

Palomar College
Certificate of Achievement - Web Development
New Program – Career Technical Education (CTE)

1. Program Goals and Objectives

Web Development provides a background in the field of computer programming for the Web. Web Development degree prepares students for entry level positions as a Web Developer (i.e. Web programmer) in both the client-side languages JavaScript and jQuery and in the server-side languages of PHP, Active Server Pages, and Java programming.

The program focuses on:

1. Web Page Design and Layout using HTML and CSS.
2. Using JavaScript/jQuery and Ajax for dynamic Web page interfaces.
3. The development of applications using the following server-side languages: PHP, Active Server Pages, and Java.

2. Catalog Description

Web Development is a series of courses that teach the student Web Programming to produce quality information for an organization. Web professionals that do Web programming are employable by mid-to-large organizations needing information management in their Web applications.

Key areas of focus in this degree are: HTML, CSS, JavaScript, jQuery, Ajax, PHP, Active Server Pages, and Java programming.

3. Program Requirements

Required Courses		
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 170	Java Programming for Information Technology	3
CSWB 210	Active Server Pages	3
	Total Units	18

4. Course Sequence

Requirements	Catalog #	Name	Units	Sequence
Required Courses (18 units)	CSWB 110	HTML5/CSS3	3	Yr. 1, Fall
	CSWB 120	JavaScript and jQuery	3	Yr. 1, Spring
	CSWB 150	PHP with MySQL	3	Yr. 1, Spring
	CSWB 135	Advanced JavaScript and Mobile Apps	3	Yr. 2, Fall
	CSWB 170	Java Programming for Information Technology	3	Yr. 2, Fall
	CSWB 210	Active Server Pages	3	Yr. 2, Spring
Year 1 Fall – 3 units		Total	18	
Year 1 Spring – 6 units				
Year 2 Fall – 6 units				
Year 2 Spring – 3 units				

5. Master Planning

Web Development is a series of courses that instruct the student in all aspects of Website Programming to produce quality information for an organization. Web professionals that do Web programming are generally employed in midsize-to-large businesses that need their employees to have a wide range of skills to implement a the program logic for a business's Web applications.

This program aligns with the college's mission statement by providing a degree 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 Developer.

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

4. Enrollment and Completer Projections

Required Existing Courses		Year 1 – 2013	Year 2 - 2014
Course Number	Course Title	Annual # Sections Annual Enrollment/Completer Total	Annual # Sections Annual Enrollment/Completer Total
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
CSWB 170	Java Programming for Information Technology	1 30/22	1 30/23
CSWB 210	Active Server Pages	1 30/24	1 30/22

Course Number	Course Title	Annual # Sections	Annual Enrollment Total	Annual # Sections	Annual Enrollment Total
CSWB 110	Web Page Design with HTML5/CSS3	7	220	7	220
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 170	Java Programming for Information Technology	2	60	2	60
CSWB 210	Active Server Pages	1	30	1	30

5. Place of Program in Curriculum/Similar Programs

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

There is one new class being created and incorporated into this program:
CSWB 135 Advanced JavaScript and Mobile Apps.

6. 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 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 Development:

Cuyamaca College, 900 Rancho San Diego Pkwy, El Cajon, CA 92019
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 nearest college and does not offer a Web Developer Certificate. The only other college to border Palomar College's district is Miramar College which offers no CA program in Web Development.

TOP Codes

The major TOP code that relate to topics covered in this program.

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.

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
Software Developers, applications	\$27.17 - \$36.12 - \$43.38
Web Developers	\$18.33 - \$24.92 - \$30.54

Employment Demand – (Software Development 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

Employment Projections – (Software Developers, Web Developers)

	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 Recommendation

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,
jmolina.miracosta@gmail.com

Professors, Palomar College:

Mary Cassoni, mcassoni@palomar.edu

Nancy March, nmarch@palomar.edu

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April Woods, awoods@palomar.edu

Jerry Vetack, gvetack@palomar.edu
(Professor and business owner)

Alba Maria Armistead, aarmistead@palomar.edu

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

Bonnie Frazier, bfrazier@palomar.edu

Claude Ognibene, cognibene@palomar.edu

Industry and Workforce Partners:

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Mark Barneburg, Sparkle Commercial Cleaning, markbarneburg@gmail.com

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.