World Wide Web Administration

Labor Market Analysis for San Diego Continuing Education

September 2019

Summary

- ◯ Do not Proceed
- ◯ Proceed with Caution
- 🟢 Proceed

PROCEED WITH NEW PROGRAM?

✔ ☒

SUPPLY GAP?

- ☐ High
- ☐ Medium
- ✔ Low

NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING

✔ ☒

AT OR ABOVE THE LIVING WAGE

- ☐ Bachelor's Degree+
- ✔ Associate Degree
- ☐ Some College or Certificate
- ☐ High School Diploma or Equivalent
- ☐ Less than a HS Diploma
- ☐ Apprenticeship

EXPECTED LEVEL OF EDUCATION

This report provides labor market information for occupation(s) selected by San Diego Continuing Education for its *World Wide Web Administration* program. The training provided by this program is likely to lead to employment as *Web Developers*. According to available labor market information, this occupation has a labor market demand of 214 annual job openings, while average demand for an occupation in San Diego County is 277 annual job openings. Two community colleges supply the region with 13 for-credit awards (primarily certificates with 6 to < 18 units): Grossmont College and Palomar College. Only San Diego Continuing Education supplies noncredit awards for this occupation, which averaged 16 awards over the past three program years. In short, the region supplies 29 for-credit and noncredit awards for 214 annual job openings, suggesting that there is a labor market supply gap. Additionally, entry-level and median wages are above the living wage, suggesting that students who successfully complete a program and obtain employment in a related field may earn a living wage. Expected level of education for this occupation is an associate degree.

Introduction

This report provides labor market information (LMI) in San Diego County for occupations related to the six-digit Taxonomy of Programs[1] (TOP) code, World Wide Web Administration (TOP 070900). The purpose of this brief is to assist noncredit program providers in the region, such as San Diego Continuing Education (SDCE), with program development and review. SDCE identified one occupation from the Standard Occupational Classification (SOC)[2] system for *World Wide Web Administration*, which will be the focus of this report:

> **Web Developers** (SOC 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 reported job titles include:

- Web Designer
- Webmaster
- Web Development Instructor
- Web Design Specialist
- Designer

- Web Architect
- Web Development Director
- Technology Applications Engineer
- Web Content Developer
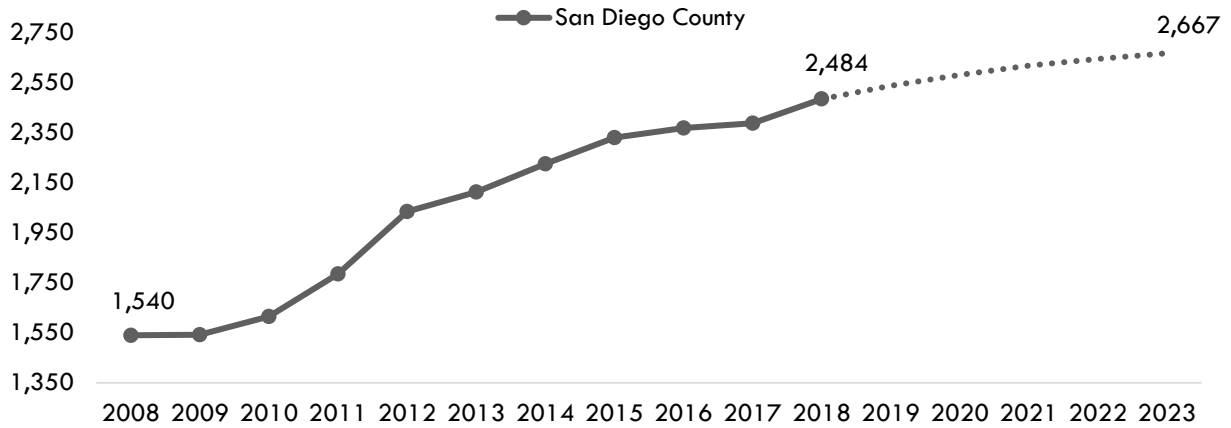
Projected Occupational Demand

Between 2018 and 2023, *Web Developers* are projected to increase by 183 net jobs or seven percent (Exhibit 1). Employers in San Diego County will need to hire 214 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

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[1] Taxonomy of Programs (TOP) is a system of codes used by the California Community Colleges for the purpose of collecting, calculating, or disseminating data about similar training programs.
[2] The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. bls.gov/soc.
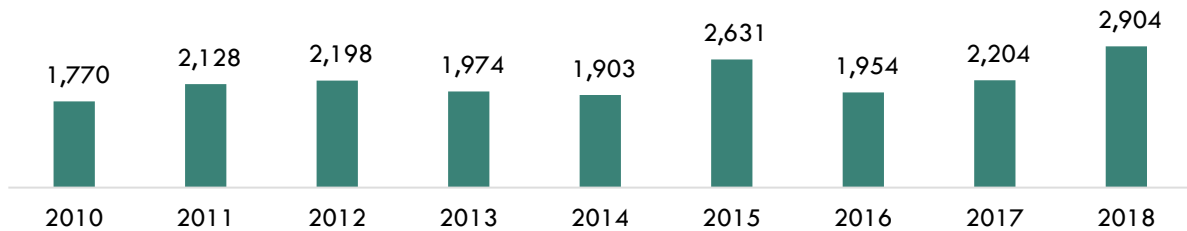
Exhibit 1: Number of Jobs for *Web Developers* (2008-2023) [3]

Online Job Postings

This report analyzes not only historical and projected (traditional LMI) data, but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market demand that are not captured by historical data. Between 2010 and 2018, there was an average of 2,185 online job postings per year for *Web Developers* in San Diego County (Exhibit 2).

Exhibit 2: Number of Online Job Postings for *Web Developers* in San Diego County (2010-2018) [4]
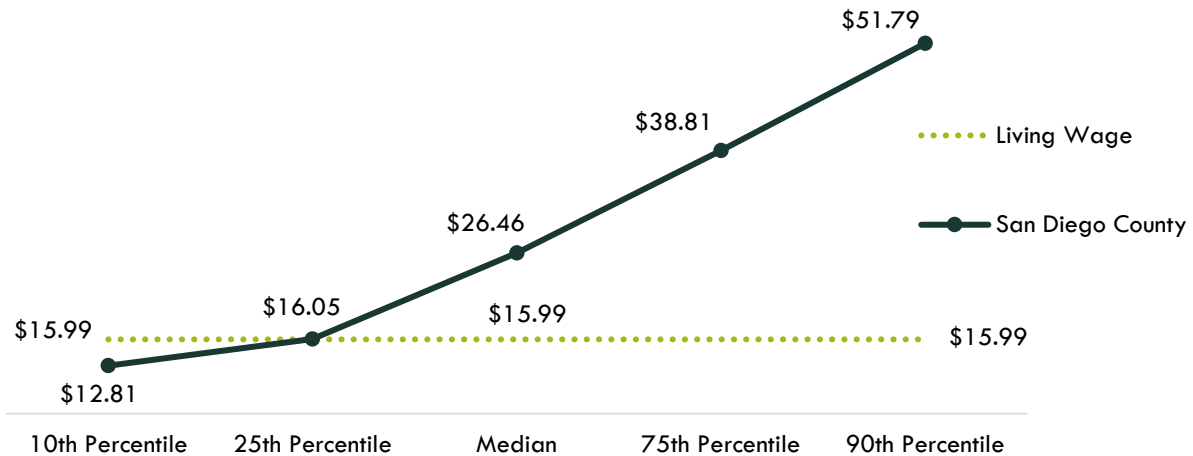

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[3] Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.
[4] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2018.

Earnings

Web Developers receive median hourly earnings of $26.46; this is more than the living wage for a single adult in San Diego County, which is $15.99 per hour (Exhibit 3).[5]

Exhibit 3: Hourly Earnings[6] for *Web Developers* in San Diego County[7]

Educational Supply

Educational supply for an occupation can estimated by analyzing the number of awards conferred by a course or program in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.[8] According to TOP and CIP[9] data, two community colleges supply the region with for-credit awards for World Wide Web Administration (TOP 070900): Grossmont College, and Palomar College (Exhibit 4a).

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[5] "California Family Needs Calculator." Insight Center for Community Economic Development, last updated 2018. insightcced.org/2018-family-needs-calculator.

[6] 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

[7] Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.

[8] TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data)
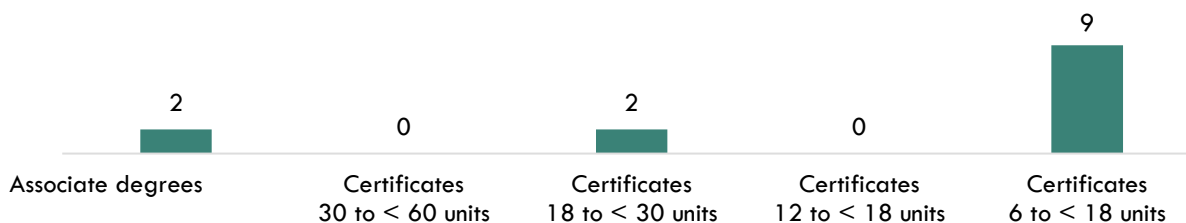
[9] There are two CIP codes related to World Wide Web Administration (TOP 070900): Computer and Information Systems Security/Information Assurance (CIP 111003) and Web/Multimedia Management and Webmaster (CIP 111004).

Exhibit 4a: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions (Program Years 2015-16 through 2017-18)

College	Award Type	PY 15-16	PY 16-17	PY 17-18	3-Year Avg
Grossmont	Associate of Science (A.S.) degree	2	1	2	2
	Certificate 30 to < 60 units	1	0	0	0
	Certificate 18 to < 30 units	1	2	4	2
	Total	**4**	**3**	**6**	**4**
Palomar	Certificate 6 to < 18 units	9	8	9	9
	Total	**9**	**8**	**9**	**9**
Total		**13**	**11**	**15**	**13**

Broken down by award type, the colleges supplied the most awards in certificates with 6 to < 18 units (9), followed by associate degrees (2), and certificates with 18 to < 30 units (Exhibit 4b).

Exhibit 4b: Total Number of Awards by Type for *World Wide Web Administration (TOP 070900)* in San Diego County (Three-Year Average 2015-16 through 2017-18)

In terms of noncredit awards, only San Diego Continuing Education provides noncredit awards for World Wide Web Administration (TOP 070900), with an average of 16 noncredit awards between program years 2015-16 and 2017-18 (Exhibit 5).

Exhibit 5: Number of Noncredit Awards (Certificates and Degrees) Conferred by SDCE (Program Years 2015-16 through 2017-18)

Program Title	Award Type	PY 15-16	PY 16-17	PY 17-18	3-Year Avg
Web Server Maintenance and Security	Program Award	44	5	0	16

Demand vs. Supply

In short, the region supplies 29 for-credit and noncredit awards for 214 annual job openings, suggesting that there is a labor market supply gap (Exhibit 6).

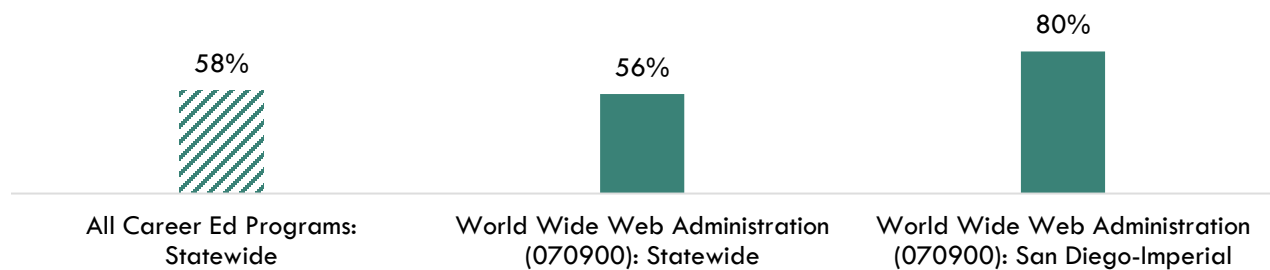**Exhibit 6: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)**

TOP6 Program	Demand (Annual Openings)	Supply (Total Annual Average Supply)		Supply Gap or Oversupply
		Noncredit	For-Credit	
World Wide Web Administration (TOP 070900)	214	16	13	**185**

Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 80 percent of students in the San Diego-Imperial region earned a living wage after completing a World Wide Web Administration (070900) program, compared to 56 percent statewide and 58 percent of students in Career Education programs in general across the state (Exhibit 7a).
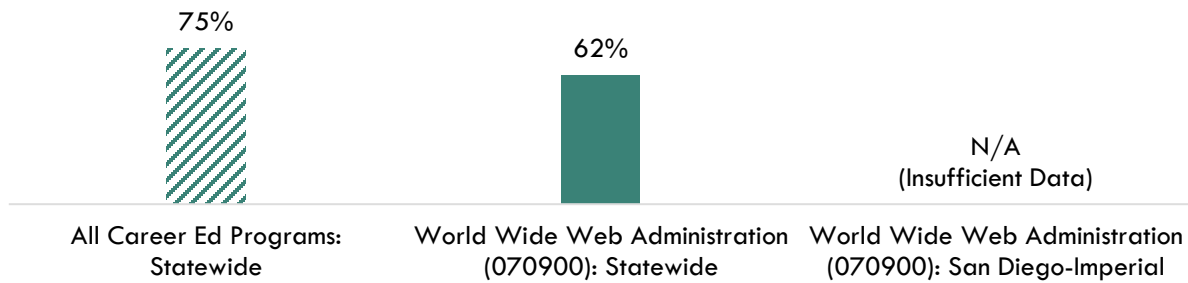
Exhibit 7a: Proportion of Students Who Earned a Living Wage, PY2015-16[10]

All Career Ed Programs: Statewide	World Wide Web Administration (070900): Statewide	World Wide Web Administration (070900): San Diego-Imperial
58%	56%	80%

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[10] Among completers and skills builders who exited, the proportion of students who attained a living wage.

According to the California Community Colleges LaunchBoard, N/A percent of students (due to insufficient data) in the San Diego-Imperial region obtained a job closely related to their field of study after completing a World Wide Web Administration (070900) program, compared to 62 percent statewide and 75 percent of students in Career Education programs in general across the state (Exhibit 7b).

Exhibit 7b: Percentage of Students in a Job Closely Related to Field of Study, PY2014-15[11]

All Career Ed Programs: Statewide	World Wide Web Administration (070900): Statewide	World Wide Web Administration (070900): San Diego-Imperial
75%	62%	N/A (Insufficient Data)

Top Employers and Work Locations

Between January 1, 2016 and December 31, 2018, the top five employers in San Diego County for this occupation were Service Now, Thermo Fisher Scientific, Hewlett-Packard, Via Technical, and Sony Electronics Incorporated (Exhibit 8).

Exhibit 8: Top Employers in San Diego County for *Web Developers*[12]

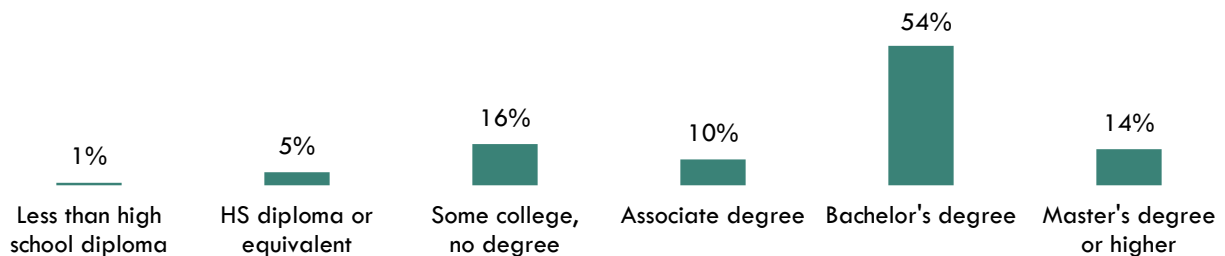| Top Employers	
• Service Now	• Qualcomm
• Thermo Fisher Scientific Inc.	• Illumina incorporated
• Hewlett-Packard	• Teradata Operations, Inc.
• Via Technical	• Sayva Solutions
• Sony Electronics incorporated	• Accenture

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[11] Most recent year with available data is Program Year 2014-15. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.
[12] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2016-2018.
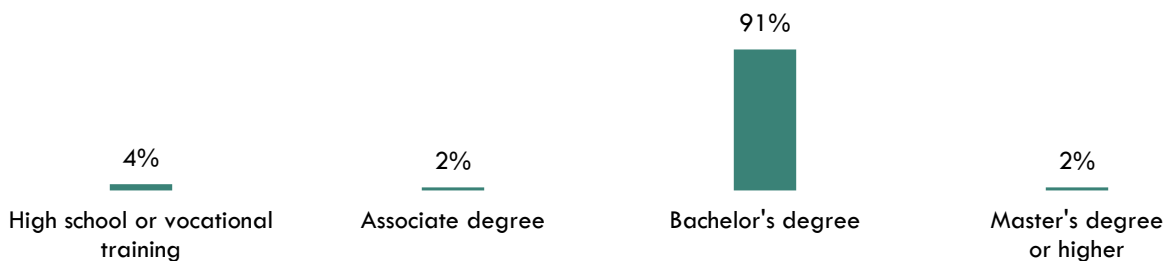
Skills, Education, and Certifications

There is no typical on-the-job training for this occupation. Nationally, employers reported that the required entry-level education is an associate degree. However, the educational attainment typically found in the national labor force for the occupation is a bachelor's degree.[13]

Exhibit 9a: National Educational Attainment for *Web Developers*[14]

Less than high school diploma	HS diploma or equivalent	Some college, no degree	Associate degree	Bachelor's degree	Master's degree or higher
1%	5%	16%	10%	54%	14%

Based on online job postings between January 1, 2016 and December 31, 2018, the top listed educational requirement for *Web Developers* was a bachelor's degree (Exhibit 9b).[15]

Exhibit 9b: Educational Requirements for *Web Developers* in San Diego County in Online Job Postings[16]

High school or vocational training	Associate degree	Bachelor's degree	Master's degree or higher
4%	2%	91%	2%

*May not add to 100% due to rounding

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[13] Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.
[14] Emsi 2019.03; QCEW, Non-QCEW, Self-Employed.
[15] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2016-2018.
[16] "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified October 18, 2018. bls.gov/emp/tables/educational-attainment.htm.

Exhibit 10 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2016 and December 31, 2018.

Exhibit 10: Top Skills for *Web Developers* in San Diego County[17]

Specialized Skills	Soft Skills	Software Skills
• Web Development	• Communication Skills	• JavaScript
• Web Application Development	• Teamwork/Collaboration	• jQuery
• Hypertext Preprocessor	• Creativity	• HTML5
• Software Development	• Problem Solving	• Angular JS
• Front-end Development	• Writing	• Git

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[17] Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2016-2018.