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Website Design and Development

Inland Empire/Desert Region (Riverside-San Bernardino-Ontario Metropolitan Statistical Area) & Los Angeles and Orange Counties

Summary

- The website design and development occupational group is projected to have **1,693 job openings** over the next five years (2017-2022) in the Inland Empire/Desert Region.

- The entry-level wage for each occupation in the website design and development occupational group is **above the MIT Living Wage estimate of $12.30 per hour** for a single adult living in the Inland Empire/Desert Region.

- There appears to be an **opportunity for program growth** based on the average annual number of program completions for the selected community college program (**7 average annual community college credentials)** and the annual openings for website design and development occupations in the region **(244 annual job openings)**.

Introduction

This report details occupations relevant to the website design and development program. The website design and development program trains the principles of design, user interface/navigation, graphics applications and other authoring tools to design, edit, and publish web pages, documents, images, graphics, sound and multimedia products for the internet.[1] There are approximately eight times more job opportunities for the website design and development occupational group in Los Angeles and Orange counties than in the Inland Empire/Desert region. Therefore, labor market demand data for Los Angeles and Orange counties is included this report in addition to the Inland Empire/Desert region. The occupations included in the website design and development occupational group are:

- Graphic Designers
- Web Developers

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[1] The Taxonomy of Programs, 6th Edition, February 2004

Job Opportunities

In 2017, there were 33,787 website design and development jobs in the Inland Empire/Desert region Los Angeles and Orange counties combined. This occupational group is projecting to increase employment by 2% over the next five years. Employers in the region will need to hire 15,185 workers over the projection period to backfill jobs that workers are permanently vacating (includes retirements). Appendix A, Tables 1, 2, & 3 show the projected job growth, wages, education, training, and work experience required for each of the occupations in this group for the Inland Empire/Desert Region, Los Angeles and Orange counties, as well as both geographies combined.

Exhibit 1: Five-year projections for the website design and development occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties

Region	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Inland Empire/Desert	3,552	4%	1,693	244	19%
Los Angeles and Orange Counties	30,235	2%	13,491	2,698	16%
Total	**33,787**	**2%**	**15,185**	**3,037**	**17%**

Source: EMSI 2018.3

Exhibit 2 shows the number of job ads posted during the last 12 months along with the regional and national average time to fill for both regions. On average, it takes 42 days for employers to find qualified candidates to fill open positions in the Inland Empire/Desert Region and Los Angeles and Orange counties combined. This is five days longer than the national average, indicating that when compared to the nation, open positions may be harder to fill in the region.

Exhibit 2: Job ads by each of the website design and development occupations in the Inland Empire/Desert Region and Los Angeles and Orange counties and time to fill, November 2017 – October 2018

Occupation	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Web Developers	9,329	43	39
Graphic Designers	3,886	41	33
Total	**13,215**	-	-

Source: Burning Glass – Labor Insights

Earnings

The entry-level wage for each of the occupations in the website design and development occupational group is above the MIT Living Wage estimate of $12.30 per hour for a single adult living in the Inland Empire/Desert Region ($13.96 for Los Angeles and Orange counties). These wages are also sufficient for two working adults and one child ($14.50 per hour, per adult or $30,160 annually for each adult). Exhibit 3 displays wage information by region for this occupational group.

Exhibit 3: Earnings for the website design and development occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties

Region	Occupation	Entry to Experienced Hourly Earnings Range*	Median Wage*	Avg. Annual Earnings
Inland Empire/Desert	Web Developers	$17.53 to $30.09	$20.97	$52,500
	Graphic Designers	$17.25 to $23.93	$19.67	$45,100
Los Angeles/Orange County	Web Developers	$20.39 to $41.81	$27.51	$68,700
	Graphic Designers	$17.77 to $29.57	$21.34	$51,800

Source: EMSI 2018.3
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Employers, Skills, and Education

Exhibit 4 displays the top employers posting job ads during the last 12 months.

Exhibit 4: The top employers for the website design and development occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties during the last 12 months, November 2017 – October 2018

Occupation	Top Employers
Web Developers (n=4,943)	• Costar Realty Information, Inc. • Super Micro Computer, Inc.
Graphic Designers (n=2,716)	• California State University • Full Deck Marketing

Source: Burning Glass – Labor Insights

Exhibit 5 lists a sample of in-demand specialized, employability, and software and programming skills that employers are seeking when looking for workers to fill website design and development positions.

Exhibit 5: Sample of in-demand skills from employer job ads for website design and development occupations in the Inland Empire/Desert Region and Los Angeles/Orange County Region, November 2017 – October 2018

Occupation	Specialized Skills	Employability Skills	Software and Programming Skills
Web Developers (*n=8,824*)	• Front-End Development • User Interface (UI) Design • Object-Oriented Analysis and Design (OOAD)	• Teamwork/ Collaboration • Communication Skills • Creativity	• JavaScript • HTML 5 • Angular JS
Graphic Designers (*n=3,627*)	• Social Media • Typesetting • Web Site Design	• Creativity • Communication Skills • Detail-Oriented	• Adobe Creative Suite • Microsoft Office

Source: Burning Glass – Labor Insights

Exhibit 6 displays the entry-level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with "some college, no degree" and an "associate degree" according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

Exhibit 6: Educational attainment and online job ads with minimum advertised education requirements for the website design and development occupational group in the Inland Empire/Desert Region & Los Angeles and Orange counties combined, November 2017 – October 2018

Occupation	Work Experience Required	Typical Entry-Level Education Requirement	Two-Year Postsecondary Level of Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
				Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Web Developers	None	Associate degree	25%	4,218	3%	2%	95%
Graphic Designers	None	Bachelor's degree	29%	1,773	9%	8%	83%

Source: EMSI 2018.3, Current Population Survey, Burning Glass – Labor Insights
*Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework

Student Completions

Exhibit 7 shows the annual average regional community college credentials (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code as well as the program titles used at each college, sourced from the Chancellor's Office Curriculum Inventory (COCI). Exhibit 8 displays awards granted from 2013 to 2016 outside of the California Community Colleges along with the relevant CIP code. Please note, a credential is not equivalent to a single person in search of a job opening since a student may earn more than one award, such as an associate degree in addition to a certificate. Community College student outcome information is from the CTE LaunchBoard based on the selected TOP code(s) and region.

Exhibit 7: Annual average community college student completions for website design and development programs in the Inland Empire/Desert Region

0614.30 – Website Design and Development	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – *Web Design/Website Design*	19	
Associate Degree		2
Certificate 18 to < 30-semester units		2
Mt. San Jacinto	50	
Norco	28	
Total community college headcount (2016-17)	**97**	
Total annual average community college credentials		**4**

Source: LaunchBoard, IPEDS, COCI

0614.30 – Website Design and Development program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of course enrollments: 106 (California median: 68) [2016-17]
- Number of students who transferred to a 4-year institution: N/A (CA: 14)
- Employed in the second fiscal quarter after exit: 58% (CA: 68%)
- Median earnings in the second fiscal quarter after exit: $5,057 (CA: $8,640)
- Employed in the fourth fiscal quarter after exit: 67% (CA: 65%)
- Median annual earnings: $16,908 (CA: $27,634)
- The percentage in a job closely related to the field of study: N/A (CA: 100%) [2014-15]
- Median change in earnings: 81% (CA: 53%)
- The proportion of students who attained a living wage: N/A (CA: 70%)

Exhibit 8: Annual average community college student completions for web page, digital/multimedia and information resources design programs in the Inland Empire/Desert Region

11.0801 – Web Page, Digital/Multimedia and Information Resources Design	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
Argosy University-The Art Institute of California-Inland Empire	
Award 1<2 academic years	3
Total annual average other awards	**3**

Source: IPEDS

Sources

O*Net Online
Labor Insight/Jobs (Burning Glass)
Economic Modeling Specialists International (EMSI)
CTE LaunchBoard
MIT Living Wage Calculator
Chancellor's Office Curriculum Inventory (COCI, version 2.0)
The Integrated Postsecondary Education Data System (IPEDS)
Taxonomy of Programs, 6th edition

Michael Goss, Director
Center of Excellence, Inland Empire/Desert Region
michael.goss@chaffey.edu
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Appendix A: Occupation definitions, sample job titles, five-year projections, and earnings for website design and development occupations

Occupation Definitions (SOC code), Education and Training Requirement, Community College Education Attainment

Graphic Designers (27-1024)

Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.

Sample job titles: Artist, Creative Director, Creative Manager, Design Director, Designer, Graphic Artist, Graphic Designer, Online Producer, Production Artist, Publications Designer

Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 29%

Web Developers (15-1134)

Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content.

Sample job titles: Designer, Technology Applications Engineer, Web Architect, Web Design Specialist, Web Designer, Web Developer, Web Development Director, Web Development Instructor, Webmaster

Entry-Level Educational Requirement: Associate degree
Training Requirement: None
Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 25%

Table 1. 2017 to 2022 job growth, wages, education, training, and work experience required for the website design and development occupational group, Inland Empire/Desert Region

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Graphic Designers (27-1024)	2,482	65	3%	244	$17.25 to $23.93	$19.67	$45,100	Bachelor's degree & none	None
Web Developers (15-1134)	1,071	87	8%	94	$17.53 to $30.09	$20.97	$52,500	Associate degree & none	None
Total	**3,552**	**154**	**4%**	**339**	-	-	-	-	-

Source: EMSI 2018.3
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage

Table 2. 2017 to 2022 job growth, wages, education, training, and work experience required for the website design and development occupational group, Los Angeles & Orange counties

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Graphic Designers (27-1024)	20,290	(2)	(0%)	1,877	$17.77 to $29.57	$21.34	$51,800	Bachelor's degree & none	None
Web Developers (15-1134)	9,945	580	6%	821	$20.39 to $41.81	$27.51	$68,700	Associate degree & none	None
Total	**30,235**	**578**	**2%**	**2,698**	-	-	-	-	-

Source: EMSI 2018.3
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage

Table 3. 2017 to 2022 job growth, wages, education, training, and work experience required for the website design and development occupational group, Inland Empire/Desert Region & Los Angeles and Orange counties combined

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Graphic Designers (27-1024)	22,772	64	0%	2,122	$17.70 to $29.01	$21.08	$51,000	Bachelor's degree & none	None
Web Developers (15-1134)	11,016	667	6%	915	$20.05 to $40.58	$26.71	$67,100	Associate degree & none	None
Total	**33,787**	**732**	**2%**	**3,037**	-	-	-	-	-

Source: EMSI 2018.3
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage