










Website Design and Development

Labor Market Analysis for San Diego College of Continuing Education

September 2021

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL OF EDUCATION
 <p>Proceed with New Program</p>	 	 	<input checked="" type="checkbox"/> Bachelor's Degree+ <input type="checkbox"/> Associate Degree <input type="checkbox"/> Some College or Certificate <input type="checkbox"/> HS Diploma or Equivalent <input type="checkbox"/> Less than a HS Diploma <input type="checkbox"/> Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	<p>HIGH</p> 	<p>MEDIUM</p> 	

This report provides labor market information for an occupation selected by San Diego College of Continuing Education for its *Website Design and Development* program. The training provided by this program is likely to lead to employment as *Web Developers and Digital Interface Designers*. According to available labor market information, *Web Developers and Digital Interface Designers* in San Diego County have a labor market demand of 181 annual job openings (while average demand for a single occupation in San Diego County is 242 annual job openings). On average, five institutions supply 43 for-credit awards and one institution supplies 81 noncredit awards in San Diego County for this occupation. In short, the region supplies 124 for-credit and noncredit awards for 181 annual job openings, suggesting that there is a supply gap in the labor market. Entry-level wages and median wages for this occupation are above the living wage. This brief recommends proceeding with a new program or a program modification because 1) there is a supply gap; and 2) entry-level and median wages are above the living wage. The college should note that **the typical entry-level education for this occupation is a bachelor's degree.**

Introduction

This report provides labor market information in San Diego County for an occupation related to the six-digit Taxonomy of Programs (TOP)¹ code, Website Design and Development (TOP 0614.30). The purpose of this brief is to assist noncredit program providers in the region, such as San Diego College of Continuing Education (SDCCE), with program development and review. SDCCE identified one occupation from the Standard Occupational Classification (SOC)² system for *Website Design and Development*, which will be the focus of this report:

Web Developers and Digital Interface Designers (SOC 15-1257): Develop and implement websites, web applications, application databases, and interactive web interfaces. Evaluate code to ensure that it is properly structured, meets industry standards, and is compatible with browsers and devices. Optimize website performance, scalability, and server-side code and processes. May develop website infrastructure and integrate websites with other computer applications. Design digital user interfaces or websites. Develop and test layouts, interfaces, functionality, and navigation menus to ensure compatibility and usability across browsers or devices. May use web framework applications as well as client-side code and processes. May evaluate web design following web and accessibility standards, and may analyze web use metrics and optimize websites for marketability and search engine ranking. May design and test interfaces that facilitate the human-computer interaction and maximize the usability of digital devices, websites, and software with a focus on aesthetics and design. May create graphics used in websites and manage website content and links. Sample reported job titles include:

- Web Designer
- Webmaster
- Web Architect
- Web Development Instructor
- Web Development Director
- Web Design Specialist
- Technology Applications Engineer
- Designer
- Web Content Developer

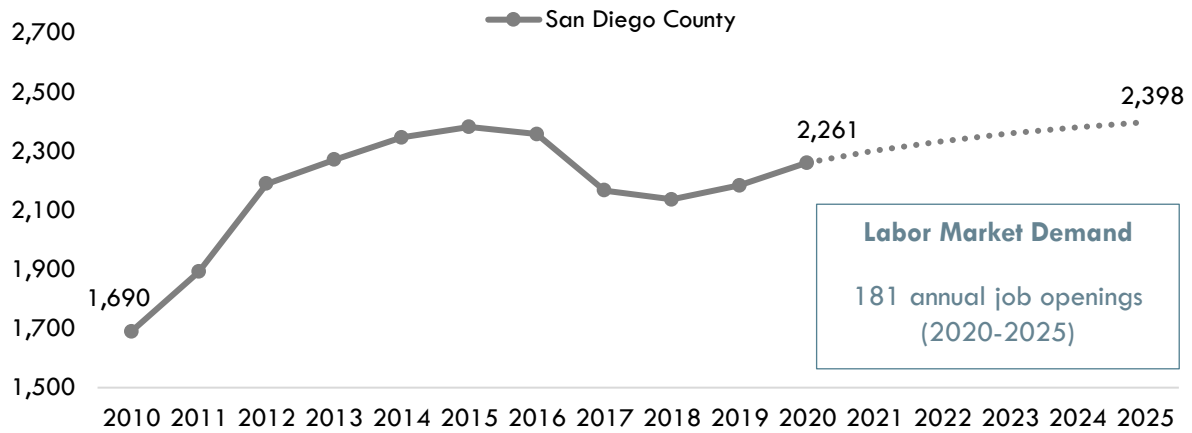
¹ Taxonomy of Programs (TOP) is a system of codes used by the California Community Colleges for the purpose of collecting, calculating, or disseminating data about similar training programs.

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](https://www.bls.gov/soc).

Projected Occupational Demand

Between 2020 and 2025, *Web Developers and Digital Interface Designers* is projected to increase by 137 net jobs or six percent (Exhibit 1). Employers in San Diego County will need to hire 181 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

Exhibit 1: Number of Jobs for Web Developers and Digital Interface Designers (2010-2025)³

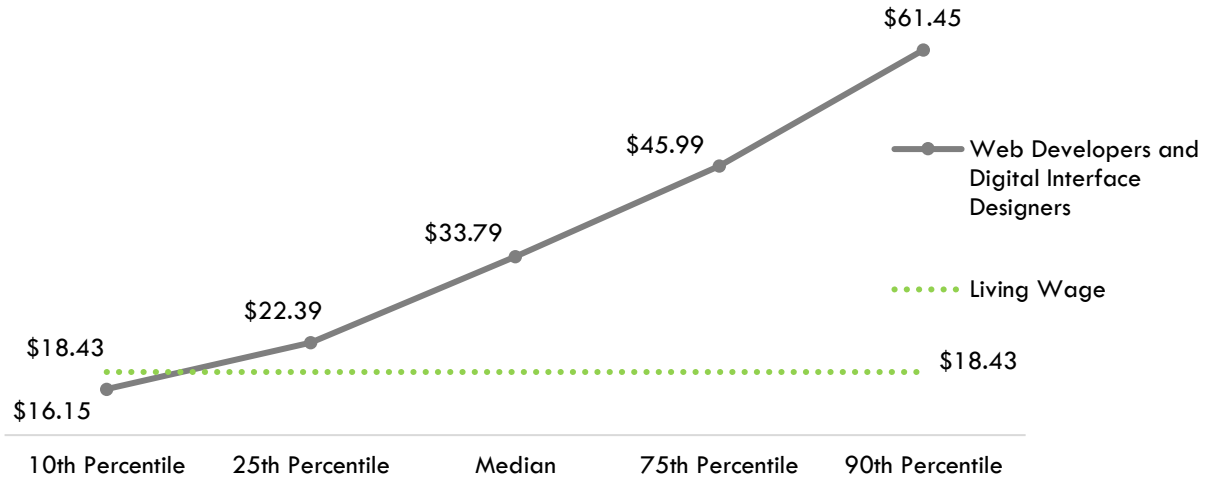


³ EMSI 2021.2; QCEW, Non-QCEW, Self-Employed.

Earnings

Web Developers and Digital Interface Designers receive entry-level hourly earnings of \$22.39; this is more than the living wage for a single adult in San Diego County, which is \$18.43 per hour (Exhibit 2).⁴

Exhibit 2: Hourly Earnings⁵ for Web Developers and Digital Interface Designers in San Diego County⁶



Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.⁷ According to TOP and CIP⁸ data, five community colleges supply the region with for-credit awards for Website Design and Development (TOP 0614.30): Cuyamaca College, MiraCosta College, Palomar College, San Diego Mesa College, and Southwestern College (Exhibit 3a).

⁴ "Family Needs Calculator (formerly the California Family Needs Calculator)," Insight: Center for Community Economic Development, last updated 2021. insightccd.org/family-needs-calculator/.

⁵ 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.

⁶ EMSI 2021.2; QCEW, Non-QCEW, Self-Employed.

⁷ 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).

⁸ There is one CIP code related to Web Design and Development (TOP 0614.30): Web Page, Digital/Multimedia and Information Resources Design (CIP 11.0801).

Exhibit 3a: Number of For-Credit Awards (Certificates and Degrees) Conferred by Postsecondary Institutions (Program Years 2017-18 through 2019-20)

College	Award Type	PY 17-18	PY 18-19	PY 19-20	3-Yr Total Average
Cuyamaca	Associate Degree	5	5	3	4
	Certificate 30 to < 60 units	0	0	1	0
	Total	5	5	4	5*
MiraCosta	Associate Degree	0	4	5	3
	Certificate 30 to < 60 units	0	5	5	3
	Certificate 6 to < 18 units	3	1	4	3
	Total	3	10	14	9
Palomar	Associate Degree	0	0	1	0
	Certificate 30 to < 60 units	0	0	1	0
	Total	0	0	2	1*
San Diego Mesa	Associate Degree	9	6	6	7
	Certificate 18 to < 30 units	13	7	0	7
	Certificate 16 to < 30 units	0	0	3	1
	Total	22	13	9	15
Southwestern	Associate Degree	4	2	5	4
	Certificate 30 to < 60 units	1	0	0	0
	Certificate 18 to < 30 units	1	0	0	0
	Certificate 16 to < 30 units	0	1	3	1
	Certificate 6 to < 18 units	12	6	7	8
	Total	18	9	15	14*
Total		48	37	44	43*

Note: The numbers may not add up exactly due to rounding.

By award type, the colleges supplied the most awards for **associate degrees** based on the three-year average (program years 2017-18 through 2019-20) (Exhibit 3b).

Exhibit 3b: Total Number of For-credit Awards by Type for Website Design and Development (TOP 0614.30) in San Diego County (3-Yr Average)



In terms of noncredit awards, only San Diego College of Continuing Education provides noncredit awards for Website Design and Development (TOP 0614.30), with a three-year average of **81** noncredit awards (program years 2017-18 through 2019-20) (Exhibit 4).

Exhibit 4: Number of Noncredit Awards Conferred by SDCCE (Program Years 2017-18 through 2019-20)

Program Title	Award Type	PY 17-18	PY 18-19	PY 19-20	3-Yr Total Average
Front End Web Developer I	Noncredit	71	46	55	57
Front End Web Developer II	Noncredit	39	23	8	23
Total		110	69	63	81*

Note: The numbers may not add up exactly due to rounding.

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply⁹ suggests that there is a **supply gap** in San Diego County, with **181** annual openings and **124** for-credit and noncredit awards supplied by the region (Exhibit 5).

Exhibit 5: 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	
Website Design and Development (TOP 0614.30)	181	81	43	57

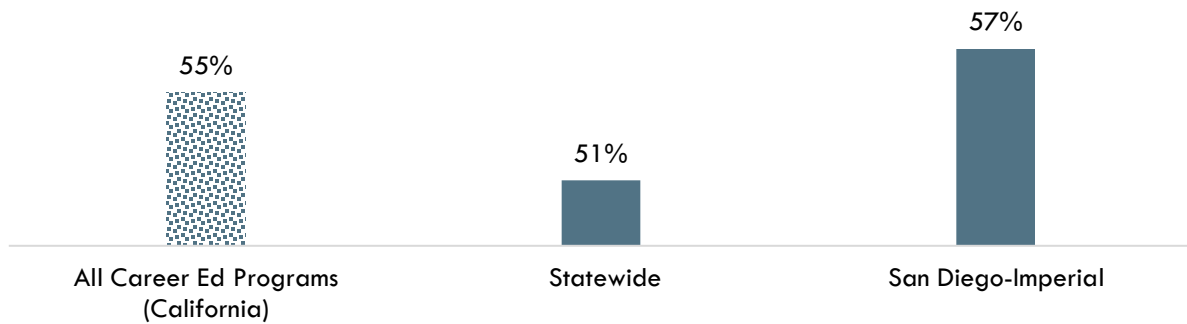
Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers;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

⁹ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

Student Outcomes and Regional Comparisons

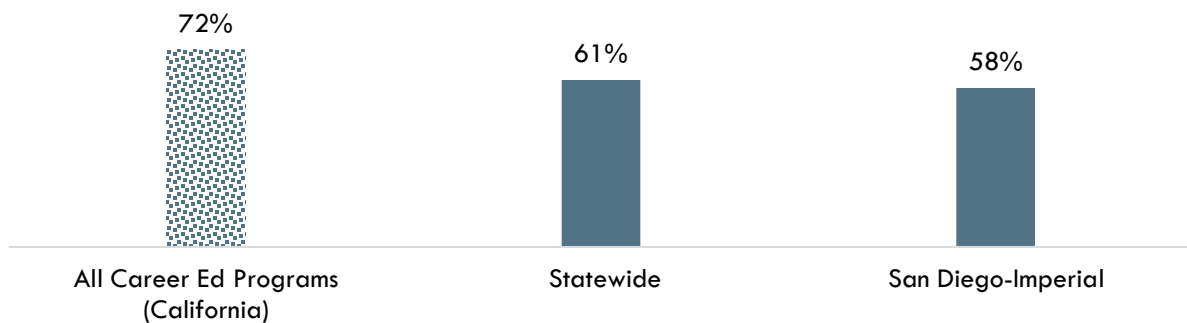
According to the California Community Colleges LaunchBoard, 57 percent of students in the San Diego-Imperial region earned a living wage after completing a Website Design and Development (0614.30) program, compared to 51 percent statewide and 55 percent of students in Career Education programs in general across the state (Exhibit 6a).¹⁰

**Exhibit 6a: Percentage of Students Who Earned a Living Wage by Program
(Website Design and Development, PY 2017-18)¹¹**



According to the California Community Colleges LaunchBoard, 58 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a Website Design and Development (0614.30) program, compared to 61 percent statewide and 72 percent of students in Career Education programs in general across the state (Exhibit 6b).¹²

**Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study by Program
(Website Design and Development, PY 2016-17)¹³**



¹⁰ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹¹ Among completers and skills builders who exited, the proportion of students who attained a living wage.

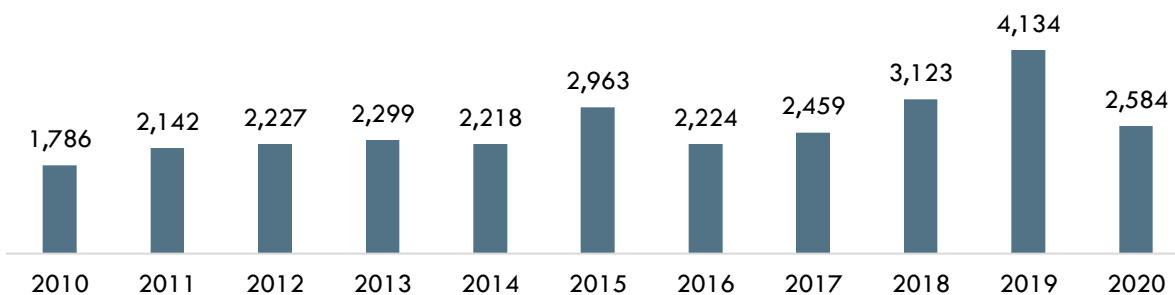
¹² "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹³ Most recent year with available data is Program Year 2016-17. 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.

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 that are not captured by historical data. Between 2010 and 2020, there was an average of 2,560 online job postings per year for *Web Developers and Digital Interface Designers* in San Diego County (Exhibit 7). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Exhibit 1). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

Exhibit 7: Number of Online Job Postings for Web Developers and Digital Interface Designers in San Diego County (2010-2020)¹⁴



Top Employers

Between January 1, 2018 and December 31, 2020, the top five employers in San Diego County for this occupation were *ServiceNow*, *Via Technical*, *Thermo Fisher Scientific*, *University of California San Diego*, and *Intuit* based on online job postings (Exhibit 8).

Exhibit 8: Top Employers for Web Developers and Digital Interface Designers in San Diego County¹⁵

Top Employers	
• ServiceNow	• Synergy Direct LLC
• Via Technical	• Sayva Solutions
• Thermo Fisher Scientific Inc.	• Sony Electronics Incorporated
• University of California San Diego	• Sharp Healthcare
• Intuit	• Hewlett-Packard

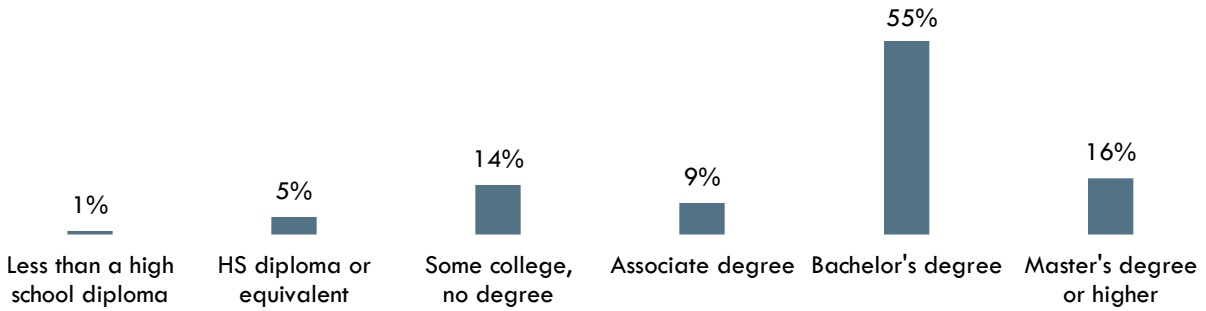
¹⁴ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2020.

¹⁵ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Education, Skills, and Certifications

Exhibit 9 indicates the educational attainment for this occupation found currently in the national labor force. The typical entry-level education is a [bachelor's degree](#).¹⁶

Exhibit 9: National Educational Attainment of Web Developers and Digital Interface Designers¹⁷



*may not total 100 percent due to rounding

¹⁶ EMSI 2021.2; QCEW, Non-QCEW, Self-Employed.

¹⁷ "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified April 4, 2021. 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, 2018 and December 31, 2020.

Exhibit 10: Top Skills for Web Developers and Digital Interface Designers in San Diego County¹⁸

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Web Development • Web Application Development • Git • Front-end Development • Software Development • Web Site Design • Software Engineering • CSS • Bootstrapping • Agile Development • Scrum • Object-Oriented Analysis and Design • Prototyping • Visual Design • Unit Testing 	<ul style="list-style-type: none"> • Communication Skills • Teamwork / Collaboration • Creativity • Problem Solving • Research • Writing • Detail-Oriented • Troubleshooting • Organizational Skills • Planning • Written Communication • Self-Starter • Mentoring • Time Management • Meeting Deadlines 	<ul style="list-style-type: none"> • JavaScript • HTML5 • jQuery • Adobe Photoshop • AngularJS • SQL • Java • Software Engineering • Hypertext Preprocessor • User Interface Design • CSS • React Javascript • MySQL • Node.js • JavaScript Object Notation

¹⁸ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Exhibit 11 lists the top certifications that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 11: Top Certifications for Web Developers and Digital Interface Designers in San Diego County¹⁹

Top Certifications in Online Job Postings

1. Security Clearance
 2. Project Management Certification
 3. CompTIA Security+
 4. Certified Business Analysis Professional (CBAP)
 5. Business Analysis Certificate
 6. Six Sigma Certification
 7. IT Infrastructure Library (ITIL) Certification
 8. Certified Novell Administrator
 9. Certification of Capability in Business Analysis (CCBA)
 10. Hazwoper
 11. Certified ScrumMaster (CSM)
 12. Certified Scrum Trainer (CST)
 13. Microsoft Certified Professional (MCP)
 14. Systems Security Certified Practitioner (SSCP)
 15. SANS/GIAC Certification
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¹⁹ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Prepared by:

Tina Ngo Bartel, Director (tngobartel@miracosta.edu)

John Edwards, Research Analyst (jedwards@miracosta.edu)

Priscilla Fernandez, Research Analyst (pfernandez@miracosta.edu)

San Diego County-San Diego Center of Excellence for Labor Market Research



Important Disclaimers

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

This workforce demand report uses state and federal job projection data that was developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.