C·O·E CENTERS OF EXCELLENCE FOR LABOR MARKET RESEARCH

Program Endorsement Brief: 0509.70/E-Commerce (Business Emphasis)
Digital Marketing Specialist

Orange County Center of Excellence, May 2022

Summary Analysis

Program Endorsement:	Endorsed: All Criteria Met ☒	Endorsed: Some Criteria Met ☐	Not Endorsed ☐

Program Endorsement Criteria		
Supply Gap:	Yes ☑	No ☐
Living Wage: (Entry-Level, 25th)	Yes ☑	No ☐
Education:	Yes ☑	No ☐
Emerging Occupation(s)		
Yes ☐		*No* ☑

The 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 three occupations related to digital marketing. This report details occupations relevant to the skills that will be taught in the proposed digital marketing program, which typically inform students about marketing functions and tasks in a digital setting, including Adobe applications, social media, and web development. Marketing occupations typically require workers to obtain a bachelor's degree or higher. To illuminate which occupations are immediately accessible to community college graduates, the marketing 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 and/or prior work experience.

The sole occupation included in the **middle-skill** marketing occupation group is *web developers and digital interface designers* (15-2057). The occupations in the **above middle-skill** marketing group of occupations are *marketing managers* (11-2021) and *market research analysts and marketing specialists* (13-1161).

Since each of these occupations contain a variety of job titles that range from entry-level to executive, this report also includes data for online job postings related to the knowledge, skills, and abilities students will obtain throughout this proposed program. To show the opportunities available to community college graduate, additional analysis is included for postings that request or require a high school diploma, vocational training, or an associate degree versus those that request a bachelor's degree.

Based on the available data, there appears to be a supply gap for *web developers and digital interface designers*, the sole-middle skill occupation in this report, in the region. This occupation typically requires an associate degree and a significant number of workers in the field have completed some college or an associate degree as their highest level of education. Additionally, typical entry-level hourly wages for this occupation are above the living wage in both Los Angeles and Orange counties. **Therefore, due to all the criteria being met, the COE endorses this proposed program.** Reasons include:

Demand:

- Over the next five years, there is projected to be **871 middle-skill digital marketing jobs available annually** in the LA/OC region due to retirements and workers leaving the field, **which is more than the 476 awards conferred annually** by educational institutions in the region.
    - Additionally, there were **90,974 online job postings that requested the skills that will be taught in this proposed digital marketing program**. Of those, 21% (19,173) were for the three occupations included in this report.
    - An analysis of these 19,173 job postings suggest that **employers request similar skills in postings regardless of education level**.
        - However, postings that request an associate degree or less are more entry-level and executional in nature while postings that request a bachelor's degree are more closely related to strategic and analytical roles that may involve project or team management.
        - Additionally, the top employers in associate degree or less postings span a wide variety of industries while bachelor's degree postings are primarily for large entertainment companies.
- Within Orange County, **typical entry-level hourly wages** for web developers and digital interface designers are $21.25, **which is higher than the living wage** for one adult in the region ($20.63).[1]
- The Bureau of Labor Statistics (BLS) lists an **associate degree as the typical entry-level education** for web developers and digital interface designers.
    - The national-level educational attainment data indicates **24.6% of workers in the field have completed some college or an associate degree** as their highest level of education.

Supply:

- There are **22 community colleges** in the region that issue awards related to web developers and digital interface designers, conferring an average of **194 awards annually** between 2017 and 2020.
- Between 2016 and 2019, there was an average of **283 awards conferred annually** in related training programs by **15 non-community college institutions** throughout the region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for *web developers and digital interface designers*, the sole middle-skill occupation in this report. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to increase by 6% through 2025. However, there will be more than 870 job openings per year through 2025 due to job growth and replacements.

[1] Living wage data was pulled from California Family Needs Calculator on 1/10/22. For more information, visit the California Family Needs Calculator website: https://insightcced.org/family-needs-calculator/.

Exhibit 1: Middle-skill occupational demand in Los Angeles and Orange Counties[2]

Geography	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	Annual Openings
Los Angeles	7,331	7,772	440	6%	630
Orange	2,828	2,983	155	5%	241
Total	**10,159**	**10,755**	**595**	**6%**	**871**

Exhibit 2 shows the five-year occupational demand projections for the above middle-skill group of marketing occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2025. There will be nearly 5,475 job openings per year through 2025 due to job growth and replacements.

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

Geography	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	Annual Openings
Los Angeles	37,403	39,098	1,695	5%	3,895
Orange	15,242	15,907	664	4%	1,579
Total	**52,645**	**55,004**	**2,359**	**4%**	**5,474**

Wages

The labor market endorsement in this report considers the entry-level hourly wages for the middle-skill group of occupations in Orange County as they relate to the county's living wage. Los Angeles 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.

Orange County—The typical entry-level hourly wages for *web developers and digital interface designers,* the sole middle-skill occupation, are $21.25, which is above living wage for one adult ($20.63 in Orange County). Experienced workers can expect to earn wages of $46.04, which is higher than the living wage estimate. Orange County's average wages are below the average statewide wage of $41.81 for this occupation.

All annual openings for the above middle-skill occupations have entry-level wages above the living wage for one adult in Orange County ($20.63). Typical entry-level hourly wages are in a range between $23.25 and $46.13. Experienced workers in these occupations can expect to earn wages between $42.60 and $92.28, which are higher than the living wage estimate. Orange County's average wages for the above middle-skill occupations are below the average statewide wage of $53.21 for these occupations.

Los Angeles County— The typical entry-level hourly wages for *web developers and digital interface designers,* the sole middle-skill occupation, are $22.84, which is above living wage for one adult ($18.10 in Los Angeles County). Experienced workers can expect to earn wages of

[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.

$49.35, which is higher than the living wage estimate. Los Angeles County's average wages are below the average statewide wage of $41.81 for this occupation.

All annual openings for the above middle-skill occupations have entry-level wages above the living wage for one adult in Los Angeles County ($18.10). Typical entry-level hourly wages are in a range between $24.02 and $46.62. Experienced workers in these occupations can expect to earn wages between $44.10 and $94.11, which are higher than the living wage estimate. Los Angeles County's average wages for the above middle-skill occupations are below the average statewide wage of $53.21 for these occupations.

Employer Job Postings

This section analyzes online job postings that require or request the skills that students will obtain throughout the proposed digital marketing program. These skills include a variety of Adobe applications such as Adobe Photoshop, Adobe InDesign, and Adobe After Effects, as well as other marketing skills such as social media marketing, search engine optimization, and web analytics.

Throughout the LA/OC region, there were 90,974 online job postings that requested these skills. The top employers, by number of job postings, were Disney, Nordstrom, NBC, and Cedars-Sinai. The top job titles were graphic designer, marketing coordinator, social media manager, marketing manager, and administrative assistant. The wide variety of job titles that request these skills suggest that they can be applied to a variety of jobs. However, the majority of job postings are for marketing positions.

Of the 90,974 job postings requesting these skills, 21% (19,173) were for the three occupations included in this report. Exhibit 3 shows the number of job postings that requested digital marketing schools for each of these occupations.

Exhibit 3: Number of Online Job Postings by Occupation

Occupation (SOC)	Number of Postings
Market Research Analysts and Marketing Specialists (13-1161)	10,551
Marketing Managers (11-1021)	6,460
Web Developers and Digital Interface Designers (15-1257)	2,162

Exhibit 4 shows the number of job postings for each occupation by requested education level. Across all occupations, employers primarily request a bachelor's degree; 7%-10% of these postings request an associate degree or less. However, there are a large number of job postings that do not include an education level.

Exhibit 4: Number of Postings by Requested Education Level

Occupation (SOC)	Education Not Specified	Associate Degree or Less	Bachelor's Degree
Marketing Managers (11-2021)	2,193	278	3,875

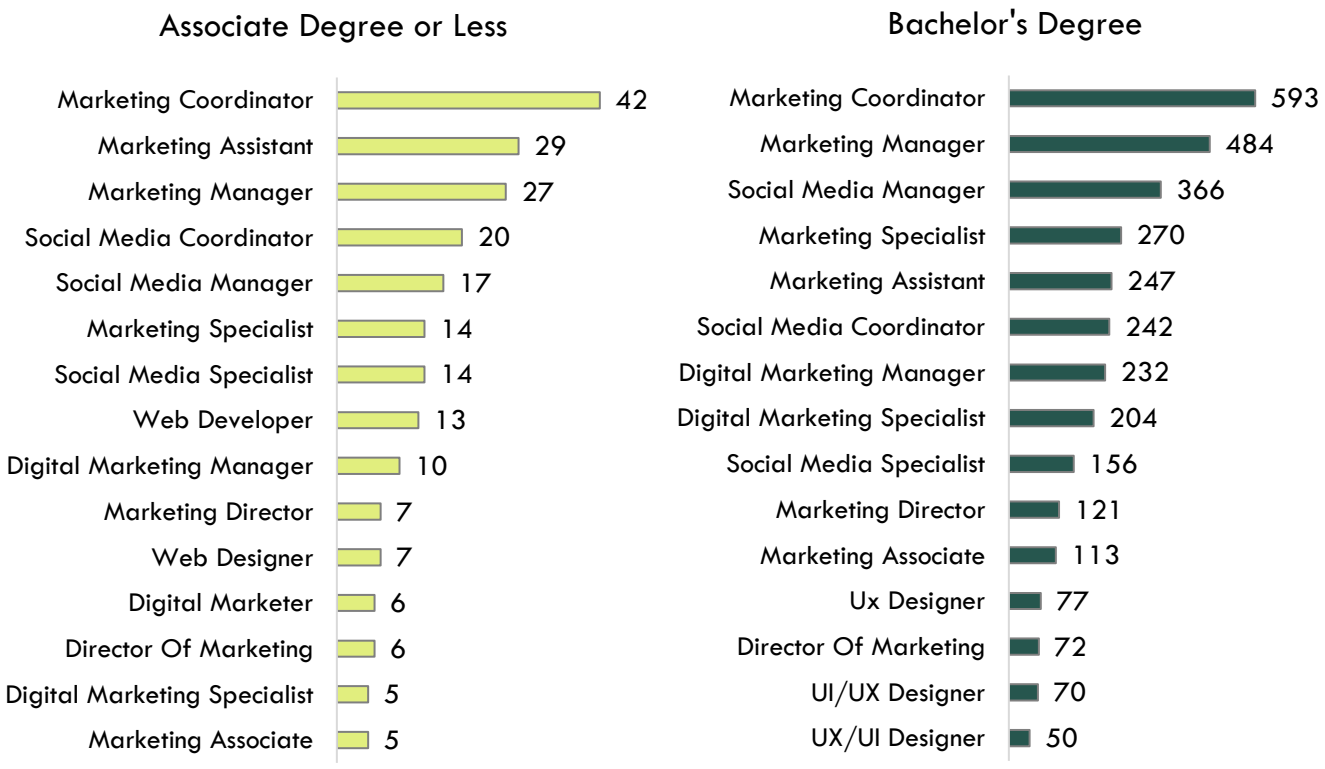
Occupation (SOC)	Education Not Specified	Associate Degree or Less	Bachelor's Degree
Market Research Analysts and Marketing Specialists (13-1161)	4,612	382	5,467
Web Developers and Digital Interface Designers (15-1257)	921	126	1,104

The following sections include an analysis of these 19,173 online job postings to better understand the job titles, employers, skills, and advertised wages for job postings that request an associate degree or less versus those that request a bachelor's degree. This information can be used to better understand the opportunities available to community college graduates as well as those that are better suited for bachelor's degree holders.

Job Titles

Exhibit 5 shows the top job titles by requested education level. Though the types of job titles for each education are similar for marketing and social media roles, postings that request an associate degree or less include web developers and web designers while postings that request a bachelor's degree include user interface (UI) and user experience (UX) roles.

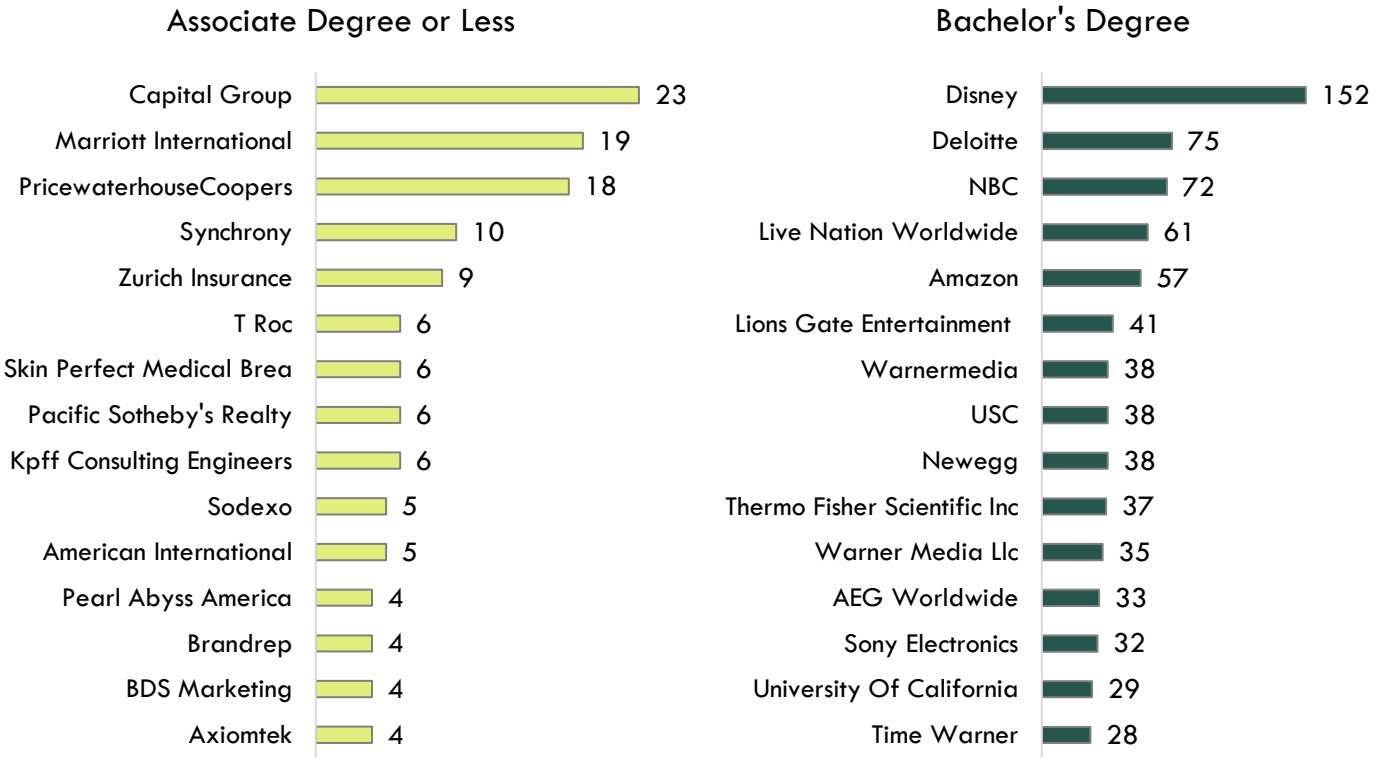
Exhibit 5: Top Job Titles by Requested Education Level



Employers

Exhibit 6 shows the top employers by requested education level. Unlike job titles and skills, there is no overlap in the top employers between the different education levels. The top employers in postings that request an associate degree or less include a variety of industries ranging from finance, insurance, and real estate (Capital Group, PricewaterhouseCoopers, Synchrony) to hospitality (Marriott International and Sodexo), and manufacturing (American International and Axiomtek). While there is some overlap in the types of companies in postings that request a bachelor's degree, these postings are primarily for entertainment companies (Disney, NBC, Live Nation Worldwide, Lions Gate, Warner Media, etc.) and educational institutions (USC and University of California).

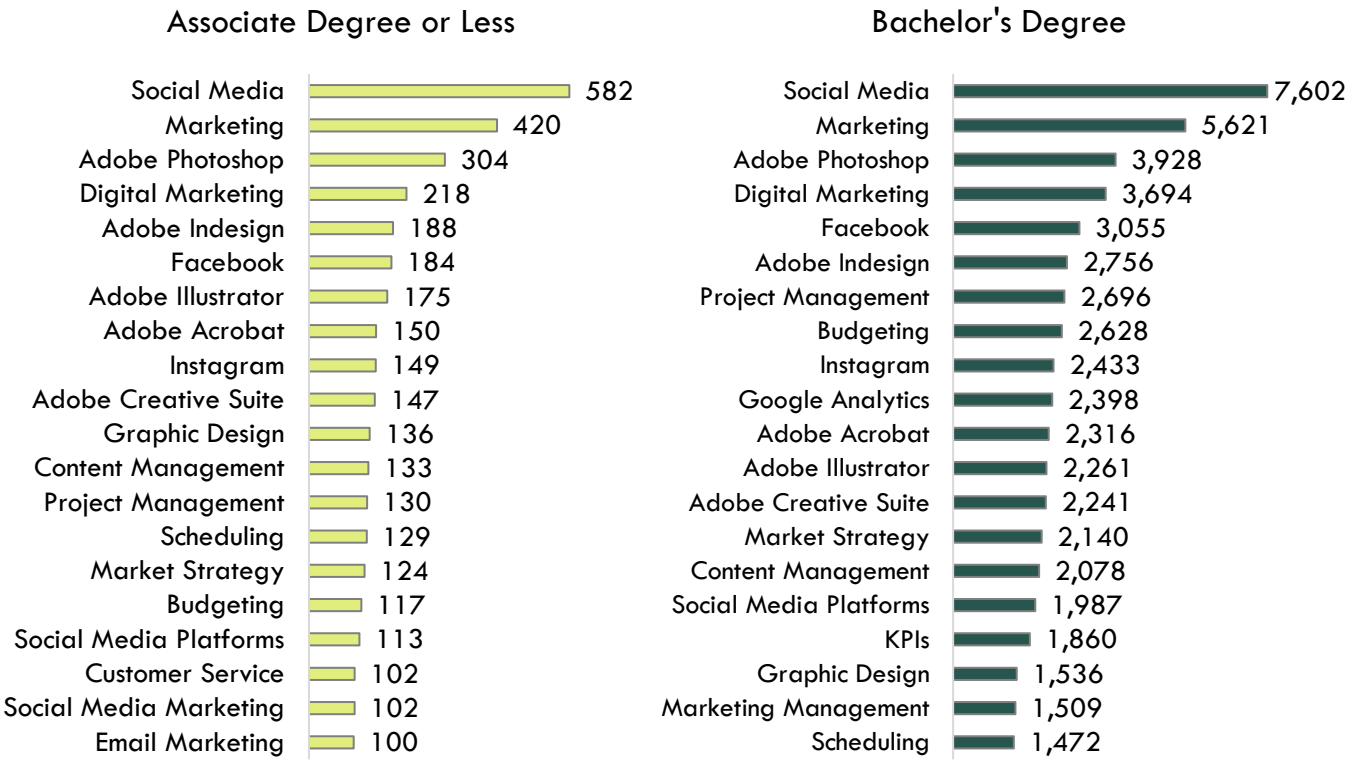
Exhibit 6: Top Employers by Requested Education Level



Skills

Exhibit 7 shows the top skills by requested education level. Skills that are prevalent for both education levels included marketing, social media, Adobe Photoshop, digital marketing, Adobe InDesign, and Facebook. Skills that rank higher in postings that request an associate degree or less include graphic design, scheduling, customer service, and email marketing. Conversely, skills that rank higher in postings that request a bachelor's degree are project management, budgeting, Google analytics, market strategy, KPIs, and marketing management. These findings suggest that postings that require a bachelor's degree are more closely related to strategic and analytical roles that may involve project or team management than postings that require an associate degree or less.

Exhibit 7: Top Skills by Requested Education Level



Advertised Wages

Exhibit 8 shows the range of advertised hourly wages for these digital marketing job postings by occupation. It is important to note that these are *advertised* wages and actual compensation will vary based on individual employer salary practices, education, and experience. Advertised entry-level hourly wages are highest for web developers and digital interface designers, the sole middle-skill occupation in this report. Postings for this occupation that request an associate degree or less have advertised entry-level hourly wages of $22.16, which is over $10 less than postings that request a bachelor's degree.

Exhibit 8: Advertised wages in online job postings

Occupation (SOC)	Education Level	Advertised Entry-Level Hourly Wages (25th Percentile)	Advertised Median Hourly Wages	Advertised Experienced Hourly Wages (75th Percentile)
Marketing Managers (11-2021)	Associate Degree or Less	$20.66	$28.77	$37.25
	Bachelor's Degree	$29.22	$36.73	$45.55
Market Research Analysts and Marketing Specialists (13-1161)	Associate Degree or Less	$16.71	$19.15	$24.29
	Bachelor's Degree	$19.38	$22.93	$28.23

Occupation (SOC)	Education Level	Advertised Entry-Level Hourly Wages (25th Percentile)	Advertised Median Hourly Wages	Advertised Experienced Hourly Wages (75th Percentile)
Web Developers and Digital Interface Designers (15-1257)	Associate Degree or Less	$22.16	$29.96	$38.69
	Bachelor's Degree	$32.50	$41.33	$49.49

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* and a bachelor's degree for *marketing managers* and *market research analysts and marketing specialists*.

Furthermore, the national-level educational attainment data indicates 24.6% of *web developers and digital interface designers* have completed some college or an associate degree as their highest level of education. Between 14.3% and 15.1% of workers in the above middle-skill group of occupations have completed the same level of education.

Educational Supply

Community College Supply – Middle-Skill Occupations

Exhibit 9 shows the three-year average number of awards conferred by community colleges in the TOP codes related to *web developers and digital interface designers*, the sole middle-skill occupation: E-Commerce (Business Emphasis) (0509.70), Digital Media (0614.00), Website Design and Development (0614.30), 0702.10 (Software Applications), World Wide Web Administration (0709.00), and E-Commerce (Technology Emphasis) (0709.10). Cumulatively, the 23 community colleges in the region with related programs have conferred an average of 194 awards annually over the past three years. The colleges with the most completions in the region were Irvine Valley, Long Beach, Santa Monica, and West LA. Over the past 12 months, there were three other related program recommendation requests from regional community colleges.

Exhibit 9: Regional community college awards (certificates and degrees), 2017-2020

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
0509.70	E-Commerce (Business Emphasis)	Long Beach	0	0	4	1
		LA Subtotal	**0**	**0**	**4**	**1**
Supply Subtotal/Average			**0**	**0**	**4**	**1**
0614.00	Digital Media	Glendale	0	0	1	0
		LA Mission	0	1	4	2
		LA Trade	7	19	11	12
		Long Beach	1	0	0	0
		Rio Hondo	0	0	2	1
		LA Subtotal	**8**	**20**	**18**	**15**

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Coastline	0	3	0	1
		Golden West	9	10	10	10
		Irvine	15	9	1	8
		Santa Ana	0	0	1	0
		OC Subtotal	**24**	**22**	**12**	**19**
		Supply Subtotal/Average	**32**	**42**	**30**	**34**
0614.30	Website Design and Development	LA Pierce	0	3	2	2
		Mt San Antonio	9	9	7	8
		Pasadena	0	0	1	0
		Santa Monica	0	0	2	1
		LA Subtotal	9	12	12	11
		Coastline	0	1	1	1
		Fullerton	0	3	0	1
		Irvine	2	3	0	2
		Orange Coast	0	0	9	3
		Saddleback	4	7	2	4
		Santa Ana	1	0	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	0	0	1	0
		LA Mission	7	2	0	3
		LA Swest	2	1	0	1
		Long Beach	0	0	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	22	39	48	36
		Saddleback	3	2	7	4
		OC Subtotal	29	50	63	47
		Supply Subtotal/Average	**54**	**81**	**92**	**75**
0709.00		Glendale	9	6	7	7
		LA Pierce	5	9	0	5

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
	World Wide Web Administration	Long Beach	4	22	24	17
		West LA	24	13	9	15
		LA Subtotal	42	50	40	44
		Saddleback	0	0	2	1
		OC Subtotal	0	0	2	1
		Supply Subtotal/Average	**42**	**50**	**42**	**45**
0709.10	E-Commerce (Technology Emphasis)	East LA	0	1	1	1
		LA Subtotal	0	1	1	1
		Saddleback	0	6	1	2
		OC Subtotal	0	6	1	2
		Supply Subtotal/Average	**0**	**7**	**2**	**3**
		Supply Total/Average	**153**	**230**	**199**	**193**

Community College Supply – Above Middle-Skill

Exhibit 10 shows the three-year average number of awards conferred by community colleges in the TOP codes related to the two above middle-skill occupations: Business and Commerce, General (0501.00), Business Administration (0505.00), Business Management (0506.00), Marketing and Distribution (0509.00). Cumulatively, all 28 community colleges, plus one noncredit institution, in the region with related programs have conferred an average of 8,993 awards annually over the past three years.

However, these general business programs train for nearly 20 other middle-skill and above middle-skill business and management-related occupations that are not included in this report. There is projected to be nearly 32,000 annual job openings for these occupations. Therefore, supply for the two middle-skill marketing occupations included in this report is overstated.

Exhibit 10: Regional community college awards (certificates and degrees), 2017-2020

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
0501.00	Business and Commerce, General	Cerritos	39	41	5	28
		Compton	1	0	0	0
		Glendale	48	40	46	45
		LA City	113	157	116	129
		LA Harbor	8	13	10	10
		LA Mission	29	9	0	13
		LA Pierce	0	5	17	7
		LA Swest	20	30	29	26
		Long Beach	93	130	237	153
		Mt San Antonio	161	209	117	162
		Santa Monica	0	1	5	2
		West LA	8	5	44	19
		LA Subtotal	**520**	**640**	**626**	**594**
		Coastline	5	5	6	5
		Saddleback	8	14	19	14
		OC Subtotal	**13**	**19**	**25**	**19**
Supply Subtotal/Average			**533**	**659**	**651**	**613**
0505.00	Business Administration	Cerritos	181	206	250	212
		Citrus	434	349	398	394
		Compton	44	49	28	40
		East LA	159	227	247	211
		El Camino	310	295	306	304
		Glendale	246	216	241	234
		LA City	85	84	91	87
		LA Harbor	90	83	83	85
		LA Mission	60	51	88	66
		LA Pierce	181	211	208	200
		LA Swest	22	35	56	38
		LA Trade	0	0	7	2
		LA Valley	99	131	147	126
		Long Beach	273	375	293	314
		Mt San Antonio	135	248	269	217
		Pasadena	847	909	1,191	982
		Rio Hondo	216	241	276	244

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Santa Monica	335	297	334	322
		West LA	135	120	156	137
		LA Subtotal	**3,852**	**4,127**	**4,669**	**4,215**
		Coastline	681	763	592	679
		Cypress	213	228	244	228
		Fullerton	358	374	373	368
		Golden West	126	187	166	160
		Irvine	233	306	349	296
		Orange Coast	393	381	443	406
		Saddleback	278	297	382	319
		Santa Ana	216	217	220	218
		Santiago Canyon	152	159	157	156
		OC Subtotal	**2,650**	**2,912**	**2,926**	**2,830**
	Supply Subtotal/Average		**6,502**	**7,039**	**7,595**	**7,045**
0506.00	Business Management	Cerritos	405	456	516	459
		Citrus	1	2	0	1
		Compton	2	3	0	2
		East LA	26	29	18	24
		El Camino	23	23	33	26
		Glendale	10	9	13	11
		LA City	15	18	39	24
		LA Mission	4	3	1	3
		LA Pierce	0	3	2	2
		LA Valley	30	33	36	33
		Long Beach	22	21	29	24
		Mt San Antonio	161	202	145	169
		Santa Monica	18	23	0	14
		LA Subtotal	**717**	**825**	**832**	**792**
		Coastline	71	84	72	76
		Cypress	6	6	3	5
		Fullerton	11	11	12	11
		Golden West	8	20	8	12
		Irvine	9	3	14	9
		North Orange Adult	24	27	36	29

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Orange Coast	51	40	16	36
		Santa Ana	81	64	71	72
		Santiago Canyon	42	17	24	28
		OC Subtotal	**303**	**272**	**256**	**278**
		Supply Subtotal/Average	**1,020**	**1,097**	**1,088**	**1,070**
0509.00	Marketing and Distribution	Cerritos	11	25	18	18
		Compton	1	1	-	1
		East LA	4	9	5	6
		El Camino	13	14	6	11
		Glendale	-	1	1	1
		LA City	10	12	15	12
		LA Mission	2	-	-	1
		LA Pierce	8	4	8	7
		LA Trade	10	3	3	5
		LA Valley	16	28	19	21
		Long Beach	15	6	5	9
		Mt San Antonio	3	5	5	4
		Pasadena	-	3	6	3
		Rio Hondo	8	2	9	6
		Santa Monica	20	20	28	23
		West LA	3	1	1	2
		LA Subtotal	**124**	**134**	**129**	**129**
		Cypress	4	4	5	4
		Fullerton	-	2	4	2
		Golden West	3	2	6	4
		Orange Coast	107	83	69	86
		Saddleback	10	16	27	18
		Santa Ana	-	3	-	1
		Santiago Canyon	24	17	18	20
		OC Subtotal	**148**	**127**	**129**	**135**
		Supply Subtotal/Average	**272**	**261**	**258**	**265**
		Supply Total/Average	**8,327**	**9,056**	**9,592**	**8,993**

Non-Community College Supply – Middle-Skill

it is important to consider the supply from four-year and other institutions in the region that provide training programs for *web developers and digital interface designers*, the sole middle-skill occupation. Exhibit 11 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code: Web Page, Digital/Multimedia and Information Resources Design (11.0801), Web/Multimedia Management and Webmaster (11.1004), and Design and Visual Communications, General (50.0401).

Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019, other educational institutions in the region conferred an average of 753 awards annually in related training programs.

Exhibit 11: Regional non-community college awards, 2016-2019

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
11.0801	Web Page, Digital/Multimedia and Information Resources Design	DeVry University-California	36	18	7	20
		Fremont College	0	0	0	0
		University of Phoenix-California	1	1	2	1
		Supply Subtotal/Average	**37**	**19**	**9**	**21**
11.1004	Web/Multimedia Management and Webmaster	ABCO Technology	12	17	24	18
		Pepperdine University	0	2	0	1
		University of Phoenix-California	4	0	1	2
		Supply Subtotal/Average	**16**	**19**	**25**	**21**
50.0401	Design and Visual Communications, General	Bethesda University	3	0	0	1
		Biola University	3	2	5	3
		California State Polytechnic University-Pomona	0	0	0	0
		FIDM-Fashion Institute of Design & Merchandising-Los Angeles	181	155	142	159
		Gnomon	28	37	48	38
		Otis College of Art and Design	37	43	34	38
		Platt College-Los Angeles	0	5	0	2
		University of California-Los Angeles	0	0	0	0
		University of La Verne	1	0	0	0
		University of Southern California	0	0	0	0
		Supply Subtotal/Average	**253**	**242**	**229**	**241**
		Supply Total/Average	**306**	**280**	**263**	**283**

Non-Community College Supply –Above Middle-Skill

Since some of these occupations typically require a bachelor's degree, it is important to consider the supply from four-year and other institutions in the region that provide training programs for the above middle-skill group of marketing occupations. Exhibit 12 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code: Marketing and Distribution (52.1401). Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019, other educational institutions in the region conferred an average of 753 awards annually in related training programs.

Exhibit 10: Regional non-community college awards, 2016-2019

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
52.1401	Marketing/ Marketing Management, General	California State University-Northridge	327	377	395	366
		FIDM-Fashion Institute of Design & Merchandising-Los Angeles	32	70	68	57
		Fremont College	5	3	4	4
		Loyola Marymount University	165	184	132	160
		Mount Saint Mary's University	21	22	10	18
		University of Phoenix-California	53	57	32	47
		University of Southern California	66	80	87	78
		Vanguard University of Southern California	11	7	9	9
		Westcliff University	-	-	1	0
		Woodbury University	11	14	17	14
		Supply Total/Average	**691**	**814**	**755**	**753**

Appendix A: Occupational demand and wage data by county

Exhibit 11. Orange County

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Web Developers and Digital Interface Designers (15-1257)	2,828	2,983	155	5%	241	$21.25	$32.53	$46.04
Middle-Skill Subtotal	**2,828**	**2,983**	**155**	**5%**	**241**			
Marketing Managers (11-2021)	4,609	4,619	10	0.2%	390	$46.13	$67.78	$92.28
Market Research Analysts and Marketing Specialists (13-1161)	10,633	11,288	655	6%	1,189	$23.25	$31.01	$42.60
Above Middle-Skill Subtotal	**15,242**	**15,907**	**664**	**4%**	**1,579**			
Total	**18,070**	**18,890**	**819**	**5%**	**1,820**			

Exhibit 12. Los Angeles County

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Web Developers and Digital Interface Designers (15-1257)	7,331	7,772	440	6%	630	$22.84	$34.88	$49.35
Middle-Skill Subtotal	**7,331**	**7,772**	**440**	**6%**	**630**			
Marketing Managers (11-2021)	11,057	11,102	45	0.4%	943	$46.62	$68.91	$94.11
Market Research Analysts and Marketing Specialists (13-1161)	26,346	27,995	1,650	6%	2,952	$24.02	$32.07	$44.10
Above Middle-Skill Subtotal	**37,403**	**39,098**	**1,695**	**5%**	**3,895**			
Total	**44,734**	**46,869**	**2,135**	**5%**	**4,525**			

Exhibit 13. Los Angeles and Orange Counties

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings
Web Developers and Digital Interface Designers (15-1257)	10,159	10,755	595	6%	871
Middle-Skill Subtotal	**10,159**	**10,755**	**595**	**6%**	**2,155**
Marketing Managers (11-2021)	15,666	15,721	55	0%	1,333
Market Research Analysts and Marketing Specialists (13-1161)	36,979	39,283	2,304	6%	4,141
Above Middle-Skill Subtotal	**52,645**	**55,004**	**2,359**	**4%**	**5,474**
Total	**62,805**	**65,759**	**2,954**	**5%**	**6,345**

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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