

**Program Endorsement Brief: 0707.00 – Computer Software Development
Web Development Manager (Certificate)**

Los Angeles/Orange County Center of Excellence, November 2021

Summary Analysis

Program Endorsement:	Endorsed: All Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some Criteria Met <input type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Living Wage: (Entry-Level, 25th)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
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 related to one middle-skill occupation: *web developers and digital interface designers* (15-1257). Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree.¹ This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupation.

NOTE: Since traditional data for web development managers is not available, all of the demand data in this report will be overstated.

Based on the available data, there appears to be a supply gap for *web developers and digital interface designers*. In addition to this occupation having an entry-level wage exceeding the self-sufficiency standard wage in both Los Angeles and Orange counties, the typical entry-level education is an associate degree. **Due to all of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, there is projected to be **737 jobs available annually** in the region due to new job growth and replacements, **which is more than the 560 awards conferred annually** by educational institutions in the region.

¹ 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.

- **Living Wage Criteria** – In Los Angeles County, the entry-level wage for *web developers and digital interface designers* is **above** the self-sufficiency standard hourly wage (\$18.10/hour).²
- **Educational Criteria** – The Bureau of Labor Statistics (BLS) lists and associate degree as the typical entry-level education for *web developers and digital interface designers*.
 - National-level educational attainment data indicates that 25% of workers in the field have completed some college or an associate degree.

Supply:

- Between 2017 and 2020, **23 community colleges** in the LA/OC region issued awards in programs that have historically trained for the occupation of interest, conferring an average of **500 awards**.
- Between 2016 and 2019, non-community college institutions in the region conferred an average of **60 awards in relevant programs**.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for *web developers and digital interface designers*. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to increase by 4% through 2025. There will be more than 700 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 full impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the full impacts of COVID-19 into account.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

Geography	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	Annual Openings
Los Angeles	7,049	7,343	294	4%	533
Orange	2,706	2,817	111	4%	204
Total	9,755	10,160	405	4%	737

² Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California on 11/15/2021. For more information, visit: <http://selfsufficiencystandard.org/california>.

³ 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 hourly wages for *web developers and digital interface designers* 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 LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County — The typical entry-level hourly wage for *web developers and digital interface designers* is \$23.53, which is **above** the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Experienced workers can expect to earn approximately \$49.81/hour, which is above the self-sufficiency standard wage estimate.

Orange County — The typical entry-level hourly wage for *web developers and digital interface designers* is \$22.01, which is **above** the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn approximately \$46.89/hour, which is above the self-sufficiency standard wage estimate.

Job Postings

Over the past 12 months, there have been 4,602 online job postings related to *web developers and digital interface designers*. The highest number of job postings were for web developer, UX designer, front-end developer, UI/UX designer, and back-end engineer. The top skills were JavaScript, web development, website design, front-end development, and HTML5. The top employers, by number of job postings, in the region were Deloitte, Amazon, Blizzard Entertainment, Apple, and PayPal.

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.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *web developers and digital interface designers*. National-level educational attainment data indicates that 25% of workers in the field have completed some college or an associate degree. Of the 7% of job postings listing a minimum education requirement in Los Angeles/Orange County, 76% (256) requested high school or vocational training, and 24% (81) requested an associate degree.

Educational Supply

Community College Supply — Exhibit 2 shows the annual and three-year average number of awards conferred by community colleges in programs that have historically trained for *web developers and digital interface designers*. The colleges with the most completions in the region are Mt. San Antonio, Orange Coast, and Santa Monica. Over the past 12 months, there were 16 other related program recommendation requests from regional community colleges.

Exhibit 2: Regional community college awards (certificates and degrees), 2017-2020

TOP Code	Program	College	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
0614.30	Website Design and Development	LA Pierce	-	3	2	2
		Mt. San Antonio	9	9	7	8
		Pasadena	-	-	1	0
		Santa Monica	-	-	2	1
		LA Subtotal	9	12	12	11
		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
		OC Subtotal	16	38	17	24
Supply Subtotal/Average			25	50	29	35
0702.10	Software Applications	Cerritos	3	9	6	6
		LA City	-	-	1	0
		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
		LA Subtotal	25	31	29	28
		Coastline	4	9	8	7
		Irvine Valley	22	39	48	36
		Saddleback	3	2	7	4
		OC Subtotal	29	50	63	47
		Supply Subtotal/Average			54	81
0707.10	Computer Programming	Cerritos	4	-	2	2
		Citrus	-	-	1	0
		East LA	6	8	4	6

TOP Code	Program	College	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
		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	-	0
		LA Subtotal	151	220	217	196
		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
		OC Subtotal	88	99	213	133
		Supply Subtotal/Average			239	319
0707.00	Computer Software Development	LA City	-	1	-	0
		LA Subtotal	-	1	-	0
		Cypress	1	1	1	1
		Golden West	3	4	2	3
		Orange Coast	7	7	2	5
		Saddleback	3	13	3	6
		OC Subtotal	14	25	8	16
Supply Subtotal/Average			14	26	8	16
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
		LA Subtotal	42	50	40	44
		Saddleback	-	-	2	1
		OC Subtotal	-	-	2	1
Supply Subtotal/Average			42	50	42	45
Supply Total/Average			374	526	601	500

Non-Community College Supply — For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that may provide training programs for the occupation of interest. Exhibit 3 shows the annual and three-year average number of awards conferred by these institutions in web programs. Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019, non-community college institutions in the region conferred an average of 60 awards.

Exhibit 3: Regional non-community college awards, 2016-2019

CIP Code	Program	Institution	2016-17 Awards	2017-18 Awards	2018-19 Awards	3-Year Average
11.0801	Web Page, Digital/Multimedia and Information Resource Design	DeVry University – California	11	2	-	4
11.1003	Computer and Information Systems Security/Information Assurance	Learnet Academy	48	17	-	22
		University of Phoenix-CA	3	22	25	17
11.1004	Web/Multimedia Management and Webmaster	ABCO Technology	12	17	24	18
Supply Total/Average			74	58	49	60

Appendix A: Occupational demand and wage data by county

Exhibit 4. Los Angeles County

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Web Developers and Digital Interface Designers (15-1257)	7,049	7,343	294	4%	533	\$23.53	\$35.67	\$49.81
Total	7,049	7,343	294	4%	533			

Exhibit 5. Orange County

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Web Developers and Digital Interface Designers (15-1257)	2,706	2,817	111	4%	204	\$22.01	\$33.48	\$46.89
Total	2,706	2,817	111	4%	204			

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Typical Entry-Level Education
Web Developers and Digital Interface Designers (15-1257)	9,755	10,160	405	4%	737	Associate degree
Total	9,755	10,160	405	4%	737	

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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