

Palomar College
Associates of Science degree - Web Design and Development
New Program – Career Technical Education (CTE)

1. Program Goals and Objectives

Web Design and Development provides a background in the field of Web technology and how it relates to providing a quality Web presence for small-to-midsize businesses. The Web Design and Development Certificate of Achievement prepares students for entry level positions as Web Technologists that can combine skills as Web page designers, graphic content creators, and Web application developers.

The program focuses on:

1. Web Page Design and Layout using HTML and CSS.
2. The creation and use of Web Graphics.
3. The Design of Applications for Mobile Devices.
4. Ensuring that applications meet Web Accessibility standards.
5. Using JavaScript/jQuery and Ajax for dynamic Web page interfaces.
6. The creation of a business's Web presence on Social Media.
7. The development of applications using the PHP server-side language.

2. Catalog Description

Web Design and Development is a series of courses that bind both Website Design and Website Programming to produce quality information for an organization. Web professionals that do both design and programming are generally employed in small-to-midsize businesses that need their employees to have a wide range of skills to implement a business's Web presence.

Key areas of focus in this program are: Web Page Design and Layout; Web Graphics; Design of Applications for Mobile Devices; Web Accessibility; HTML; Cascading Style Sheets (CSS); JavaScript/jQuery; Ajax, Social Media and server-side development languages, such as PHP or ASP.

3. Program Requirements

Required Courses		
BUS 152	Social Media for Business	3
CSWB 110	Web Page Design with HTML5/CSS3	3
CSWB 120	JavaScript and jQuery	3
CSWB 135	Advanced JavaScript and Mobile Apps	3
CSWB 150	PHP with MySQL	3
CSWB 280	Web Design and Development Capstone	3
GCMW 102	Web Page Layout I	3
GCMW 201	Web Page Layout II	3
GCMW 140	Web Graphics	3
GCMW 112	Mobile Devices	2
GCWB 232	Web Accessibility	1
	Total Units	30

Course Sequence

Requirements	Catalog #	Name	Units	Sequence	
Required Courses (30 units)	CSWB 110	HTML5/CSS3	3	Yr. 1, Fall	
	GCMW 102	Web Page Layout I	3	Yr. 1, Fall	
	BUS 152	Social Media for Business	3	Yr. 1, Fall	
	CSWB 120	JavaScript and jQuery	3	Yr. 1, Spring	
	GCMW 201	Web Page Layout 2	3	Yr. 1, Spring	
	GCMW 140	Web Graphics	3	Yr. 1, Spring	
	CSWB 150	PHP with MySQL	3	Yr. 2, Fall	
	GCMW 112	Mobile Devices	2	Yr. 2, Fall	
	CSWB 135	Advanced JavaScript and Mobile Apps	3	Yr. 2, Fall	
	GCWB 232	Web Accessibility Design	1	Yr. 2, Spring	
	CSWB 280	Web Design and Development Captstone	3	Yr. 2, Spring	
	Year 1 Fall – 9 units	Major Total		30	
	Year 1 Spring – 9 units	CSU-Breadth or IGETC pattern		37-39	
Year 2 Fall – 8 units	Possible Double Counting		4-7		
Year 2 Spring – 4 units	Total		60		

4. Master Planning

Web Design and Development is a series of courses that bind both Website Design and Website Programming to produce quality information for an organization. Web professionals that do both design and programming are generally employed in small-to-midsize businesses that need their employees to have a wide range of skills to implement a businesses Web presence.

This Certificate of Achievement aligns with the college's mission statement by providing a program with technical training that is in high demand for the county of San Diego. Information Systems and related occupations are growing at a steady rate of over 18.8% with very high median incomes of 16.00 to 37.00 dollars per hour. Typical employment opportunities include Web Technologist, Web Master, Web Designer, Web Developer.

The Web Design and Development Certificate of Achievement aligns with the objective and conditions of higher education and community college education in California statewide master plan. It aligns by providing a degree that offers both academic rigor and transferability in coursework as well as vocational instruction to assist students both older and younger to gain valuable skills to secure entry level employment in the field of Web Technology.

This Certificate program is scheduled to start in the Fall 2016 semester.

5. Enrollment and Completer Projections

Required Existing Courses		Year 1 – 2013		Year 2 - 2014	
Course Number	Course Title	Annual # Sections	Annual Enrollment/Completers Total	Annual # Sections	Annual Enrollment/Completers Total
BUS 152	Social Media for Business	0	0/0	2	60/50
CSWB 110	Web Page Design with HTML5/CSS3	7	178/98	8	196/107
CSWB 120	JavaScript and jQuery	3	88/53	4	109/65
CSWB 150	PHP with MySQL	2	56/37	2	36/15
GCMW 102	Web Page Layout I	2	43/26	3	54/26
GCMW 112	Mobile Devices	1	24/13	1	21/13

GCMW 140	Web Graphics	0	0/0	1	15/15
GCMW 201	Web Page Layout II	1	16/15	1	19/16

Projected Students/Annual Completers

Year 1 – 2016

Year 2 - 2017

Course Number	Course Title	Annual # Sections	Annual Enrollment Total	Annual # Sections	Annual Enrollment Total
BUS 152	Social Media for Business	2	64	2	64
CSWB 110	Web Page Design with HTML5/CSS3	7	208	7	208
CSWB 120	JavaScript and jQuery	4	120	4	120
CSWB 135	Advanced JavaScript and Mobile Apps	2	60	2	60
CSWB 150	PHP with MySQL	2	64	2	64
CSWB 280	Web Design and Development Capstone	1	30	1	30
GCMW 102	Web Page Layout I	2	60	2	60
GCMW 112	Mobile Devices	2	60	2	60
GCMW 140	Web Graphics	2	50	2	50
GCMW 201	Web Page Layout II	1	30	1	30
GCMW 232	Web Accessibility	1	30	1	30

Program Awards Summary Report

Statewide Search

Program Type 0702 - Information Systems

	Annual 2008- 2009	Annual 2009- 2010	Annual 2010- 2011	Annual 2011- 2012	Annual 2012- 2013	Annual 2013- 2014
State of California Total	593	577	551	515	679	781
Associate of Science (A.S.) degree	229	227	244	219	271	308
Associate of Arts (A.A.) degree	91	88	54	78	82	78
Certificate requiring 60+ semester units	4		1		1	
Certificate requiring 30 to < 60 semester units	70	50	59	70	99	95
Certificate requiring 18 to < 30 semester units	63	59	48	50	49	55
Certificate requiring 12 to < 18 units	2	6	3	9	51	83
Certificate requiring 6 to < 18 semester units	122	145	141	89	92	149
Other Credit Award, < 6 semester units	12	2	1			
Noncredit award requiring < 48 hours					34	13

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6. Place of Program in Curriculum/Similar Programs

This program uses courses currently found in the CSWB, GCMW, and BUS disciplines. It does not replace any programs in the curriculum. However, it organizes the courses into a new CA program.

There are two new classes being created and incorporated into this program: CSWB 135 Advanced JavaScript and Mobile Apps and CSWB 280 Web Design and Development Capstone which is a culminating course that incorporates the material learned from all previously taken course in the program.

7. Similar Programs at Other Colleges in Service Area

Palomar College services Region 10 of San Diego County and the Region 8 in southern part of Orange County. There are a number of state funded schools that offer a 2 year degree for transfer in either Web Design, Web Development, or the combined degree Web Design and Web Development.

A listing of the schools in the San Diego/Orange County area (Region 10/Region 8) offering a 2 year degree or Certificate of Achievement in Web Design, Web Development, or the combined degree Web Design and Web Development:

Cuyamaca College, 900 Rancho San Diego Pkwy, El Cajon, CA 92019
Grossmont College, 8800 Grossmont College Dr, El Cajon, CA 92020
Imperial Valley College, 380 E Aten Rd, Imperial, CA 92251

Mira Costa College, 1 Barnard Dr, Oceanside, CA 92056
San Diego Mesa College, 7250 Mesa College Dr, San Diego, CA 92111
Southwestern College, 900 Otay Lakes Rd, Chula Vista, CA 91910
Orange Coast College, 2701 Fairview Rd, Costa Mesa, CA 92626
Saddleback College, 28000 Marguerite Pkwy, Mission Viejo, CA 92692

Impact on Other Programs in the Region

There is no major impact on the programs of bordering districts. Mira Costa is the the nearest college to Palomar and offers an E-Commerce degree that has some courses in basic Web Design but a stronger focus on Business Entrepreneurship and Marketing. The only other college to border Palomar Colleges district is Miramar College which offers no A.S or CA program in Web Design or Web Development.

TOP Codes

There are two major TOP codes that relate to topics covered in this program.

0614.30 – Website Design and Development 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.

0707.10 – Computer Programming Entry-level programming, including methods, procedures, symbols and rules used in planning and writing instructions in computer language for the solution of a problem. Includes programming for the World Wide Web.

There is one course BUS 152 that gives instruction on how to use Social Media for Business.

Since there is no specific TOP code that includes using Social Media, the “Other Media” TOP code would apply...

* 0699.00 – Other Media and Communications Specify (includes all emerging occupations).

Additional Supporting Documentation - CTE

1. Labor Market Information

In 2014, the San Diego Workforce Partnership produced an exhaustive analysis of labor market data in Information & Communication Technologies. The report concentrated on 11 computer technology occupations. This narrative focuses on three of those occupations that relate to courses offered in the Web Design and Development AS degree program.

Building upon the supply-side assessment, data from Economic Modeling Specialists International (EMSI) was used to gather projected annualized job openings from

2013 to 2018. These occupational job openings include net growth and replacement jobs and were annualized to provide a five-year average of expected openings for each of the generalized occupational sections.

Salary Information

Occupation	Salaries: Entry-Level – Median - Experienced
Graphic Designers	\$18.11 - \$21.70 - \$25.02
Software Developers, applications	\$27.17 - \$36.12 - \$43.38
Web Developers	\$18.33 - \$24.92 - \$30.54

Employment Demand – (Multimedia and Design Only)

	2013 Jobs	2018 Jobs	Total Change (%)	Average Annual Openings
Analysts	5,475	6,312	15%	262
Network and Support	12,378	13,503	9%	438
Technical and Software Development	18,827	20,727	10%	702
Multimedia and Design	5,622	5,907	5%	193
Total	42,302	46,450	10%	1,595

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Employment Projections
 – (Software Developers, Web Developers, Graphic Designers Only)

	2013 Jobs	2018 Jobs	Total Change (%)	Average Annual Openings
Analysts	5,475	6,312	15%	262
Computer systems analysts	4,853	5,551	14%	223
Information security analysts	622	761	22%	39
Network and Support	12,378	13,503	9%	438
Database administrators	965	1,075	11%	42
Network and computer systems administrators	4,056	4,361	8%	131
Computer user support specialists	5,891	6,500	10%	221
Computer network support specialists	1,466	1,567	7%	44
Technical and Software Development	18,827	20,727	10%	702
Computer programmers	4,387	4,608	5%	166
Software developers, applications	7,439	8,365	12%	289
Software developers, systems software	7,001	7,754	11%	247
Multimedia and Design	5,622	5,907	5%	193
Web developers	1,936	2,163	12%	78
Graphic designers	3,686	3,744	2%	115
TOTAL	42,302	46,450	10%	1,597

2. Advisory Committee Minutes, Recommendations, and Approval

Minutes: Palomar College Business Administration Advisory Meeting

Date: 4/15/2016

Location: Global Professional Building, 2888 Loker Ave. East, Suite #111, Carlsbad, CA 92010

Time: The meeting was called to order at 4:00 p.m. and adjourned at 6:40 p.m.

Organizers: Jackie Martin, Palomar College
 James Hayes, Sage Consulting
 Joe Molina, Mira Costa College, Sector Navigator, Small Business
 Steve Perry, Palomar College

Attendees:

Dr. Barbara Blanchard, Dean, AMBCS, Palomar College, bblanchard@palomar.edu

Jackie Martin, Chair, Business Department, Palomar College, ljmartin@palomar.edu

James Hayes, Sage Consulting, jhayes@sagesandiego.com

Joe Molina, District Sector Navigator, Small Business Entrepreneurship,
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Professors, Palomar College:

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(Professor and business owner)

Alba Maria Armistead, aarmistead@palomar.edu

Steve Perry, sperry@palomar.edu, CSIT, Palomar College

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Karen Pearson, SDNEDC, kpearson@sdnedc.org

Minutes:

The meeting began with Jackie Martin, James Hayes and Joe Molina sharing the purpose of the meeting which is to bring industry partners, educators and workforce partnership and job developers together for the benefit of the students that we teach and employ.

Two CSWB (Web) programs were vetted and approved by industry representatives

- 1) Web Design and Development – AS degree/Certificate of Achievement, CSIT, Steve Perry
- 2) Web Development - Certificate of Achievement, CSIT, Steve Perry

Steve Perry presented an overview of the programs and curriculum to industry, and provided detailed handouts of the programs and certificates available.

During the discussion, Joe Molina suggested that an “Industry Mentoring” component be included in the program and Steve Perry said that this could be incorporated in the CSWB 280 - Web Design and Development Capstone course.

Additionally, a question was asked about where Web security issues were covered and Steve Perry reported that the CSWB 150 – PHP with MySQL and the CSWB 280 - Web Design and Development Capstone courses covered security topics for the Web Design and Development AS/CA program (30 units) and that CSWB 150 PHP with MySQL would cover security topics for the Web Development CA program (18 units)

Lastly, there was a question on whether or not students would produce a final project in the for the Web Design and Development AS/CA program (30 units) and Steve Perry answered that students would produce a portfolio project in the CSWB 280 - Web Design and Development Capstone course.

Industry members then introduced themselves individually and share what they feel is needed in terms of content for our classes, skills gaps that have been addressed by employers, and then offered their services to our instructors/students, to include guest speaking, internships, dual enrollment and articulation opportunities, among others.