

⚠ Endorsed: Caution Advised			
Program LMI Endorsement Criteria			
	Met ☐	Partially Met ☒	Not Met ☐
Supply Gap:	There are projected to be 1,079 annual job openings throughout Los Angeles and Orange counties for these computer software development occupations, which is less than the 6,147 awards conferred by educational institutions . However, these educational programs also prepare students for seven other related occupations, which account for 5,690 additional annual job openings . <i>Because this program trains for a variety of occupations with high demand, there is most likely an undersupply of labor for these computer software development occupations.</i>		
Self-Sufficiency Standard Living Wage ¹ :	Met ☒	Partially Met ☐	Not Met ☐
	The majority (65%) of annual job openings for these computer software development occupations have entry-level hourly wages above the OC living wage of \$27.13 .		
Education:	Met ☐	Partially Met ☒	Not Met ☐
	Most (69%) annual job openings for these middle-skill computer software development occupations typically require a bachelor's degree and between 21% and 39% of workers in the field have completed some college or an associate degree as their highest level of education .		

This LMA brief for program modification is valid for 12 months and expires September 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 market related to three occupations:

- Middle-Skill
 - Computer Network Support Specialists (15-1231)
 - Web Developers (15-1254)
 - Web and Digital Interface Designers (15-1255)

Although the number of awards exceeds demand for these occupations, supply is likely overstated because related educational programs train for seven additional occupations. When considering the demand across these occupations, it is likely the region faces a supply

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.

gap for these computer software development occupations. Additionally, entry-level wages are above the Self-Sufficiency Standard living wage and typical education requirements for these occupations partially align with a community college education. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the middle-skill occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Computer Network Support Specialists (15-1231)	LA: 233	LA: 272	OC: \$24.14	Associate degree	39%
	OC: 104	OC: 160			
	TTL: 337	TTL: 432			
Web Developers (15-1254)	LA: 114	<i>Accounted for Below</i>	OC: \$31.41	Bachelor's degree	25%
	OC: 43				
	TTL: 157				
Web and Digital Interface Designers (15-1255)	LA: 435	LA: 4,019	OC: \$33.57	Bachelor's degree	21%
	OC: 149	OC: 1,696			
	TTL: 584	TTL: 5,715			
Total	1,079	6,147	N/A	N/A	N/A

Demand

- In Los Angeles and Orange counties, the number of jobs related to these computer software development occupations is projected to decrease 2% through 2030, equating to 1,079 annual job openings.
- Hourly entry-level wages for these computer software development occupations range from \$24.14 to \$33.57 in Orange County; 65% of annual openings have entry-level wages above the Self-Sufficiency Standard living wage.
- There were 4,019 online job postings for these computer software development occupations over the past 12 months. The highest number of postings were for UI/UX designers, UX designers, and product designers.
- The typical entry-level education for these computer software development occupations ranges from an associate degree to a bachelor's degree.
- Between 21% and 39% 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 1,195 awards were conferred by 29 community colleges for these middle-skill occupations in Los Angeles and Orange counties.

- From 2021 to 2024, non-community college institutions conferred an average of 4,952 awards for these middle-skill occupations.
- In the 2023-24 academic year, Orange County community college students that exited computer software development programs had a median annual wage of \$48,414 (\$23.28 per hour) post-exit, and 44% attained the regional living wage.
- In 2022-23, 48% of Orange County computer software development 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 these computer software development occupations from 2020 through 2030. Beginning in 2025, job levels are projected to grow at a similar rate than all occupations through 2030.

Exhibit 2: Annual Percentage Change in Jobs for Computer Software Development Occupations, 2020-2030

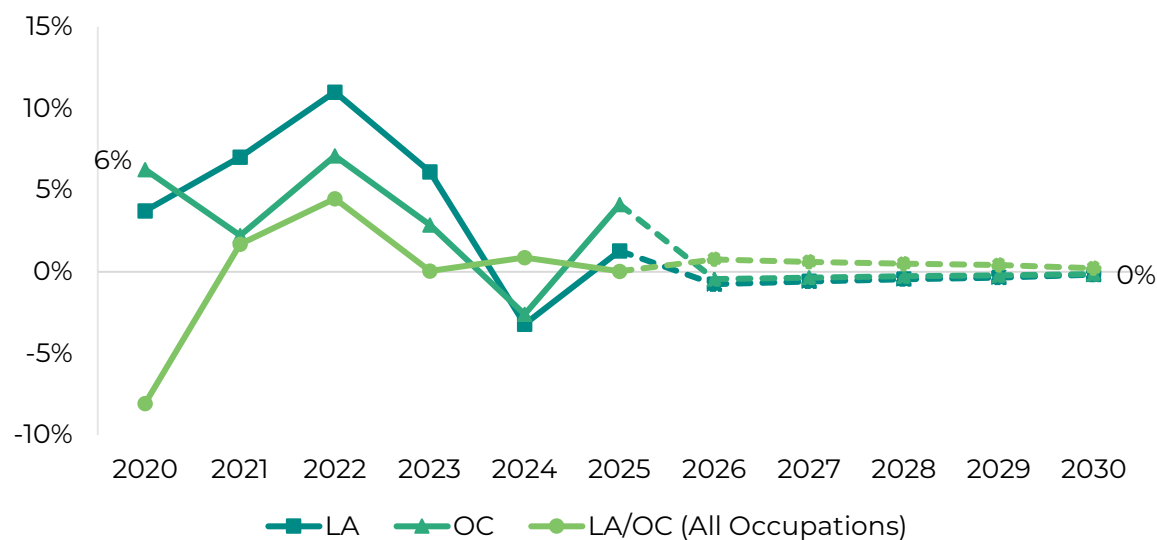


Exhibit 3 shows the five-year occupational demand projections for these middle-skill computer software development occupations. In Los Angeles and Orange counties, the number of jobs related to these occupations is projected to decrease 2% through 2030. There is projected to be 1,079 jobs available annually.

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	13,179	12,874	(304)	(2%)	783
Orange	4,953	4,883	(70)	(1%)	296
Total	18,132	17,758	(374)	(2%)	1,079

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.

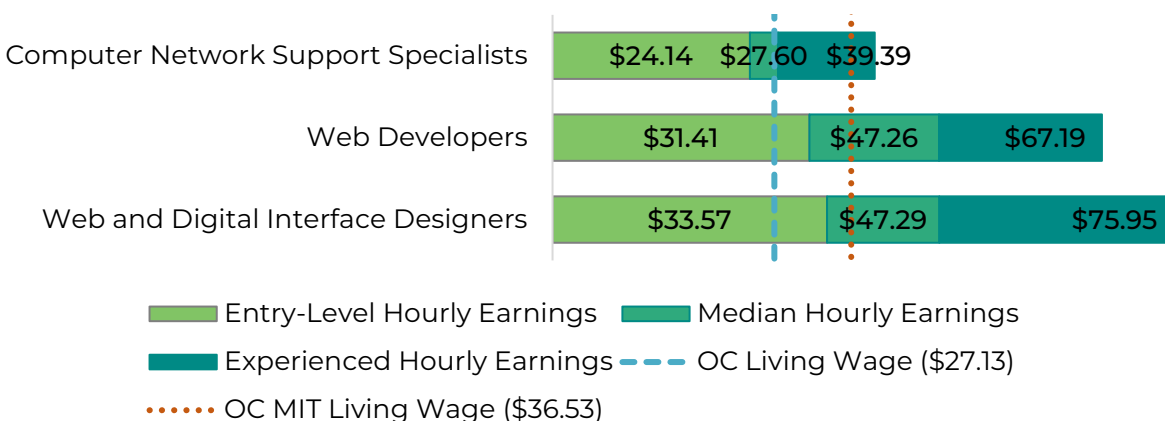
Wages

The labor market endorsement in this report considers the entry-level hourly wages for these computer software development 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 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 such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

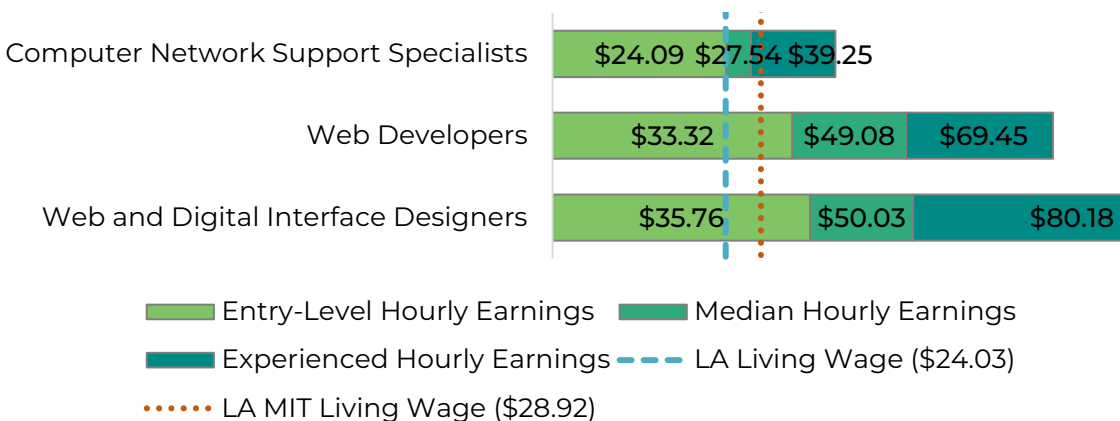
In Orange County, 65% of annual openings for these computer software development occupations have entry-level wages above the Self-Sufficiency living wage of \$27.13 for a single adult, ranging from \$24.14 to \$33.57. Exhibit 4 shows the wage range for each of these computer software development occupations 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 computer software development occupations have entry-level wages above the Self-Sufficiency living wage of \$24.03 for a single adult, ranging from \$24.09 to \$35.76. Exhibit 5 shows the wage range for each of these computer software development 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 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 Job³. Only one occupation, *web developers*, met the criteria to be considered a 2025 USN&WR Best Job. None of these three computer software development occupations are Great Recession-Resilient Jobs or COVID-19 Pandemic Recession-Resilient Jobs.

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

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Web Developers	☐	☐	☒
Computer Network Support Specialists	☐	☐	☐
Web and Digital Interface Designers	☐	☐	☐

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 4,019 online job postings related to these computer software development occupations listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation. Over 64% of job postings were for *web and digital interface designers*.

Exhibit 7: Number of Job Postings by Occupation (n=4,019)

Occupation	Job Postings	Percentage of Job Postings
Web and Digital Interface Designers	2,584	64%
Web Developers	909	23%
Computer Network Support Specialists	526	13%
Total Postings	4,019	100%

Job Postings for Middle-Skill Occupation

The top job titles for these middle-skill computer software development 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 Middle-Skill Occupation (n=4,019)

Job Titles	Job Postings	Percentage
UI/UX Designers	155	4%
UX Designers	150	4%
Product Designers	121	3%
Back End Engineers	117	3%
User Experience Designers	90	2%
Front End Developers	82	2%
Web Developers	66	2%
Game Masters	64	2%
Front End Engineers	59	1%
Game Designers	53	1%

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

The top employers for these middle-skill computer software development occupations in the region, by number of job postings, are shown in Exhibit 9.

**Exhibit 9: Top Employers by Number of Job Postings for
Middle-Skill Occupation (n=4,019)**

Employer	Job Postings	Percentage of Job Postings
Amazon	111	3%
Google	96	2%
Robert Half	93	2%
Yotta Games (友塔游戏)	85	2%
Canteen Vending	79	2%
Riot Games	62	2%
Walt Disney	53	1%
Anduril Industries	47	1%
Ledgent	43	1%
Insight Global	42	1%

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

**Exhibit 2: Top Skills by Number of Job Postings for
Middle-Skill Occupation (n=4,019)**

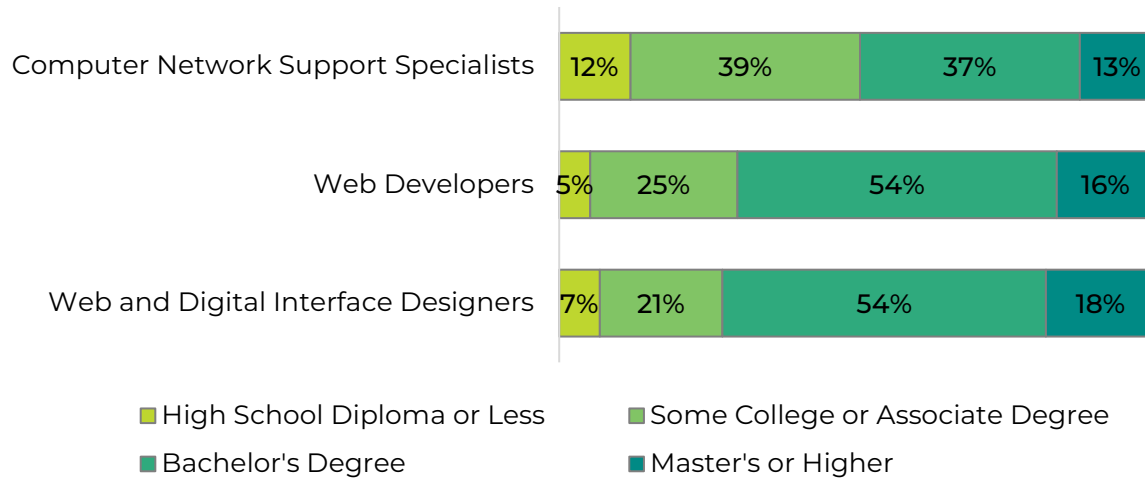
Top Specialized Skills	Top Soft Skills	Top Computer Skills
User Experience (UX) (1,467)	Communication (2,033)	Figma (Design Software) (936)
Workflow Management (950)	Research (989)	JavaScript (Programming Language) (683)
Prototyping (946)	Troubleshooting (Problem Solving) (788)	Cascading Style Sheets (CSS) (627)
Figma (Design Software) (936)	Problem Solving (733)	Application Programming Interface (API) (581)
User Interface (UI) (914)	Leadership (694)	HyperText Markup Language (HTML) (523)
User Experience (UX) Design (836)	Innovation (624)	React.js (Javascript Library) (479)
Scalability (800)	Detail Oriented (567)	Amazon Web Services (333)
Artificial Intelligence (754)	Customer Service (550)	RESTful API (316)
JavaScript (Programming Language) (683)	Management (544)	Python (Programming Language) (296)
Computer Science (669)	Operations (492)	Git (Version Control System) (294)

Educational Attainment

The Bureau of Labor Statistics (BLS) lists associate degree as the typical entry-level education for *computer network support specialists*, and bachelor's degree for *web and digital interface designers*, *web developers*.

The national-level educational attainment data indicates between 21% and 39% 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 each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 3: National-level Educational Attainment for Occupations



Requested Minimum Education Requirement

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

- 38% (1,541) of Middle-Skill Job Postings
 - 19% (288) requested a high school diploma or associate degree
 - 77% (1,184) 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 occupations.

Community College Supply

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

- Website Design and Development (0614.30)
- Software Applications (0702.10)
- Computer Software Development (0707.00)
- Computer Programming (0707.10)
- Computer Systems Analysis (0707.30)
- Computer Infrastructure and Support (0708.00)
- World Wide Web Administration (0709.00)

The colleges with the most completions in the region are Santa Monica (283), followed by Orange Coast (281), and Long Beach (258). Over the past 12 months, there were three other related program recommendation requests from regional community colleges.

Exhibit 4: Regional Community College Awards (Certificates and Degrees), 2022-2025

TOP Code	Program	College	2022-2023 Awards	2023-2024 Awards	2024-2025 Awards	3-Year Award Average
0614.30	Website Design and Development	Citrus	0	0	1	0
		LA Pierce	0	3	5	3
		Long Beach	6	9	5	7
		Pasadena	3	10	5	6
		Santa Monica	5	3	8	5
		West LA	4	6	2	4
		LA Subtotal	18	31	26	25
		Fullerton	0	1	2	1
		Orange Coast	8	14	22	15
		Saddleback	6	6	9	7
		Santa Ana	0	0	2	1
		OC Subtotal	14	21	35	23
		Supply Subtotal/Average	32	52	61	48
0702.10	Software Applications	Cerritos	21	28	36	28
		Glendale	0	1	0	0
		LA City	2	1	2	2
		Long Beach	0	1	1	1
		Mt San Antonio	1	0	1	1
		Santa Monica	15	17	21	18
		LA Subtotal	39	48	61	49
		Coastline	50	20	12	27

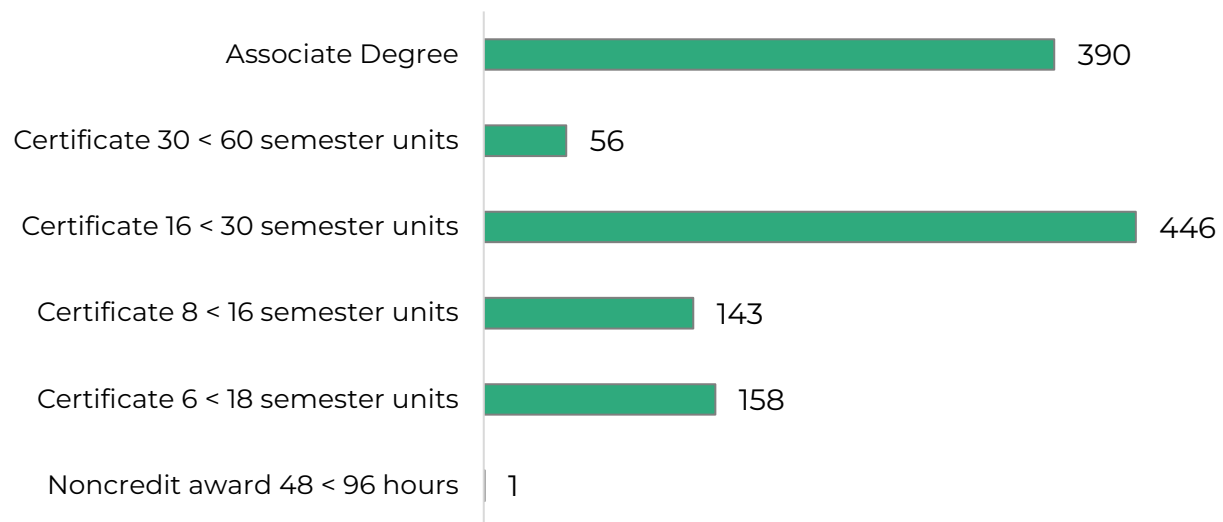
TOP Code	Program	College	2022-2023 Awards	2023-2024 Awards	2024-2025 Awards	3-Year Award Average
		Cypress	1	1	0	1
		Irvine	67	31	75	58
		Orange Coast	0	0	2	1
		Saddleback	10	10	12	11
		OC Subtotal	128	62	101	97
Supply Subtotal/Average			167	110	162	146
0707.00	Computer Software Development	LA Harbor	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
0707.10	Computer Programming	Cerritos	2	2	2	2
		Citrus	7	9	10	9
		East LA	1	2	6	3
		Glendale	0	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	0	1	0	0
		LA Subtotal	227	281	410	306
		Cypress	5	6	10	7
		Fullerton	0	1	2	1
		Orange Coast	250	202	14	155
		Santa Ana	0	5	2	2

TOP Code	Program	College	2022- 2023 Awards	2023- 2024 Awards	2024- 2025 Awards	3-Year Award Average
		Santiago Canyon	3	4	1	3
		OC Subtotal	258	218	29	168
Supply Subtotal/Average			485	499	439	474
0707.30	Computer Systems Analysis	Cerritos	1	1	6	3
		East LA	4	3	1	3
		LA City	5	3	7	5
		LA Harbor	0	1	2	1
		LA Mission	2	3	4	3
		LA Pierce	6	6	23	12
		LA Trade	2	2	4	3
		Mt San Antonio	6	6	3	5
		Rio Hondo	2	1	0	1
		Santa Monica	0	6	8	5
		LA Subtotal	28	32	58	39
		Cypress	0	0	1	0
		OC Subtotal	0	0	1	0
		Supply Subtotal/Average			28	32
0708.00	Computer Infrastructure and Support	Cerritos	14	14	21	16
		East LA	11	3	6	7
		El Camino	8	13	16	12
		Glendale	3	4	0	2
		LA City	19	50	32	34
		LA Mission	20	58	50	43
		LA Valley	2	3	1	2
		Long Beach	24	37	59	40
		Mt San Antonio	17	34	35	29
		Pasadena	17	3	15	12
		Rio Hondo	30	31	33	31
		West LA	4	7	4	5
		LA Subtotal	169	257	272	233
		Coastline	81	137	134	117
		Cypress	0	1	0	0
		Fullerton	0	1	4	2
		Orange Coast	2	2	0	1
		Saddleback	14	14	15	14

TOP Code	Program	College	2022- 2023 Awards	2023- 2024 Awards	2024- 2025 Awards	3-Year Award Average
		Santa Ana	20	18	34	24
		Santiago Canyon	1	1	0	1
		OC Subtotal	118	174	187	160
Supply Subtotal/Average			287	431	459	392
0709.00	World Wide Web Administration	Cerritos	3	7	3	4
		Glendale	2	6	0	3
		LA Pierce	1	1	2	1
		Long Beach	39	15	13	22
		Mt San Antonio	4	8	5	6
		Santa Monica	3	3	22	9
		West LA	3	5	3	4
		LA Subtotal	55	45	48	49
		Fullerton	0	1	2	1
		Saddleback	2	0	1	1
		OC Subtotal	-	-	-	-
Supply Subtotal/Average			57	46	51	51
Supply Total/Average			1,085	1,208	1,292	1,195

Exhibit 13 shows the annual average community college awards by type from 2022-23 to 2024-25. The plurality of the awards are for associate degree, followed by certificate 16 to 30 semester units then certificate 6 to 18 semester units.

Exhibit 5: Annual Average Community College Awards by Type, 2022-2025



Community College Student Outcomes

Exhibit 14 shows the Strong Workforce Program (SWP) metrics for computer software development programs in the Coast Community College District (CCCD), the Orange County Region, and California. Of the 632 Orange County computer software development students in the 2024-25 academic year, 31% (197) attended an CCCD college.

CCCD students that exited computer software development programs in the 2023-24 academic year had lower median annual earnings (\$26,360 or \$12.67 per hour) compared to all computer software development programs in Orange County (\$48,414 or \$23.28 per hour). District-level living wage data within DataVista is insufficient. Computer software development students in Orange County attained a similar living wage (58%) compared to all computer software development students in California (57%).

Exhibit 6: Computer Software Development (0707.00) Strong Workforce Program Metrics, 2022-25⁴

SWP Metric	CCCD	OC Region	California
SWP Students	197	632	6,375
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	26%	24%	26%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	50%	71%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	24	253
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2023-24)	21	77	884
SWP Students with a Job Closely Related to Their Field of Study (2022-23)	33%	48%	39%
Median Annual Earnings for SWP Exiting Students (2023-24)	\$26,360 (\$12.67)	\$48,414 (\$23.28)	\$53,700 (\$25.82)
Median Change in Earnings for SWP Exiting Students (2023-24)	50%	32%	25%
SWP Exiting Students Who Attained the Living Wage (2023-24)	Insufficient Data	44%	53%

Non-Community College Supply

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

- Computer Programming/Programmer, General (11.0201)
- Computer Science (11.0701)
- Web Page, Digital/Multimedia and Information Resources Design (11.0801)
- Web/Multimedia Management and Webmaster (11.1004)

No awards were conferred for the following CIP codes:

- 11.0501 Computer Systems Analysis/Analyst
- 11.0902 Cloud Computing

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

The available data covers 2021 to 2024. During this period, non-community college institutions in the region conferred an average of 4,952 awards annually in related programs.

Exhibit 7: Regional Non-Community College Awards, 2021-2024

CIP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
11.0201	Computer Programming/ Programmer, General	ABCO Technology	14	17	10	14
Supply Subtotal/Average			14	17	10	14
11.0701	Computer Science	Azusa Pacific University	9	8	5	7
		Biola University	15	13	12	13
		California Institute of Technology	78	70	94	81
		California State Polytechnic University-Pomona	229	299	345	291
		California State University-Dominguez Hills	96	100	152	116
		California State University-Fullerton	400	471	692	521
		California State University-Long Beach	312	512	493	439
		California State University-Los Angeles	172	221	264	219
		California State University-Northridge	274	320	316	303
		Chapman University	50	56	74	60
		Claremont McKenna College	13	5	9	9
		Concordia University-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	0	2
		Southern California	5	0	6	4

CIP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		Institute of Technology				
		University of California-Irvine	869	681	792	781
		University of California-Los Angeles	507	521	514	514
		University of Southern California	1,015	1,543	1,533	1,364
Supply Subtotal/Average			4,191	4,964	5,447	4,867
11.0801	Web Page, Digital/Multimedia and Information Resources Design	Los Angeles Pacific College	6	2	2	3
		Platt College-Anaheim	0	0	0	0
		Westcliff University	4	1	13	6
Supply Subtotal/Average			10	3	15	9
11.1004	Web/Multimedia Management and Webmaster	ABCO Technology	161	21	0	61
		Los Angeles Pacific College	0	0	3	1
Supply Subtotal/Average			161	21	3	62
Supply Total/Average			4,376	5,005	5,475	4,952

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 computer software development programs, the overall Orange County population, and occupation-specific data for the computer software development occupations included in this report.

Hispanic or Latino individuals are underrepresented in computer software development enrollments and occupations (22% and 15%, respectively) compared to their representation in the OC Population (34%). Conversely, White individuals are overrepresented in computer software development occupations (46%) compared to their representation in computer software development enrollments and the OC population in general (31% and 38%). This indicates a potential disparity in access to training and employment outcomes.

Exhibit 16: Program and County Demographics by Ethnicity

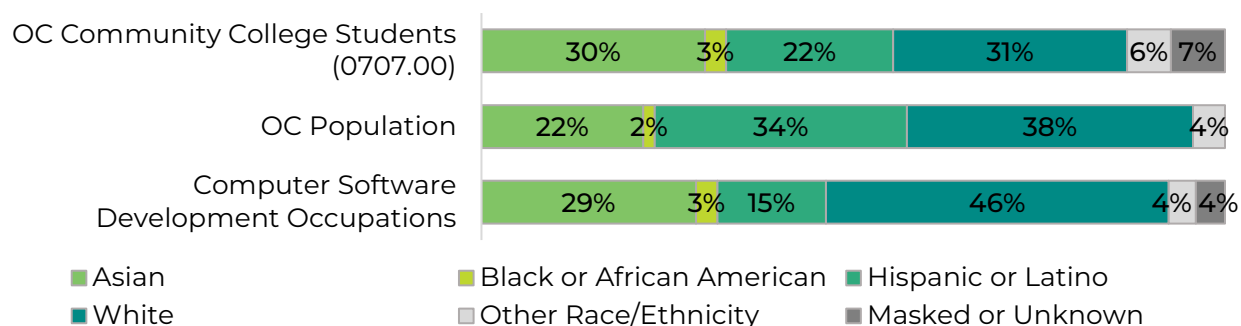
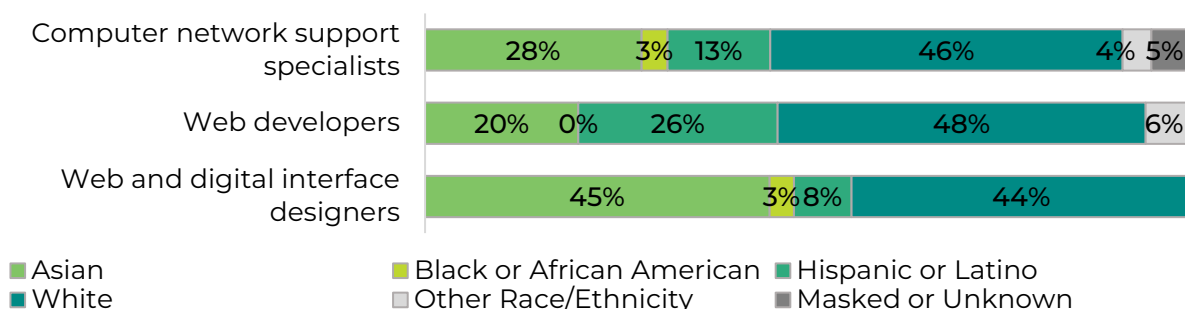


Exhibit 17 shows the disaggregated ethnicity data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

While White individuals make up equally large shares across all three computer software development occupations (44 to 48%), Asian individuals are represented most strongly in the higher paying (\$33.57 per hour), higher educational requirement (bachelor's degree) occupation *web and digital interface designers* and Hispanic or Latino individuals are most represented in the other higher paying (\$31.41 per hour), higher educational requirement (bachelor's degree) occupation *web developers*.

Exhibit 8: Disaggregated Ethnic Distribution by Occupation



Age

Exhibit 18 compares the age of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for the computer software development occupations included in this report.

Although 58% of computer software development students are 24 and younger, they make up only 7% of computer software development workers. This may indicate the need for more on-the-job experience to become a computer software development worker. Additionally, there are more computer software development workers who are 35 and older (64%) compared to computer software development students (21%), further indicating a possible shift to careers in computer software development later in life.

Exhibit 9: Program and County Demographics by Age

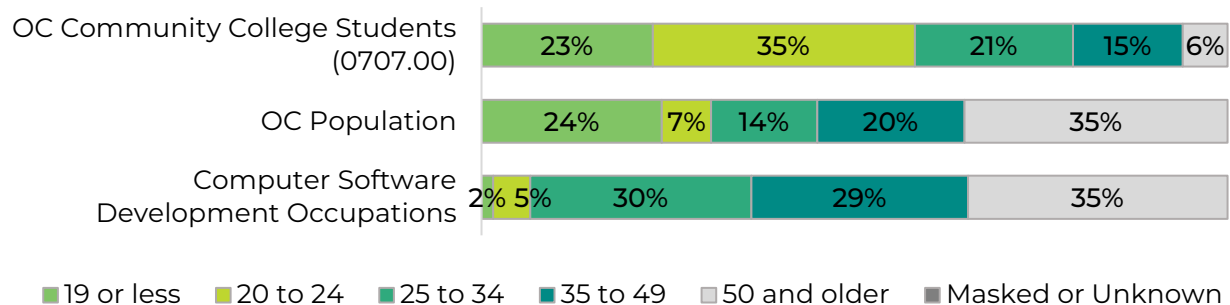
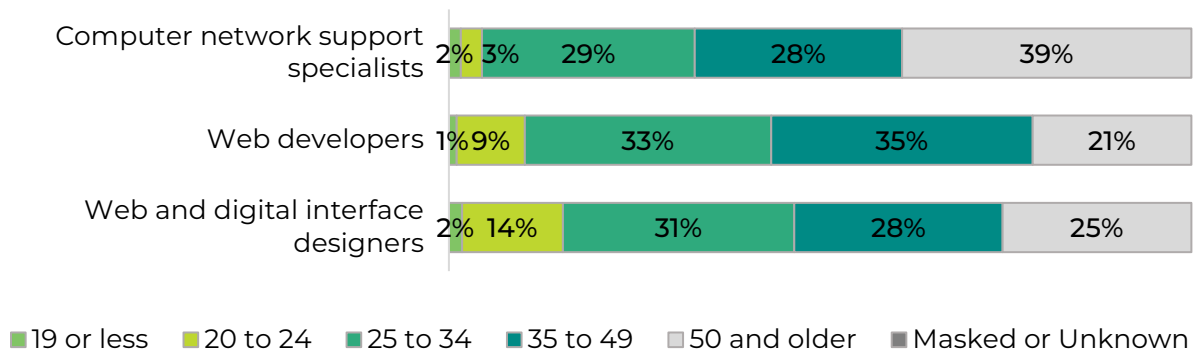


Exhibit 19 shows the disaggregated age data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Out of all computer software development workers, those who are 50 years of age make up 39% of the workforce in the lower paying (\$24.14 per hour), lower educational requirement (associate degree) occupation *computer network support specialists*, and only 25% of the higher wage (\$33.57 per hour), higher educational requirement (bachelor's degree) occupation *web and digital interface designers*. Conversely, workers aged 20 and 24 are represented the most in the *web and digital interface designers* occupation (14%) and the least in the *computer network support specialists* occupation (3%). Other age groups are similarly represented across these occupations.

Exhibit 10: Disaggregated Age Distribution by Occupation



Sex

Exhibit 20 compares the sex of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for these computer software development occupations.

Though the population is split evenly between women and men, only 24% of computer software development workers in the field, and 28% of community college students, are women.

Exhibit 11: Program and County Demographics by Sex

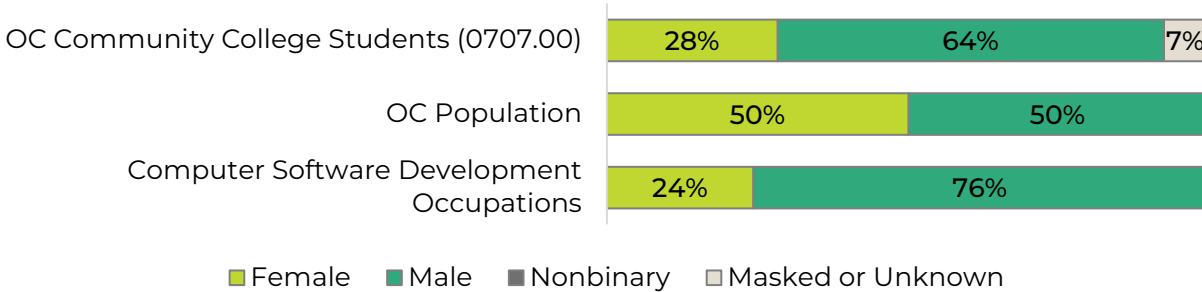
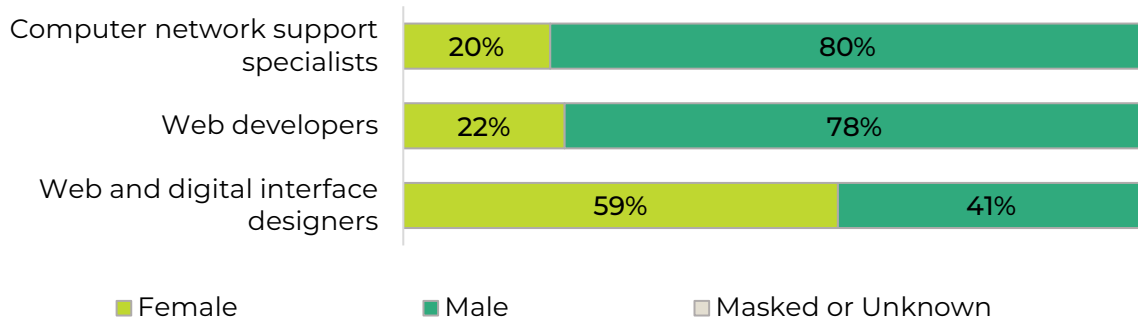


Exhibit 21 shows the disaggregated sex data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

The proportion of women and men in the higher wage (\$33.57), higher educational requirement (bachelor's degree) occupation *web and digital interface designers* stands in contrast to the lower wage (\$24.14), lower educational requirement (associate degree) occupation *computer network support specialists*. Specifically, more *web and digital interface designers* are women (59%) compared to *computer network support specialists* (20%), alluding to gender pay and career advancement gaps in this industry.

Exhibit 12: 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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