Web Design and Development

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Prepared by the Los Angeles/Orange County Center of Excellence for Labor Market Research

Occupation Codes and Descriptions

Currently, there are three occupations in the standard occupational classification (SOC) system related to the study of web design and development. The occupation titles and descriptions, as well as reported job titles are included in Exhibit 1.

Exhibit 1 – Occupations, descriptions and sample job titles

SOC Code	Title	Description	Sample of Reported Job Titles
15-1134	Web Developers	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.	Designer, Technology Applications Engineer, Web Architect, Web Design Specialist, Web Designer, Web Developer, Web Development Director, Web Development Instructor, Webmaster
27-1014	Multimedia Artists and Animators	Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.	3D Animator, 3D Artist, Animation Director, Animator, Art Director, Artist, Creative Director, Graphic Artist, Graphic Designer, Illustrator

| 27-1024 | Graphic Designers | 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. | Artist, Creative Director, Creative Manager, Design Director, Designer, Graphic Artist, Graphic Designer, Online Producer, Production Artist, Publications Designer |

Source: O*NET Online

Current and Future Employment

In Los Angeles County, the number of occupations is expected to increase by 5% over the next five years. More than 3,000 job opportunities will be available annually for this group of occupations through 2021 due to new job growth and replacement need (e.g., retirements). Exhibit 2 contains detailed employment projections data for these occupations.

Exhibit 2 – Five-year projections for Web Design and Development in Los Angeles County

SOC	Occupation	2016 Jobs	2021 Jobs	2016 - 2021 Change	2016 - 2021 % Change	Annual Openings
27-1024	Graphic Designers	16,336	16,493	157	1%	1,574
15-1134	Web Developers	7,611	8,402	791	10%	732
27-1014	Multimedia Artists and Animators	7,472	8,031	559	7%	808
		31,419	32,927	1,508	5%	3,115

Source: Economic Modeling Specialists International (EMSI)

Earnings

In Los Angeles County, the average entry-level wage for this occupation group ranges from $12.35 to $17.98, two of the three occupations earn above the MIT Living Wage[1] estimate of $13.08 per hour for a single adult. The average annual earnings for this occupation group in the region ranges from $53,075 to $69,070 per year, assuming full-time employment.

Exhibit 3 contains hourly wages and annual average earnings for these occupations. Entry-level hourly earnings is represented by the 10th percentile of wages, median hourly earnings is represented by the

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[1] MIT Living Wage Calculator. http://livingwage.mit.edu/

50th percentile of wages, and experienced hourly earnings is represented by the 90th percentile of wages, demonstrating various levels of employment.

Exhibit 3 – Earnings for Web Design and Development in Los Angeles County, 2016-2021

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings	Average Annual Earnings
15-1134	Web Developers	$17.98	$26.95	$58.28	$69,070
27-1024	Graphic Designers	$15.16	$21.33	$41.45	$53,075
27-1014	Multimedia Artists and Animators	$12.35	$30.86	$57.00	$68,787

Source: Economic Modeling Specialists International (EMSI)

Employer Job Postings

In this research brief, real-time labor market information is used to provide a more nuanced view of the current job market, as it captures job advertisements for occupations relevant to the field of study. Employer job postings are consulted to understand who is employing workers in the field of web design and development, and what they are looking for in potential candidates. To identify job postings related to web design and development the SOC codes were used.

Top Occupations

In 2016, there were 4,047 employer postings related to web design and development. Nearly three-quarters of the postings (72%) were for web developers (2,899 job postings). There were 3,218 job postings for the same cluster of occupations in 2015, and 2,879 job postings in 2014.

Exhibit 4 – Top occupations in job postings (n=4,047)

SOC Code	Occupation	Job Postings, Full Year 2016
15-1134	Web Developers	2,899
27-1024	Graphic Designers	957
27-1014	Multimedia Artists and Animators	191

Source: Labor Insight/Jobs (Burning Glass)

Top Titles

The top job titles for employers posting ads for web design and development are listed in Exhibit 5. Graphic designer mentioned as the job title in 16% of all relevant job postings (656 of 4,047 job postings).

Exhibit 5 –Job titles (n=4,047)

Title	Job Postings, Full Year 2016
Graphic Designer	656
Web Developer	475
Front End Developer	285
PHP Developer	201
User Experience (UX) Designer	145

Source: Labor Insight/Jobs (Burning Glass)

Top Employers

Exhibit 6 lists the major employers hiring professionals in the field of web design and development. Top employers postings job ads included Petco, Apple Inc., and University of Southern California. The top worksite cities in the region for these occupations were Los Angeles, Santa Monica, Pasadena, El Segundo, and Torrance.

Exhibit 6 – Top employers (n=1,608)

Employer	Job Postings, Full Year 2016
Petco	75
Apple Inc.	55
University of Southern California	30
Cybercoder	27
Sony Electronics Incorporated	25

Source: Labor Insight/Jobs (Burning Glass)

Certifications and Skills

HIPAA Professional certification is the most sought after certification for this occupation group, and was included in 27% of the postings that specified a certification. Other certifications that were largely present on postings were security clearance certification (14% of postings) and Leadership in Energy and Environmental Design (LEED) certification (12%). Job-specific skills desired by employers are JavaScript, Adobe Photoshop, web development, graphic design, and jQuery skills.

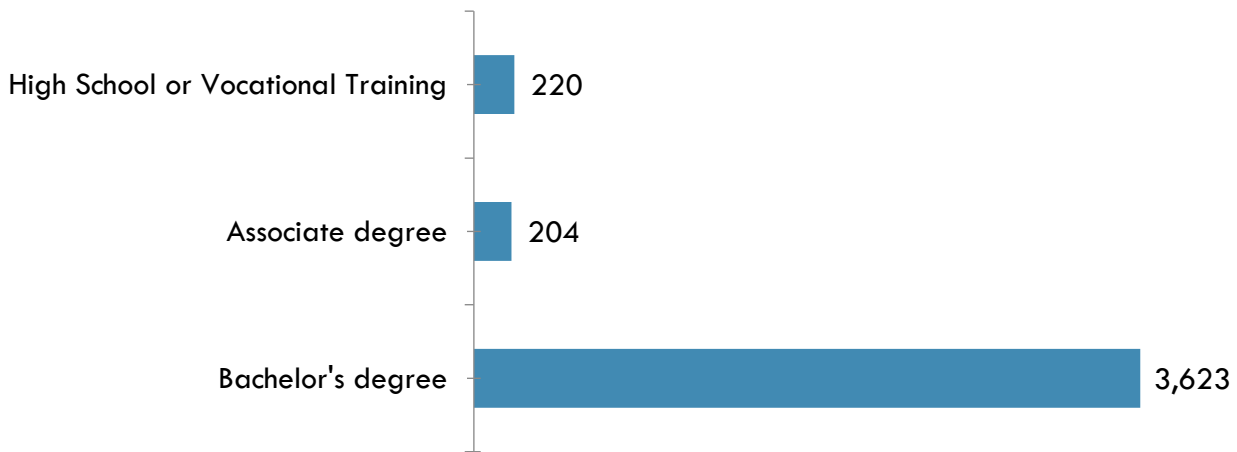**Exhibit 7 –Job certifications (n=92) and job skills (n=3,922)**

Certification	Job Postings, Full Year 2016	Skills	Job Postings, Full Year 2016
Certified HIPAA Professional	25	JavaScript	1,841
Security Clearance	13	Adobe Photoshop	1,416
Leadership in Energy and Environmental Design (LEED)	11	Web Development	1,067
Microsoft Certified Professional (MCP)	7	Graphic Design	1,038
Certified Urology coder	5	jQuery	940

Source: Labor Insight/Jobs (Burning Glass)

Advertised Education Levels

Exhibit 8 displays the education level requested by employers in online job ads. The majority of employers were looking for a candidate with Bachelor's degree.

Exhibit 8 – 2016 Online job ads with minimum advertised education requirements for Web Design and Development (n=4,047)

Source: Labor Insight/Jobs (Burning Glass)

Industry Concentration

Web design and development jobs in Los Angeles County are most often found in the motion picture and video production industry (22.7% of occupation group in the industry). Exhibit 9 shows the industries that are the largest employers of web design and development in the Los Angeles County.

Exhibit 9 – Industries with the largest number Web Design and Development Jobs, 2016

NAICS (6-Digit)	Industry	Occupation Group Jobs in Industry	% of Occupation Group in Industry
512110	Motion Picture and Video Production	7,126	22.7%
541430	Graphic Design Services	3,053	9.7%
541410	Interior Design Services	2,004	6.4%
541810	Advertising Agencies	1,162	3.7%
541511	Custom Computer Programming Services	1,121	3.6%

Source: Economic Modeling Specialists International (EMSI)

Education and Training

Exhibit 10 shows the typical entry-level education requirement for the occupations of interest, along with the typical on-the-job training, and percentage of workers in the field who hold a community college award or have completed some postsecondary courses. About 27% to 30% of the workforce in web design and development occupations have completed some community college education as their highest level of education.

Exhibit 10 – Education and training requirements 2016

SOC	Occupation	Typical entry-level education	Typical on-the-job training	% of Community College Award Holders or Some Postsecondary Coursework
15-1134	Web Developers	Associate degree	None	27%
27-1014	Multimedia Artists and Animators	Bachelor's degree	Moderate	27%
27-1024	Graphic Designers	Bachelor's degree	None	30%

Source: Economic Modeling Specialists International, Bureau of Labor Statistics Employment Projections (Educational Attainment)

Currently, there are 7 community colleges in the Los Angeles County that train students in programs related to the field of web design and development. Exhibit 11 displays the headcount and annual average community college awards for each of the colleges training in this field. Headcount is the actual number of students enrolled, regardless of credit hours. It is also important to note that an award

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is not equivalent to a single person in search of a job opening, since a student may earn more than one award (e.g. an associate degree and a certificate).

As shown below, during 2012-2015 there were 477 students enrolled, but there were no completions.

Exhibit 11 – CCC Student Awards (by TOP and College)

TOP Code	Program	College	2012 – 2015 Annual Average			
			CCC Headcount	CCC Associate Degrees	CCC Certificates	Total Average CC Awards
0614.30	Website Design and Development	Cerritos	46	N/A	N/A	N/A
		Citrus	41	N/A	N/A	N/A
		El Camino	40	N/A	N/A	N/A
		Glendale	110	N/A	N/A	N/A
		LA Pierce	N/A	N/A	N/A	N/A
		Mt San Antonio	36	N/A	N/A	N/A
		Santa Monica	204	N/A	N/A	N/A
		Total	**477**	**N/A**	**N/A**	**N/A**

Source: California Community Colleges Chancellor's Office MIS Data Mart

Student Outcomes

The CTE LaunchBoard provides student outcome data on the effectiveness of CTE programs. The following student outcome information was collected from exiters of the Website Design and Development Taxonomy of Program (TOP code 0614.30) in Los Angeles County for the 2013-2014 academic year.

- The median annual wage after program completion is $28,843
- 41% of students are earning a living wage
- 59% of students are employed within six months after completing a program

Source: CTE LaunchBoard

Program Recommendation

This report was compiled by the Los Angeles/Orange County Center of Excellence to provide regional labor market data for the program recommendation of web design and development. This report is to help determine whether there is demand in the local labor market that is not being met by the supply from programs of study (CCC and non-CCC) that align with this occupation group.

Based on the data, the COE has determined there is an unmet need for web design and development in the Los Angeles County region. Reasons include:

- The number of jobs related to web design and development is forecasted to increase 5% in the next five years, resulting in approximately 3,115 jobs opening annually.
- During 2012-2015 there were 477 students enrolled in website design and development programs, but there were no completions.

- Although the majority of employers were looking for a candidate with a Bachelor's degree, 27% to 30% of the workforce associated with website design and development have completed some community college education as their highest level of education.

Sources

O*Net Online, Labor Insight/Jobs (Burning Glass), Economic Modeling Specialists International (EMSI), MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

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Notes

Data included in this analysis represents the labor market demand for positions most closely related to web design and development. Standard occupational classification (SOC) codes were chosen based on the national education level required for employment (associate degree and postsecondary certificate) as well as the proportion of current workers who hold a community college award or have had some community college training. This selection process narrows the labor market analysis to the most relevant employment opportunities for students with community college education and/or training.

Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study and should not be used to establish current job openings, because the numbers may include duplicate job postings or postings intended to gather a pool of applicants. Real-time labor market information can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.