

**CS 50A Course Outline as of Fall 2017****CATALOG INFORMATION**

Dept and Nbr: CS 50A Title: WEB DEVELOPMENT 1

Full Title: Web Development 1

Last Reviewed: 10/24/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	4	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

This course provides an introduction to client-side Web development technology and design. Students learn the basics of current versions of the two primary markup languages used to create Web pages, HTML5 and CSS3, while studying the current industry practices related to user-centered design, including visual and interaction design.

**Prerequisites/Corequisites:****Recommended Preparation:**

Course Completion of CS 5 and Course Eligibility for ENGL 1A

**Limits on Enrollment:****Schedule of Classes Information:**

Description: This course provides an introduction to client-side Web development technology and design. Students learn the basics of current versions of the two primary markup languages used to create Web pages, HTML5 and CSS3, while studying the current industry practices related to user-centered design, including visual and interaction design. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Course Completion of CS 5 and Course Eligibility for ENGL 1A

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU GE:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>

<b>IGETC:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
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<b>CSU Transfer:</b>	Transferable	<b>Effective:</b>	Fall 2014	<b>Inactive:</b>
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<b>UC Transfer:</b>		<b>Effective:</b>		<b>Inactive:</b>
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Use HTML and CSS code that meets current industry standards to create a simple website.
2. Apply appropriate terminology to describe basic web development concepts.

### **Objectives:**

Upon completion of the course, students will be able to:

1. Create a simple website.
2. Develop webpages that utilize the HTML elements that address the following functions: basics document structure, head elements, text markup, site navigation, images, div and span structure, semantic elements, tables, forms.
3. Develop webpages that utilize CSS to control the appearance of the site. Students will use these CSS property groups: text and font, color and background, the box model, position and display, lists, tables.
4. Develop webpages that utilize the CSS concepts of the cascade and inheritance of browser, external, embedded and inline CSS.
5. Students will correctly use the CSS elements of selectors, declarations, properties, values. Classes and id's will be stressed.
6. Summarize the following website development concepts: element, attribute, element nesting, asset path, style, rule, selector, declaration, property, and value.

### **Topics and Scope:**

#### **I. Basic Document Structure**

- A. DOCTYPE html, head, title, body, meta, h1 - h6, br and p elements
- B. Definitions: element, tag, opening element, closing element, stand alone elements, attributes, element syntax, page content
- C. Hypertext markup language

- D. Uploading webpages to a server
- E. Roles of web servers and web browsers
- F. Proper nesting of elements
- G. Structure vs. presentation

## II. Navigation

- A. Links using relative paths
- B. Links using complete URLs (Uniform Resource Locators)
- C. Links to id's within a webpage
- D. Navigation bars
- E. Validating HTML (HyperText Markup Language) code to the HTML 5 standard
- F. Email link

## III. HTML Structural Elements

- A. Strong
- B. Em
- C. Pre
- D. Blockquote
- E. Unordered Lists
- F. Ordered Lists
- G. Definition Lists
- H. Special Characters

## IV. Images

- A. Images sources - downloading from a website, digital camera, smart phones. Copyright overview
- B. Using the img element to insert images into a webpage
- C. The src, alt, height, and width attributes
- D. Joint Photographic Experts Group vs. Portable Network Graphics vs. Graphic Interchange Format
- E. Using folders to organize a website
- F. Using image editing software to resize an image
- G. Linking thumbnail images to a web page

## V. Cascading Style Sheets Usage

- A. Basic CSS rules : selector, property, value, declaration, style
- B. Inline, embedded, external and browser stylesheets
- C. Descendant and multiple selectors
- D. Inheritance
- E. The cascade
- F. Classes and id's

## VI. CSS Font / Text Properties

- A. Font-family, font-size, font-weight, font-style, font-variant
- B. Text-align, text-transform, text-indent, text-decoration, color, background-color, line-height, letter spacing, word-spacing

## VII. HTML Editors - Download, Use and Review

## VIII. CSS (Cascading Style Sheets) Box Properties

- A. Width
- B. Padding
- C. Border
- D. Margin
- E. Background-image
- F. Background-repeat
- G. Background-position
- H. Shorthand properties: padding, margin, border, background, and font

## IX. Webpage layout using CSS

- A. Float
- B. Clear
- C. Wireframe
- D. Conversion of wireframe to web site
- E. Pseudo-classes
- F. Absolute positioning
- G. Responsive design
- H. Z-index
- X. Semantic Elements
  - A. conversion of div elements to semantic elements
  - B. header, nav, section, footer
  - C. Article, aside, time
  - D. CSS for screen and print
- XI. Tables
  - A. Table element
  - B. Tr (table row)
  - C. Td (table data)
  - D. Th (table heading)
  - E. Summary
  - F. Caption
  - G. Border
  - H. Rowspan
  - I. Colspan
  - J. Styling a table using CSS
  - K. Nested tables
- XII. Forms
  - A. Form
  - B. POST and GET commands
  - C. Input
    - 1. text
    - 2. submit
    - 3. radio
    - 4. checkbox
    - 5. reset
    - 6. hidden
  - D. Textarea
  - E. Select and option
  - F. Fieldset
  - G. Label
  - H. Layout of forms
  - I. Styling forms
  - J. Form processing using an existing CGI (Common Gateway Interface) script
  - K. Using hidden input elements to provide input to an existing CGI script
- XIII. Commercial Website
  - A. Web hosting
  - B. Domain names
  - C. E-commerce

### **Assignment:**

#### **Required Assignments:**

1. Textbook reading (25 - 60 pages per week)

2. Website projects (4 - 7). All webpages must be uploaded to the student.santarosa.edu server and must validate HTML5. Each of the following must be included in at least one website project:
  - a. At least 5 pages
  - b. A standard navigation bar
  - c. Html, head, title, body, h1, h2, p, a, img, string, em, pre, br, q, blockquote, ol, ul, li, and meta elements
  - d. CSS to control border-bottom, background-color, font-family, font-size, font-weight, font-style, color, and text-decoration properties
  - e. The use of classes
  - f. Links using relative paths, links using complete URL's, and links to id's within a webpage
  - g. Thumbnails
3. Quizzes (2 - 4)

**Optional Assignments:**

1. Website critique(s)
2. Participation in electronic message board discussions

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Website critiques, participation in electronic message boards

Writing  
0 - 20%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Website projects

Problem solving  
30 - 70%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes

Exams  
20 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Participation, attendance

Other Category  
10 - 20%

**Representative Textbooks and Materials:**

Basics of Web Design: HTML 5 and CSS3. 3rd ed. Felke-Morris, Terry. Pearson. 2015

