Lecture Contact Hours: 32-36; Homework Hours: 64-72; Total Student Learning Hours: 96-108
Laboratory Contact Hours: 48-54; Homework Hours: 0; Total Student Learning Hours: 48-54

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

COMPUTER AND INFORMATION SCIENCE 213 – WEB DEVELOPMENT II

2 hours lecture, 3 hours laboratory, 3 units

Catalog Description
This course builds on the skills introduced in Web Development I (CIS 211) with hands-on projects that reinforce and further develop HTML5 and CSS3 expertise. Mobile development is addressed in detail. Also covered are content management systems, Search Engine Optimization (SEO), usability, and use of hosted and local servers.

Prerequisite
None

Recommended Preparation
"C" grade or higher or "Pass" in CIS 211 or equivalent

Entrance Skills
Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed:
1) Apply file management best practices to organize, name, backup, and upload files.
2) Read, write, analyze, and debug HTML and CSS to create standards compliant web pages that include formatted text, internal and external links, images, tables, forms, and lists.
3) Use CSS to control presentation, including fonts, colors, backgrounds, layout, and list-based navigation.
4) Apply web design best practices to develop an attractive and usable web site.

Course Content
1) HTML5 semantic elements – best practices
2) CSS for Tables
3) Forms
   a. form elements (form, buttons, text fields, text areas, radio buttons, check boxes, drop-down lists, labels, fieldset, legend)
   b. alignment, formatting, tab order, access keys
   c. HTML5/CSS3 data validation
   d. HTML5 controls (file upload, email, url, tel, number, date, search, color, output, progress)
4) CSS for printing
5) CSS with LESS and Sass
6) Advanced HTML5 and CSS3 (geolocation, web storage, Canvas, drag and drop)
7) Responsive Design
   a. Media Queries
   b. Responsive frameworks (e.g., Bootstrap)
8) Overview of Mobile Development
9) Hosting your site
   a. Finding and registering a domain name
   b. using cPanel
   c. Analytics
10) Using XAMPP/WAMP/MAMP to set up a local testing server
11) Content Management Systems

   a. CMS overview (Joomla, Drupal, WordPress)
   b. Using WordPress.com to create a simple site
12) Worpress.org
   a. Installing Wordpress via cPanel
   b. Installing a local version of WordPress
   c. Editing themes
13) Search Engines
   a. Search Engine Optimization
   b. Adding a site search
   c. Controlling which pages are indexed and visited (robots.txt, meta tags)
14) Usability
   a. Guiding principles
   b. Navigation and home page
   c. Testing and managing outside influences
15) Accessibility
16) Current technologies and trends

Course Objectives
Students will be able to:
1) Demonstrate best practices in HTML structure by properly using HTML5 semantic elements and other structural elements (div, span, head elements, block elements) and explain how these support search engine optimization, accessibility, and responsive design.
2) Use CSS in an efficient, organized manner to control presentation, including formatting and layout for desktop, tablets, mobile devices, and print.
3) Explain how to implement a local testing server or hosted site and the reasons for each.
4) Compare content management systems, explain their advantages and disadvantages, and use one to create a small web site.
5) Describe and apply principles of usable and accessible design.

Method of Evaluation
A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in the subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.
1) Hands-on exercises that require students to code and upload web pages that use valid HTML and CSS.
2) Quizzes and exams that measure students' ability to use coding terminology and explain coding concepts.
3) Practical exams that measure students' ability to use computer applications to solve real-life web design problems.
4) Projects that require students to integrate production skills and design best practices to create technically proficient and well-designed web sites.

Special Materials Required of Student
1) File storage system
2) Access to web-based course material and software specified in syllabus

Minimum Instructional Facilities
Computer lab with Internet access, appropriate software

Method of Instruction
1) Lecture and demonstration
2) Hands-on practice
3) Assignments

Out-of-Class Assignments
1) Read textbook and assignment instructions
2) Participate in online discussion
3) Complete assignments and online quizzes
4) Review online resources, including videos

Texts and References
1) Required (representative examples):
   a. McFarland. CSS3: The Missing Manual, 5th Edition. O'Reilly Media, 2019.
   b. Krug. *Don't Make Me Think, Revisited*. 4th edition. New Riders, 2018.
2) Supplemental: Ruvalcaba & Boehm. *Murach's HTML5 and CSS3, 3rd Edition*. Murach, 2015.

Exit Skills
Students having successfully completed this course exit with the following skills, competencies and/or knowledge:
1) Demonstrate best practices in HTML structure by properly using HTML5 semantic elements and other structural elements (div, span, head elements, block elements) and explain how these support search engine optimization, accessibility, and responsive design.
2) Use CSS in an efficient, organized manner to control presentation, including formatting and layout for desktop, tablets, mobile devices, and print.
3) Explain how to implement a local testing server or hosted site and the reasons for each.
4) Compare content management systems, explain their advantages and disadvantages, and use one to create a small web site.
5) Describe and apply principles of usable and accessible design.

Student Learning Outcomes
Upon successful completion of this course, students will be able to:
1) Create a responsive website that meets 80% of the technical, organizational, structural, and presentation requirements outlined in a detailed scoring rubric based on the course content and objectives.