

**Labor Market Assessment: 0707.10/Computer Programming**  
**Computer Programming (A.S. degree)**  
 Los Angeles Center of Excellence, May 2022

**Summary**

<b>Program Endorsement:</b>	<b>Endorsed: All Criteria Met</b> <input checked="" type="checkbox"/>	<b>Endorsed: Some Criteria Met</b> <input type="checkbox"/>	<b>Not Endorsed</b> <input type="checkbox"/>
<b>Program Endorsement Criteria</b>			
<b>Supply Gap:</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
<b>Living Wage: (Entry-Level, 25<sup>th</sup>)</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
<b>Education:</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
<b>Emerging Occupation(s)</b>			
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data for four occupations related to computer programming. Computer programming occupations vary in terms of entry-level education. In order to illuminate which occupations are immediately accessible to community college graduates, the computer programming occupations have been divided into middle-skill and above middle-skill occupations. Middle-skill occupations typically accommodate community college graduates, while above middle-skill occupations typically require a four-year degree.

The occupations included in the **middle-skill** computer programming occupational group are:

- *Computer network support specialists (15-1231)* and
- *Web developers and digital interface designers (15-1257)*.

The occupations in the **above middle-skill** computer programming group are:

- *Computer programmers (15-1251)* and
- *Software developers and software quality assurance analysts and testers (15-1256)*.

Based on the available data, there appears to be a supply gap for these computer programming occupations in the region. Furthermore, entry-level wages exceed the self-sufficiency standard wage in both Los Angeles and Orange counties, and the Bureau of Labor Statistics lists an associate degree as the entry-level education for both middle-skill occupations in this report. **Therefore, due to all of the criteria being met, the LA COE endorses this proposed program.** Detailed reasons include:

**Demand:**

- **Supply Gap Criteria** – Over the next five years, there is projected to be **7,533 jobs available annually** in the region due to new job growth and replacements, **which is more than the 2,111 awards conferred annually** by educational institutions in the region.

- Over the past 12 months, there were **62,833 online job postings for computer programming occupations**. Of these job postings, **10% mentioned object-oriented programming**, object-oriented development software, or object-oriented analysis and design (OOAD) (6,514 postings) and **1% mentioned Unified Modeling Language (UML)** (717 postings).
- **Living Wage Criteria** –Within Los Angeles County, **all of the occupations have entry-level wages above** the self-sufficiency standard hourly wage (\$18.10/hour).<sup>1</sup>
- **Educational Criteria** –The Bureau of Labor Statistics (BLS) lists an **associate degree** as the typical entry-level education for **computer network support specialists (15-1231) and web developers and digital interface designers (15-1257)**, and a bachelor’s degree for **computer programmers (15-1251) and software developers, software quality assurance analysts, and testers (15-1256)**.
  - National-level educational attainment data indicates **between 25% and 41% of workers in the middle-skill occupations in this report have completed some college or an associate degree**.

**Supply:**

- There are **25 community colleges** in the greater LA/OC region that issue awards related to computer programming, conferring an average of **1,135 awards annually** between 2017 and 2020.
- Between 2016 and 2019, there was an average of **976 awards conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

**Occupational Demand**

Exhibit 1 shows the five-year occupational demand projections for the two middle-skill computer programming-related occupations of interest. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2025. There will be more than 1,300 job openings per year through 2025 due to job growth and replacements.

*This report includes employment projection data by Emsi, which uses EDD information. Emsi’s projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy, during the projection period, will be at approximately full employment. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, it may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the impacts of COVID-19 into account.*

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Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California on 5/24/2022. For more information, visit: <http://selfsufficiencystandard.org/california>.

**Exhibit 1: Middle-skill occupational demand in Los Angeles and Orange Counties<sup>2</sup>**

Geography	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	Annual Openings
Los Angeles	11,361	11,826	466	4%	932
Orange	4,523	4,729	206	5%	374
<b>Total</b>	<b>15,884</b>	<b>16,556</b>	<b>672</b>	<b>4%</b>	<b>1,307</b>

Exhibit 2 shows the five-year occupational demand projections for the above middle-skill group of computer programming occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 7% through 2025. There will be more than 6,100 job openings per year through 2025 due to job growth and replacements in the field.

**Exhibit 2: Above middle-skill occupational demand in Los Angeles and Orange counties**

Geography	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change	Annual Openings
Los Angeles	45,355	48,641	3,286	7%	4,059
Orange	22,805	24,608	1,803	8%	2,068
<b>Total</b>	<b>68,161</b>	<b>73,250</b>	<b>5,089</b>	<b>7%</b>	<b>6,127</b>

### Wages

The labor market endorsement in this report considers the entry-level hourly wages for all four of the computer programming-related occupations in this report 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 LA/OC region. Detailed wage information, by county, is included in Appendix A.

**Los Angeles County**—All four of the occupations in this report have entry-level wages **above** the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). For the middle-skill occupations, typical entry-level hourly wages are in a range between \$22.84 and \$26.93. For the above middle-skill occupations, typical entry-level hourly wages are in a range between \$40.31 and \$49.35. Experienced workers can expect to earn wages between \$40.31 and \$71.65, which are higher than the self-sufficiency standard.

**Orange County**—All four of the occupations have entry-level wages **above** the self-sufficiency standard wage for one adult (\$20.63 in Orange County). For the middle-skill occupations, typical entry-level hourly wages are in a range between \$21.25 and \$26.33. For the above middle-skill occupations, typical entry-level hourly wages are in a range between \$33.44 and \$41.37. Experienced workers can expect to earn wages between \$39.50 and \$68.87, which are higher than the self-sufficiency standard.

### Job Postings

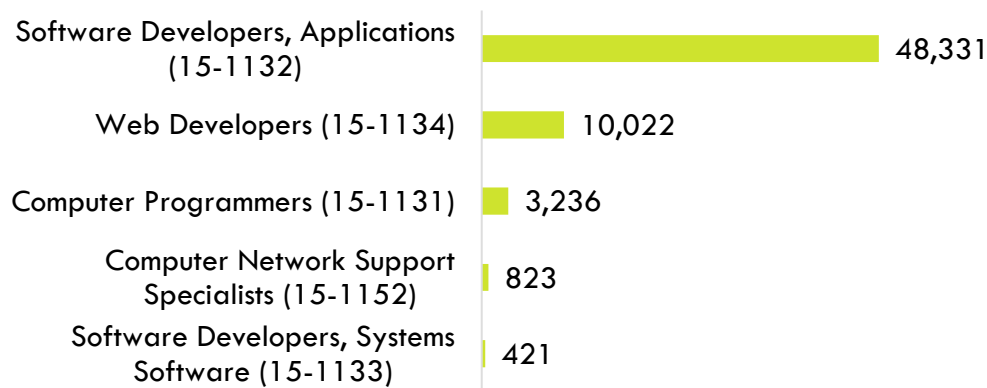
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<sup>2</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

There were 62,833 online job postings related to computer programming listed in the past 12 months. Exhibit 3 displays the number of job postings by occupation. The majority of job postings (77%) were for *software developers, applications*, followed by *web developers* (16%) and *computer programmers* (5%). The highest number of job postings were for senior software engineers, software engineers, software developers, DevOps engineers, and Java developers. The top skills were software engineering, software development, Java, JavaScript, and SQL. The top three employers, by number of job postings, in the region were: The Boeing Company, Anthem Blue Cross, and Amazon.

*It is important to note that the job postings data included in this section reflects online job postings listed in the past 12 months and does not yet demonstrate the full impact of COVID-19. While employers have generally posted fewer online job postings since the beginning of the pandemic, the long-term effects are currently unknown.*

**Exhibit 3: Job postings by occupation (last 12 months)**



### **Programming Languages**

Of the 62,833 online job postings related to computer programming, the following programming languages were stressed as requested or required competencies in job advertisements:

- **Java:** 16,127 job postings (26%)
- **Python:** 13,821 job postings (22%)
- **C and C++:** 8,768 job postings (14%)
- **Object-oriented programming**, object-oriented development software, and/or object-oriented analysis and design (OOAD): 6,514 job postings (10%)
- **Unified Modeling Language (UML):** 717 job postings (1%)

### **Educational Attainment**

The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

- **Bachelor's degree:** *computer programmers; software developers and software quality assurance analysts and testers*
- **Associate degree:** *computer network support specialists; web developers and digital interface designers*

In the greater LA/OC region, the majority of annual job openings (82%) typically require a bachelor's degree. While the national-level educational attainment data indicates between 12% and 40% of workers in the field have completed some college or an associate degree, the two middle-skill occupations have between 25% and 40% of workers in the field who have completed some college or an associate degree. Of the 63% of computer programming job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 5% (2,045) requested high school or vocational training, 2% (738) requested an associate degree, and 93% (36,622) requested a bachelor's degree.

### Educational Supply

**Community College Supply**— Exhibit 4 shows the annual and three-year average number of awards conferred by programs that have historically trained for the occupations of interest. The colleges with the most completions in the region are Mt. San Antonio, Long Beach, Coastline, and Cypress.

**Exhibit 4: Regional community college awards (certificates and degrees), 2017-2020**

TOP Code	Program	Colleges	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Average
0614.30	Website Design and Development	LA Pierce	-	3	2	2
		Mt San Antonio	9	9	7	8
		Pasadena	-	-	1	-
		Santa Monica	-	-	2	1
		<b>LA Subtotal</b>	<b>9</b>	<b>12</b>	<b>12</b>	<b>11</b>
		Coastline	-	1	1	1
		Fullerton	-	3	-	1
		Irvine Valley	2	3	-	2
		Orange Coast	-	-	9	3
		Saddleback	4	7	2	4
		Santa Ana	1	-	2	1
		Santiago Canyon	9	24	3	12
		<b>OC Subtotal</b>	<b>16</b>	<b>38</b>	<b>17</b>	<b>24</b>
<b>Supply Subtotal/Average</b>			<b>25</b>	<b>50</b>	<b>29</b>	<b>35</b>
0701.00	Information Technology, General	East LA	15	23	10	16
		LA Harbor	6	-	-	2
		LA Mission	1	1	3	2
		Long Beach	25	34	64	41
		Mt San Antonio	79	74	90	81
		Santa Monica	-	39	-	13
		West LA	4	4	5	4
		<b>LA Subtotal</b>	<b>130</b>	<b>175</b>	<b>172</b>	<b>159</b>
<b>Supply Subtotal/Average</b>			<b>130</b>	<b>175</b>	<b>172</b>	<b>159</b>

TOP Code	Program	Colleges	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Average
0702.10	Software Applications	Cerritos	3	9	6	6
		LA City	-	-	1	-
		LA Mission	7	2	-	3
		LA Southwest	2	1	-	1
		Long Beach	-	-	7	2
		Mt San Antonio	3	1	2	2
		Santa Monica	10	18	13	14
		<b>LA Subtotal</b>	<b>25</b>	<b>31</b>	<b>29</b>	<b>28</b>
		Coastline	4	9	8	7
		Irvine Valley	22	39	48	36
		Saddleback	3	2	7	4
		<b>OC Subtotal</b>	<b>29</b>	<b>50</b>	<b>63</b>	<b>47</b>
		<b>Supply Subtotal/Average</b>			<b>54</b>	<b>81</b>
0707.00	Computer Software Development	LA City	-	1	-	-
		<b>LA Subtotal</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>
		Cypress	1	1	1	1
		Golden West	3	4	2	3
		Orange Coast	7	7	2	5
		Saddleback	3	13	3	6
		<b>OC Subtotal</b>	<b>14</b>	<b>25</b>	<b>8</b>	<b>16</b>
<b>Supply Subtotal/Average</b>			<b>14</b>	<b>26</b>	<b>8</b>	<b>16</b>
0707.10	Computer Programming	Cerritos	4	-	2	2
		Citrus	-	-	1	-
		East LA	6	8	4	6
		Glendale	2	2	3	2
		LA City	-	-	6	2
		LA Mission	5	6	4	5
		LA Pierce	9	18	4	10
		LA Southwest	1	-	1	1
		LA Valley	10	7	6	8
		Long Beach	2	4	5	4
		Mt San Antonio	62	119	114	98
		Pasadena	8	11	21	13
		Santa Monica	42	44	46	44
		West LA	-	1	-	-
		<b>LA Subtotal</b>	<b>151</b>	<b>220</b>	<b>217</b>	<b>196</b>

TOP Code	Program	Colleges	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Average
		Cypress	18	22	20	20
		Fullerton	-	16	28	15
		Irvine Valley	10	8	4	7
		Orange Coast	29	31	157	72
		Santa Ana	1	13	1	5
		Santiago Canyon	30	9	3	14
		<b>OC Subtotal</b>	<b>88</b>	<b>99</b>	<b>213</b>	<b>133</b>
		<b>Supply Subtotal/Average</b>	<b>239</b>	<b>319</b>	<b>430</b>	<b>329</b>
0707.30	Computer Systems Analysis	Cerritos	4	2	3	3
		East LA	-	-	1	-
		LA Mission	-	-	1	-
		<b>LA Subtotal</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>4</b>
		Cypress	5	2	-	2
		<b>OC Subtotal</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>2</b>
		<b>Supply Subtotal/Average</b>	<b>9</b>	<b>4</b>	<b>5</b>	<b>6</b>
0708.00	Computer Infrastructure and Support	Cerritos	-	-	4	1
		Glendale	-	-	3	1
		LA City	-	-	3	1
		LA Harbor	1	1	1	1
		LA Mission	-	2	12	5
		LA Valley	8	5	2	5
		Long Beach	1	3	8	4
		Mt San Antonio	20	24	24	23
		Pasadena	-	1	1	1
		Rio Hondo	-	-	9	3
		West LA	-	4	15	6
		<b>LA Subtotal</b>	<b>30</b>	<b>40</b>	<b>82</b>	<b>51</b>
		Coastline	65	49	46	53
		Cypress	1	2	3	2
		Orange Coast	-	-	7	2
		<b>OC Subtotal</b>	<b>66</b>	<b>51</b>	<b>56</b>	<b>58</b>
		<b>Supply Subtotal/Average</b>	<b>96</b>	<b>91</b>	<b>138</b>	<b>108</b>
0708.10	Computer Networking	Cerritos	8	11	9	9
		Glendale	6	3	3	4
		LA City	37	23	-	20
		LA Pierce	23	39	20	27

TOP Code	Program	Colleges	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Average
		Long Beach	27	55	47	43
		Mt San Antonio	2	8	11	7
		Rio Hondo	-	5	7	4
		West LA	43	77	48	56
		<b>LA Subtotal</b>	<b>146</b>	<b>221</b>	<b>145</b>	<b>171</b>
		Coastline	12	38	59	36
		Cypress	37	70	95	67
		Irvine Valley	12	11	21	15
		Saddleback	17	10	21	16
		Santa Ana	7	14	12	11
		<b>OC Subtotal</b>	<b>85</b>	<b>143</b>	<b>208</b>	<b>145</b>
		<b>Supply Subtotal/Average</b>			<b>231</b>	<b>364</b>
0708.20	Computer Support	Citrus	-	-	1	-
		Glendale	3	10	7	7
		LA Pierce	7	9	8	8
		Long Beach	1	8	14	8
		Pasadena	3	7	30	13
		<b>LA Subtotal</b>	<b>14</b>	<b>34</b>	<b>60</b>	<b>36</b>
		Cypress	1	3	5	3
		Santa Ana	10	9	-	6
		<b>OC Subtotal</b>	<b>11</b>	<b>12</b>	<b>5</b>	<b>9</b>
<b>Supply Subtotal/Average</b>			<b>25</b>	<b>46</b>	<b>65</b>	<b>45</b>
0709.00	World Wide Web Administration	Glendale	9	6	7	7
		LA Pierce	5	9	-	5
		Long Beach	4	22	24	17
		West LA	24	13	9	15
		<b>LA Subtotal</b>	<b>42</b>	<b>50</b>	<b>40</b>	<b>44</b>
		Saddleback	-	-	2	1
		<b>OC Subtotal</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>1</b>
<b>Supply Subtotal/Average</b>			<b>42</b>	<b>50</b>	<b>42</b>	<b>45</b>
<b>Supply Total/Average</b>			<b>865</b>	<b>1,206</b>	<b>1,334</b>	<b>1,135</b>

**Non-Community College Supply**—For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for computer programming occupations. Exhibit 5 shows the annual and three-year average number of awards conferred by these institutions in programs crosswalked to the community college programs listed in Exhibit 4. Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019,



four-year colleges in the region conferred an average of 976 awards annually in related training programs.

**Exhibit 5: Regional non-community college awards, 2016-2019**

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Average
11.0101	Computer and Information Sciences, General	ABCO Technology	15	-	-	5
		Azusa Pacific University	10	20	19	16
		Brand College	1	2	-	1
		Brandman University	19	14	26	20
		California Institute of Technology	48	56	-	35
		Chapman University	6	7	5	6
		Loyola Marymount University	15	16	19	17
		Pacific States Univ.	-	2	1	1
		UC Irvine	31	3	1	12
		Univ. of La Verne	14	21	19	18
		Univ. of the People	-	36	57	31
11.0201	Computer Programming/ Programmer, General	ABCO Technology	6	12	18	12
		ITT Technical Institute-San Dimas	5	-	-	2
		University of Phoenix-CA	68	62	43	58
11.0501	Computer Systems Analysis/ Analyst	Brand College	1	2	4	2
		DeVry University-CA	110	103	94	102
		University of Phoenix-California	9	8	4	7
11.0801	Web Page, Digital/ Multimedia and Information Resources Design	Advanced Computing Institute	73	46	57	59
		Argosy Univ.-The Art Institute of CA-Hollywood	22	20	24	22
		Argosy Univ.-The Art Institute of CA-LA	15	23	24	21
		Argosy Univ.-The Art Institute of CA-OC	19	15	33	22
		DeVry University-CA	91	69	36	65
		Fremont College	8	1	-	3
		University of Phoenix-CA	5	6	1	4

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Average
11.0901	Computer Systems Networking and Telecommunications	Advanced Computing Institute	6	5	98	36
		Brand College	-	1	2	1
		DeVry University-CA	166	154	135	152
		ITT Tech. Institute-Sylmar	1	-	-	-
		Mt Sierra College	8	6	5	6
		PCI College	1	-	-	-
		University of Phoenix-CA	51	55	27	44
11.1003	Computer and Information Systems Security/ Information Assurance	Azusa Pacific University	8	4	3	5
		ITT Technical Institute-Orange	37	-	-	12
		ITT Technical Institute-San Dimas	23	-	-	8
		ITT Technical Institute-Sylmar	19	-	-	6
		ITT Technical Institute-Torrance	6	-	-	2
		Learnet Academy	-	39	48	29
		Mt Sierra College	14	9	8	10
		University of Phoenix-California	111	74	71	85
11.1004	Web/Multimedia Management and Webmaster	ABCO Technology	7	9	12	9
		Pepperdine Univ.	-	1	-	-
		University of Phoenix-California	7	5	4	5
11.1006	Computer Support Specialist	Palladium Technical Academy	6	-	-	2
		Southern California Institute of Tech.	13	32	16	20
		University of Phoenix-California	-	-	1	-
<b>Supply Total/Average</b>			<b>1,075</b>	<b>938</b>	<b>915</b>	<b>976</b>

**Appendix A: Occupational demand and wage data by county**  
**Exhibit 6. Los Angeles County**

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Computer Network Support Specialists (15-1231)	4,029	4,055	25	1%	302	\$26.93	\$32.50	\$40.31
Web Developers and Digital Interface Designers (15-1257)	7,331	7,772	440	6%	630	\$22.84	\$34.88	\$49.35
<b>Middle-Skill Subtotal</b>	<b>11,361</b>	<b>11,826</b>	<b>466</b>	<b>4%</b>	<b>932</b>	-	-	-
Computer Programmers (15-1251)	5,217	4,828	(389)	(7%)	333	\$34.51	\$46.12	\$58.21
Software Developers and Software Quality Assurance Analysts and Testers (15-1256)	40,138	43,814	3,675	9%	3,726	\$42.92	\$57.70	\$71.65
<b>Above Middle-Skill Subtotal</b>	<b>45,355</b>	<b>48,641</b>	<b>3,286</b>	<b>7%</b>	<b>4,059</b>	-	-	-
<b>Total</b>	<b>56,716</b>	<b>60,468</b>	<b>3,752</b>	<b>7%</b>	<b>4,991</b>	-	-	-

**Exhibit 7. Orange County**

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Computer Network Support Specialists (15-1231)	1,696	1,746	51	3%	134	\$26.33	\$31.80	\$39.50
Web Developers and Digital Interface Designers (15-1257)	2,828	2,983	155	5%	241	\$21.25	\$32.53	\$46.04
<b>Middle-Skill Subtotal</b>	<b>4,523</b>	<b>4,729</b>	<b>206</b>	<b>5%</b>	<b>374</b>	-	-	-
Computer Programmers (15-1251)	2,463	2,308	(154)	(6%)	158	\$33.44	\$44.46	\$56.05
Software Developers and Software Quality Assurance Analysts and Testers (15-1256)	20,342	22,300	1,957	10%	1,910	\$41.37	\$55.51	\$68.87
<b>Above Middle-Skill Subtotal</b>	<b>22,805</b>	<b>24,608</b>	<b>1,803</b>	<b>8%</b>	<b>2,068</b>	-	-	-
<b>Total</b>	<b>27,329</b>	<b>29,338</b>	<b>2,009</b>	<b>7%</b>	<b>2,442</b>	-	-	-

**Exhibit 8. Los Angeles and Orange Counties**

<b>Occupation (SOC)</b>	<b>2020 Jobs</b>	<b>2025 Jobs</b>	<b>5-Yr Change</b>	<b>5-Yr % Change</b>	<b>Annual Openings</b>	<b>Typical Entry-Level Education</b>
Computer Network Support Specialists (15-1231)	5,725	5,801	76	1%	436	Associate degree
Web Developers and Digital Interface Designers (15-1257)	10,159	10,755	595	6%	871	Associate degree
<b>Middle-Skill Subtotal</b>	<b>15,884</b>	<b>16,556</b>	<b>672</b>	<b>4%</b>	<b>1,307</b>	<b>-</b>
Computer Programmers (15-1251)	7,680	7,136	(544)	(7%)	490	Bachelor's degree
Software Developers and Software Quality Assurance Analysts and Testers (15-1256)	60,481	66,113	5,633	9%	5,636	Bachelor's degree
<b>Above Middle-Skill Subtotal</b>	<b>68,161</b>	<b>73,250</b>	<b>5,089</b>	<b>7%</b>	<b>6,127</b>	<b>-</b>
<b>Total</b>	<b>84,045</b>	<b>89,805</b>	<b>5,760</b>	<b>7%</b>	<b>7,433</b>	<b>-</b>

**Appendix B: Sources**

- O\*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (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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