PROGRAM OF STUDY

CC Web Fundamentals -- Certificate of Achievement

WEB FUNDAMENTALS CERTIFICATE prepares students for career entry in the Web industry by emphasizing standards-based coding and scripting, creative problem solving, digital imaging, layout and typography, usability, accessibility, customization of content management systems, and project management. The curriculum has the objective of developing technical and design skills, a combination of competencies that employers and clients value. Students develop realistic expectations about work conditions through individual and collaborative work-based projects and by learning in the same technological environment in which they will eventually work. Any student completing 18 units required for the major qualifies for a certificate in Web Fundamentals.

Each course for this certificate must be completed with a grade of "C" or better, or with a grade of "P" if the course is taken on a pass/no pass basis.

This program prepares students for careers in Information Technology

Web Design, Web Development

Note: Some courses within the major may have a required prerequisite. If you feel you have equivalent knowledge and skills to those included in the prerequisite course through professional experience, licensure or certification, you have the opportunity to submit a Prerequisite Challenge to be reviewed by the faculty chair. For the Prerequisite Challenge to be considered, you must submit documentation/verification to substantiate the basis for the challenge. Please consult a counselor for more information regarding Prerequisite Challenge

Complete all of the following courses.

CSCI C101	Introduction to Computer Information Systems	3
DMA C102	Digital Imaging	3
DMA C111	Fundamentals of Web Development	3
DMA C113	Accessibility and Usability	3
DMA C117	Web Design w/Dreamweaver	3
DMA C211	Web Scripting with JavaScript	3

A Total: 18

Total Units   **18**

Program Learning Outcomes

1 . Identify concepts of Internet technology, networking, databases, and electronic communications.
Assessment: This will be assessed with an exam in CSCI C101.

2 . Demonstrate technical and creative mastery of the creation of Web media, such as graphics, motion graphics, and interactive media.
Assessment: This will be assessed with a project, scored by a rubric, in DMA C102.

3 . Use valid markup, cascading style sheets, semantic encoding, accessibility compliance, and error-free scripting in the creation of Web content.
Assessment: This will be assessed and scored with an exam in DMA C111 and DMA C211.

4 . Apply design principles to solve visual communication problems.
Assessment: This will be assessed with a project, scored by a rubric, in DMA C117.

Program Matrix

Courses	Program Learning Outcomes			
	A	**B**	**C**	**D**
CSCI C101	X			
DMA C102		X		X
DMA C111	X		X	
DMA C113			X	X
DMA C117		X	X	X
DMA C211	X		X	

Planning Summary

Program Cover

Recommended T.O.P. Code	0614.30
Units for Degree Major or Area of Emphasis	18
Total Units for Degree	N/A
Required Units-Certificate	18
Projected Annual Completers	10
Projected Net Annual Labor Demand (CTE)	1,020 (CA)
Estimated FTE Faculty Workload	3.9
Number of New Faculty Positions	0
Est. Cost, New Equipment	$0
Cost of New/Remodeled Facility	$0
Est. Cost, Library Acquisitions	$0
When will this program undergo review as part of college's Program Evaluation Plan?	30 = Spring 2016

Need

Enrollment and Completer Projections	The program generates 89 FTES per year with an annual enrollment of 585 and 34 class sections. At least 10 completions are projected per year
Place of Program in Curriculum/Similar Programs	The Web Professional program represents a major area of Information Technology: web browser-based applications and content presentation. It is not duplicated among other IT programs at the College, which consist of desktop applications development and content presentation, networking, and hardware maintenance. Together, the Web Professional, the Computer Information Systems, and the Computer Science programs equip students for a broad spectrum of IT careers.
'Similar Programs at other colleges in service area	The nearest similar program is 120 miles away
Labor Market Information & Analysis (CTE only)	California EDD Labor Market Information projects 31.6% growth from 2012-2022, with 1,020 openings annually. Median wages are $35.04. Employers usually seek candidates with an Associate Degree, which Cerro Coso's full Web Professional AS provides. However, this 18 unit certificate provides students with employable entry-level skills.
Employer Survey (CTE only)	
Explanation of Employer Relationship (CTE Only)	The Web Professional Program equips students to work in the web design and development area of information technology. There are local businesses that hire full time workers in this area and/or contract with self-employed web professionals.

List of Members and Advisory Committee (CTE Only)	• Eric Bleau, New Directions Technologies, Inc., Ridgecrest, CA • Sean Callahan, Jacobs Technology, Ridgecrest, CA • Rich Christiansen, Jacobs Technology, Ridgecrest, CA • Larry Cosner, Ridgecrest Regional Hospital, Ridgecrest, CA • Abigail Gardner, New Directions Technologies, Inc., Ridgecrest, CA • Forrest Lloyd, Informations Systems, Ridgecrest, CA • Ron Rodriguez, NAWC, China Lake, CA • Elaine Rudis-Jackson, Artists and CC Adjunct • Julia Stepro, Petra Design, Ridgecrest, CA • Dan Wood, Indian Wells Valley Internet Service Provider, Ridgecrest, CA
Recommendations of Advisory Commitee (CTE Only)	Prepare students for CIW Web Associate certification.

Adequate Resources

Library and/or Learning Resources Plan	Students in the Web Fundamentals Certificate program will be distance learners and require remote access to library resources. The Cerro Coso Learning Resource Center offers distance students extensive and comprehensive access to online databases and eBooks that are useful to Web development students. I met with the Library Department Chair, Julie Cornett, on April 2, 2015. We discussed the learning resource needs of the program and agreed that the resources are adequate.
Facilities and Equipment Plan	No special facilities or equipment are needed.
Financial Support Plan	No special financial support is needed.
Faculty Qualifications and Availability	While we do not require an additional full time faculty member, we need 1 or 2 additional adjunct faculty. An advertisement has been submitted to Human Resources.

Compliance

Based on model curriculum (if applicable)	N/A
Licensing or Accreditation Standards	N/A
Student Selection and Fees	N/A

Conditions of Enrollment

Cerro Coso Community College
Spring 2015

Web Fundamentals Certificate of Achievement

Title of proposed program: Data Analyst I Certificate of Achievement
Contact Person: Dr. Corey J. Marvin
Title: Vice President Academic Affairs
Phone number: 760-384-6201
Email address: CMarvin@cerrocoso.edu

Projected start date: Fall 2017
Type of change requested: Add new Major or Area of Emphasis
Projected annual completers: 15
Units for degree major or area of emphasis: 18
Total units for certificate: 18

Item 1. Program Goals and Objectives

The active Web Professional A.S and Certificate provide students with advanced and varied skills in web design and development. However, it is a high unit program, and we have identified a need for a mid-way academic milestone that effectively provides students with entry level skills in web design and development. More specifically, the Web Fundamentals Certificate will qualify students for jobs that entail maintenance and update of web sites (both static HTML and content management systems). They will be able to develop new web sites, and install and configure content management systems. And they will be able to create custom graphics and graphic user interfaces for the creation of new sites or the redesign of existing sites. Students will also have acquired experience working in teams and learned to communicate effectively with others.

Program Learning Outcomes
Upon successful completion of the program, students will be able to::

- Identify concepts of Internet technology, networking, databases, and electronic communications.
- Demonstrate technical and creative mastery of the creation of Web media, such as graphics, motion graphics, and interactive
  media.
- Use valid markup, cascading style sheets, semantic encoding, accessibility compliance, and error-free scripting in the creation of
  Web content.
- Apply design principles to solve visual communication problems

Item 2. Catalog Description

WEB FUNDAMENTALS CERTIFICATE is designed to prepare students for career entry in the Web industry by emphasizing standards-based coding and scripting, creative problem solving, digital imaging, layout and typography, usability, accessibility, customization of content management systems, and project management. The curriculum has the objective of developing technical and design skills, a combination of competencies that employers and clients value. Students develop realistic expectations about work conditions through individual and collaborative work-based projects and by learning in the same technological environment in which they will eventually work. Any student completing 18 units required for the major qualifies for a certificate in Web Fundamentals. Each course for this certificate must be completed with a grade of "C" or better, or with a grade of "P" if the course is taken on a pass/no pass basis.

In contrast to the 33 unit Web Professional program, which prepares students for employment in Web site design, Web site development, content management system development, content management theme design, Web database development, mobile Web development, eCommerce development, or search engine optimization consulting, the Web Fundamentals Certificate provides students with entry level skills in Web site design or development. Students can expect to find opportunities in traditional employment and self-employment as a freelancer. Both programs prepare students for Certified Internet Web Professional certifications, requested by the employer advisory committee. Students must be computer literate upon entrance to the program.

Item 3. Program Requirements

Students must complete all of the following courses:

CSCI C101 Intro to Computer Info Systems	3 units
DMA C102 Digital Imaging with Photoshop	3 units
DMA C111 Fundamentals of Web Development	3 units
DMA C113 Accessibility and Usability	3 units
DMA C117 Web Design w/Dreamweaver	3 units
DMA C211 Web Scripting w/JavaScript	3 units
Total Units	18 units

Course Sequence

Fall Semester
- CSCI C101 Intro to Computer Info Systems
- DMA C102 Digital Imaging
- DMA C111 Fundamentals of Web Development

Spring Semester
- DMA C113 Accessibility and Usability
- DMA C117 Web Design w/Dreamweaver
- DMA C211 Web Scripting w/JavaScript

Certificate of Achievement: Web Fundamentals

Requirements	Dept. Name/#	Name	Units	Sequence
Required Core (18 units)	CSCI C101	Intro to Computer Info Systems	3	Yr 1, Fall
	DMA C102	Digital Imaging with Photoshop	3	Yr 1, Fall
	DMA C111	Fundamentals of Web Development	3	Yr 1, Fall
	DMA C113	Accessibility and Usability	3	Yr 1, Spring
	DMA C117	Web Design w/Dreamweaver	3	Yr 1, Spring
	DMA C211	Web Scripting w/JavaScript	3	Yr 1, Spring

Required Core Total: 18 units
TOTAL UNITS: 18 units

Proposed Sequence:
Year 1, Fall = 9 units
Year 1, Spring = 9 units
TOTAL UNITS: 18 units

Item 4. Master Planning

The Web Fundamentals Certificate has the support of the local industry advisory committee and meets growing demand for web designers and developers in the college's service area and across California. The certificate is not duplicated at any institution in the region. The courses for the certificate already exist and serve the Web Professional program as well as the proposed Web Fundamentals program. No additional expenditures or facilities are required.

Item 5. Enrollment and Completer Projections

CB01: Course Department Number	CB02: Course Title	<Year 1>		<Year 2>	
		Annual # Sections	Annual Enrollment Total	Annual # Sections	Annual Enrollment Total
CSCI C101	Intro to Computer Info Systems	8	197	11	214
DMA C102	Digital Imaging with Photoshop	3	77	3	64
DMA C111	Fundamentals of Web Development	2	37	2	36
DMA C113	Accessibility and Usability	1	14	1	13
DMA C117	Web Design w/Dreamweaver	1	12	1	8
DMA C211	Web Scripting w/JavaScript	1	8	1	10

It is projected that 10 students will complete the certificate each year. The above enrollment numbers span the calendar years of 2013-2014. However, DMA C211, which was previously on a Fall semester rotation was converted to a Spring semester rotation, and during the transition, it was only offered once during that period. For this course, Spring 2014 and Spring 2015 numbers are cited, with Spring 2015 being an estimate of final enrollment.

EMSI projects 42 new web developer jobs in the college's service area from 2015 – 2020, or 8.4 new jobs per year. While graduates from the 33 unit Web Professional program will be competing for the same jobs, the Web Fundamentals cohort is a subset of the Web Professional cohort. Both programs are online programs, and almost half of the students are from areas of California outside of the college's service area. These graduates will be equipped to meet California's labor market demand, which the California EDD projects to be 1,020 annual average job openings.

Item 6. Place of Program in Curriculum/Similar Programs
The Web Fundamentals certificate represents the first 2 semesters of the 33 unit Web Professional program. It is design to provide students with entry level skills and provide a milestone of completion to students who start the Web Professional program, but do not finish the second year courses. The Web Professional program and its courses do not need to be changed to accommodate the proposed Web Fundamentals certificate. The Web Fundamentals certificate does not replace any other existing program.

Item 7. Similar Programs at Other Colleges in Service Area
There are no other similar programs within commuting distance of the college.

Web Professional Program Advisory Meeting

Oct. 29, 2014

Attendees

- Suzie Ama - Cerro Coso Community College, Business & Information Department Faculty and Web Professional Program Lead
- Eric Bleu – New Directions Technologies
- April Hayman – Freelance Instructional Designer
- Forrest Lloyd – Information Systems
- Mike McNair – Cerro Coso Community College, Dean Career Technical Education
- Karen O'Connor - Cerro Coso Community College, Business & Information Department Faculty Chair
- Elaine Rudis-Jackson – Cerro Coso Community College, Business & Information Dept Faculty
- Julia Stepro – Petra Web Design

Meeting Agenda

1. **Introductions and Sign In**. Suzie Ama provided a welcome for attendees. Introductions were made, and each attendee spoke a bit about their background and the companies they represent.

2. **New CTE Funding**.

   a. Mike McNair reported that the legislature has approved $50 million in seed money to be divided between Regions and then between colleges. Cerro Coso will receive approximately $300K. We also were awarded a $46K grant. These funds have fewer restrictions than VTEA funds. Curriculum, outreach, advertising, equipment. We need to collaborate with another college on projects. He suggested getting 3D printers.

   b. Mike: Enhanced non-credit is an alternative to credit programs for skill certificates. Faculty receive regular load for teaching these courses. Sean: Added that this sounds like continuing education. Elaine: Freelancers may only need 1 or 2 classes for skills. Valerie: Will they tie certifications to this? Mike: They can. Suzie to Sean: Jacobs needs recertification, and would this meet that need? Elaine: Which certifications are needed? Sean: Security+ is the main one. Operating system certification. Certification comes first, and then to maintain certification, continuing education is required thereafter. 50 hours over a 3 year period. Skillport is an option, but a lot of people don't like it and prefer other training. Valerie: Several years ago CC provided some contract ed to Jacobs—is that the model the Jacobs needs? Sean: No, it is ongoing and individual. They can't offer a block of training to a group because of logistics. Mike: We can do this; it falls into a different category than credit courses. What the State is trying to accommodate is flexibility to meet workforce needs rapidly. It's a different market than what our existing programs are addressing. Developing academies is a big push, as well. Mike said that in 10 years, the state will be short a million workers.

3. **Industry and Community Updates**

a. Forrest: He's working on 2 web site. One is a site to try to drive Death Valley tourism into Ridgecrest. The other is a site to connect farm workers who were injured by unnecessary back surgery with resources to help them get compensation. In general, he's also finding a need to provide content in Spanish, maximize SEO, social networks, and develop for mobile devices. Suzie asked how he is driving victims to his site, and he didn't know. Elaine suggested pinpoint Facebook advertising. Sean pointed out that farm workers physically go to sites to obtain work and advertising can be posted. Forrest is also trying to figure out how to monetize this. Mike suggested a referral or finder's fee from attorneys for connecting them with victims. Forrest said he doesn't want to be an "ambulance chaser." Sean suggested getting attorneys to purchase advertising on his site. Mike suggested working with the union, as well. Forrest commented that DMA C201 E-Commerce has proven to be beneficial in his works.

b. Sean: Someone asked Sean if internships were available with Jacobs, and Sean responded that a budget for that has never been established, but they are trying to work on accommodating this. A limitation is the positions that Sean is seeking to fill require several years of experience within the DoD information assurance realm. Suzie asked if applicants need a security clearance, and Sean responded that it is preferable because of the length of time required to obtain one. Jacobs' biggest need is information assurance officers. It is a year-long process to train them. The first 6 months involves learning the regulations of the DoD and obtain their security plus certification. The second 6 months involves honing their technology skills and learning operating systems. An important skill is the ability to build security into the software. Elaine asked about the need for web design skills for people who post content, and Sean responded that a small number of people do that. And it is centralized—most are run out of Pax River. Local people submit content, but the sites are managed back East. A few codes here at NAWC, however, run their own web sites. But this practice is diminishing because of the DoD's objective to centralize.

c. April: She is an instructional designer and develops e-learning. Her clients are quite diverse. She is also involved with project management and, more recently, agile project management. She could use help with graphics. She will work with local help or remote help. They need excellent communication skills.

d. Julia: She is using content management systems. Ridgeproject web site. Images and video are becoming more important as content. Suzie asked about Julia's previous need for training clients to use the CMS, but overcoming resistance to being paid for that training. She is using screen shots to build simply tutorials. Elaine suggested a CMS class as a possibility for a community ed class.

e. Elaine: HTML5 is finally well supported by browsers. Responsive design is central.

4. **Minutes from Last Meeting:** Members approved.

5. **Adjournment.** Suzie thanked the attendees for their valuable input, and expressed the appreciation of the program and the college for the group members' time and expertise. The meeting was adjourned at 1:30 p.m.