1	0	
	• Certificate 16 < 30 units	2	0	
	San Diego Cont Ed	198	0	
	• Noncredit 288 < 480 hrs	20	0	
	• Noncredit 192 < 288 hrs	33	0	
	• Noncredit 144 < 192 hrs	106	0	
	• Noncredit 96 < 144 hrs	39	0	
	Southwestern	4	0	
	• Associate degree	4	0	
0709.00	World Wide Web Administration	0	0	0
	Southwestern	0	0	
	• Certificate 6 < 18 units	0	0	
0934.10	Computer Electronics	1	0	1
	Southwestern	1	0	
	• Certificate 6 < 18 units	1	0	
11.0101	Computer and Information Sciences, General	0	38	38

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	Associated Technical College-San Diego	0	38	
	• Certificates < 1 year	0	38	
11.0103	Information Technology	0	303	303
	Alliant International University-San Diego	0	3	
	• Postbaccalaureate certificate	0	0	
	• Bachelor's degree	0	3	
	• Certificates < 1 year	0	0	
	Ashford University	0	76	
	• Bachelor's degree	0	76	
	Point Loma Nazarene University	0	32	
	• Bachelor's degree	0	32	
	Poway Adult School	0	0	
	• Certificates < 1 year	0	0	
	United States University	0	1	
	• Bachelor's degree	0	1	
	University of California-San Diego	0	191	
	• Bachelor's degree	0	191	
11.0201	Computer Programming/Programmer, General	0	1	1
	Poway Adult School	0	1	
	• Certificates < 1 year	0	1	
11.0202	Computer Programming, Specific Applications	0	15	15
	California Institute of Arts & Technology	0	8	
	• Bachelor's degree	0	0	
	• Associate degree	0	1	
	• Certificates < 1 year	0	7	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	California Institute of Arts & Technology-National City	0	7	
	• Bachelor's degree	0	0	
	• Associate degree	0	5	
	• Certificates < 1 year	0	2	
11.0205	Computer Programming, Specific Platforms	0	0	0
	University of Saint Katherine	0	0	
	• Bachelor's degree	0	0	
11.0299	Computer Programming, Other	0	0	0
	Poway Adult School	0	0	
	• Certificates < 1 year	0	0	
11.0803	Computer Graphics	0	0	0
	Platt College-San Diego	0	0	
	• Certificates 1 < 2 years	0	0	
11.0901	Computer Systems Networking and Telecommunications	0	0	0
	ICOHS College	0	0	
	• Associate degree	0	0	
	Poway Adult School	0	0	
	• Certificates < 1 year	0	0	
11.1001	Network and System Administration/Administrator	0	39	39
	California Institute of Arts & Technology	0	20	
	• Certificates < 1 year	0	20	
	California Institute of Arts & Technology-National City	0	6	
	• Certificates < 1 year	0	6	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	ICOHS College	0	13	
	• Certificates 1 < 2 years	0	10	
	• Certificates < 1 year	0	3	
11.1002	System, Networking, and LAN/WAN Management/Manager	0	31	31
	California Institute of Arts & Technology	0	23	
	• Certificates < 1 year	0	23	
	California Institute of Arts & Technology-National City	0	8	
	• Certificates < 1 year	0	8	
11.1003	Computer and Information Systems Security/Auditing/Information Assurance	0	50	50
	Alliant International University-San Diego	0	0	
	• Postbaccalaureate certificate	0	0	
	Ashford University	0	40	
	• Bachelor's degree	0	40	
	Vista Adult School	0	10	
	• Certificates < 1 year	0	10	
11.1006	Computer Support Specialist	0	2	2
	ICOHS College	0	2	
	• Certificates 1 < 2 years	0	2	
15.1202	Computer/Computer Systems Technology/Technician	0	155	155
	ATA College	0	5	
	• Certificates < 1 year	0	5	
	California Institute of Arts & Technology	0	114	
	• Bachelor's degree	0	0	
	• Associate degree	0	47	
	• Certificates < 1 year	0	67	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY21-22 to PY23-24)	Other Educational Institutions 3-Yr Annual Average Awards (PY20-21 to PY22-23)	Total Average Supply (PY20-21 to PY22-23)
	California Institute of Arts & Technology-National City	0	36	
	• Bachelor's degree	0	0	
	• Associate degree	0	23	
	• Certificates < 1 year	0	13	
15.1204	Computer Software Technology/Technician	0	1	1
	ATA College	0	1	
	• Associate degree	0	1	
30.3001	Computational Science	0	1	1
	San Diego State University	0	1	
	• Postbaccalaureate certificate	0	1	
30.7001	Data Science, General	0	1	1
	Point Loma Nazarene University	0	1	
	• Bachelor's degree	0	1	
			Total	2,515

Demand vs. Supply

Comparing labor demand with labor supply¹⁵ suggests that there is an **oversupply** for these occupations in San Diego County, with 1,814 annual openings and 2,515 awards. Comparatively, there are 24,984 annual openings in California and 11,560 awards, suggesting that there is a **supply gap** across the state (Exhibit 9).¹⁶

Exhibit 9: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	Demand (Annual Openings)	Supply (Annual Awards)	Supply Gap or Oversupply
San Diego	1,814	2,515	-701
California	24,984	11,580	13,404

Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

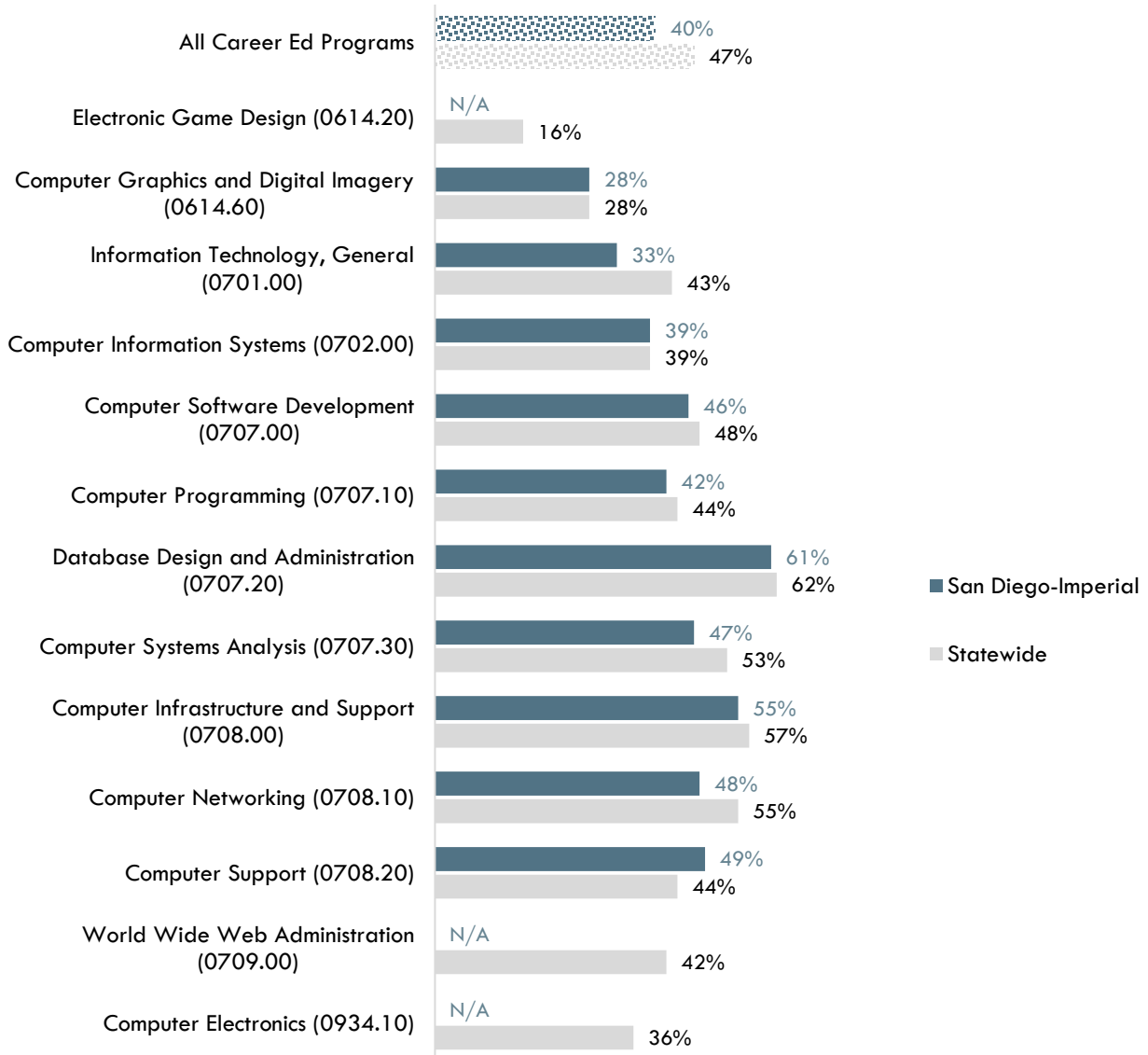
¹⁵ Labor supply can be found from two different sources: Lightcast or the California Community Colleges Chancellor's Office MIS Data Mart. Lightcast uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

¹⁶ "Supply and Demand," Centers of Excellence Student Outcomes, coecc.net/our-resources.

Student Outcomes and Regional Comparisons

According to the California Community Colleges DataVista, 28 to 61% of students in the San Diego-Imperial region earned a living wage after completing a program related to *Computer and Information Sciences Occupations*, compared to 16 to 62% statewide and 47% of students in Career Education programs in general across the state (Exhibit 10).¹⁷

Exhibit 10: Percentage of Students Who Earned a Living Wage by Program, PY2022-23¹⁸



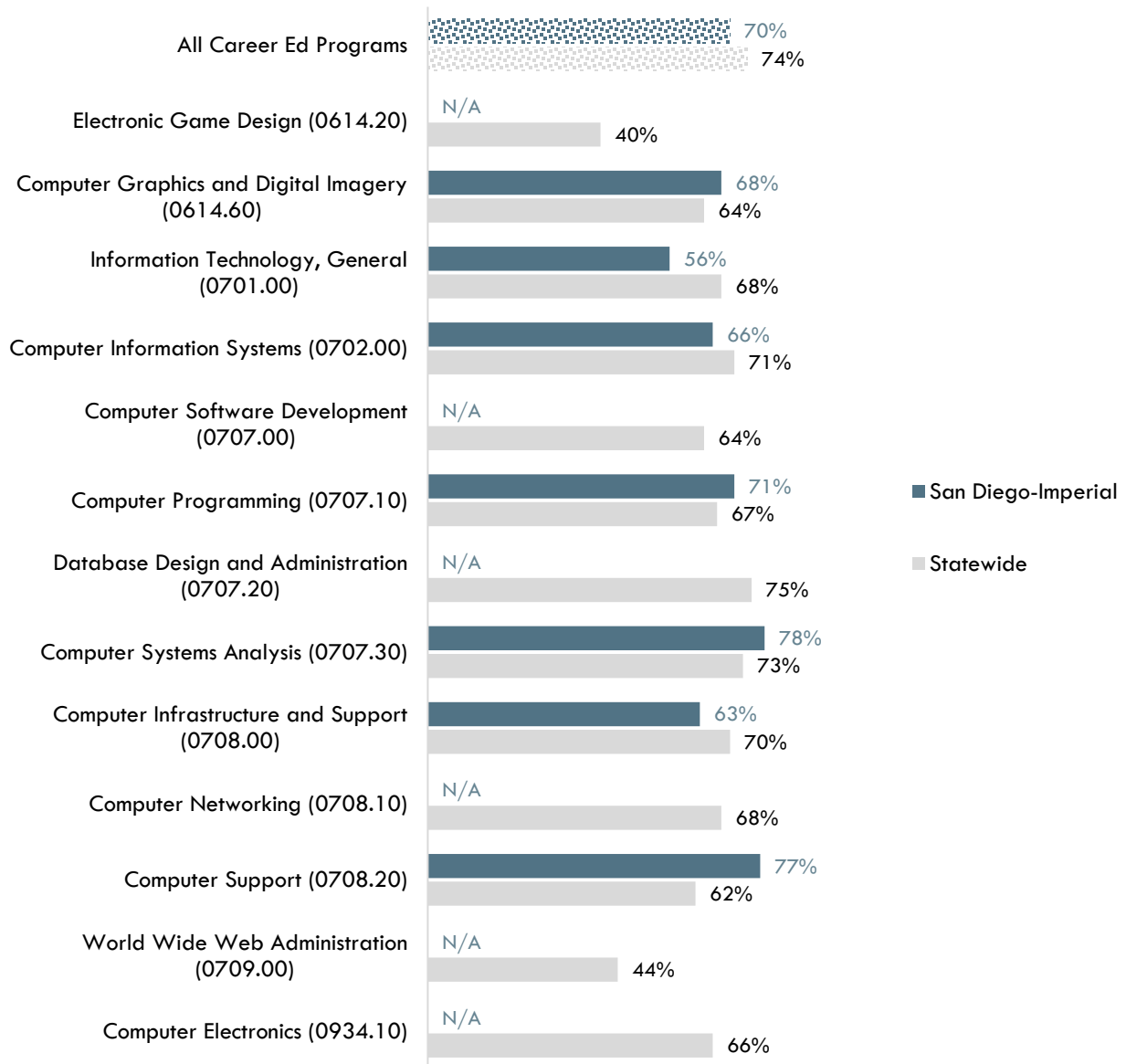
“N/A” indicates insufficient data

¹⁷ DataVista, California Community Colleges, datavista.cccco.edu/.

¹⁸ Most recent year with available data is Program Year 2022-23. Among completers and skills builders who exited, the percentage of students who attained a living wage.

According to the California Community Colleges DataVista, 56 to 78% of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a program related to *Computer and Information Sciences Occupations*, compared to 40 to 75% statewide and 74% of students in Career Education programs in general across the state (Exhibit 11).¹⁹

Exhibit 11: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2021-22²⁰



“N/A” indicates insufficient data

¹⁹ DataVista, California Community Colleges, datavista.cccco.edu/.

²⁰ Most recent year with available data is Program Year 2021-22. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

Employers

Between January 1, 2022 and December 31, 2024, the top five employers in San Diego County for *Computer and Information Sciences Occupations* were [Apple](#), [CyberCoders](#), [Qualcomm](#), [Randstad](#), and [Jobot](#) based on online job postings (Exhibit 12).

Exhibit 12: Top Employers for Computer and Information Sciences Occupations in San Diego County²¹

Top Employers	
<ul style="list-style-type: none"> • Apple • CyberCoders • Qualcomm • Randstad • Jobot 	<ul style="list-style-type: none"> • Leidos • Northrop Grumman • General Atomics • UnitedHealth Group • Accenture

Skills

Exhibit 13 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2022 and December 31, 2024.

Exhibit 13: Top Skills for Computer and Information Sciences Occupations in San Diego County²²

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Social Computer Science • Software Engineering • Software Development • Agile Methodology • Debugging • Automation • Scalability • Scrum • CI/CD • DevOps • Full Stack Development • Unit Testing • Scripting • Software Development Life Cycle • Object-Oriented Programming 	<ul style="list-style-type: none"> • Communication • Management • Problem Solving • Troubleshooting • Leadership • Operations • Writing • Planning • Innovation • Interpersonal Communications • Customer Service • Research • Verbal Communication Skills • Mentorship • Detail Oriented 	<ul style="list-style-type: none"> • Python • Java • C++ • Amazon Web Services • JavaScript • SQL • Application Programming Interface • Linux • Git • C# • C • React.js • Microsoft Azure

²¹ Lightcast 2025.02; "Job Posting Analytics." 2022-2024.

²² Lightcast 2025.02; "Job Posting Analytics." 2022-2024.

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Important Disclaimers

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; 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 the report 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.