

CompuScholar, Inc.
 Alignment to Utah
"Web Development 1" Course Standards

Utah Course Details:

Course Name:	Web Development 1
Primary Cluster:	CTE / IT
Course Code(s):	35.02.00.00.060
Credit:	0.5
Grade Level:	9th-12th
State Standards Link:	Web Development 1 Strands and Standards

CompuScholar Course Details:

Course Title:	Web Design
Course ISBN:	978-0-9887070-3-0
Course Year:	2019

Note 1: Citation(s) listed may represent a subset of the instances where objectives are met throughout the course.

Note 2: Citation(s) for a "Lesson" refer to the "Lesson Text" elements and associated "Activities" within the course, unless otherwise noted. The "Instructional Video" components are supplements designed to introduce or re-enforce the main lesson concepts, and the Lesson Text contains full details.

Course Description

Web Development is a course designed to guide students in a project-based environment in the development of up-to-date concepts and skills that are used in the development of today's websites. Students will learn the fundamentals of how the Internet works. They will learn and use the basic building blocks of the World Wide Web: HTML5 coding, Cascading Style Sheets (CSS) and JavaScript.

Course Standards

STRAND 1: Internet Standards & Fundamentals: Students will understand the basic principles of how the Internet is constructed, how it functions, and how it is used.	CITATION(S)
Standard 1: Identify the infrastructure required to access the Internet.	
a. Explain hardware and software used to connect to the Internet (modem, browser, wifi, cabling, etc.)	Chapter 15, Lessons 3-4
b. Explain the role of an Internet Service Provider (ISP)	Chapter 15, Lesson 2

Standard 2: Understand Internet development & functions.	
a. Understand how the Internet was developed	Chapter 1, Lesson 2 Chapter 15, Lesson 2
b. Understand the purpose web servers, routers, packets, IP Address, the “backbone”, Intranet, bandwidth and firewalls.	Chapter 15, Lessons 2-4
c. Acquire Internet vocabulary, including the basic Internet terms found in the vocabulary list on the USOE website under "Teacher Helps." NOTE: Per Utah BOE, a specific vocabulary list no longer exists. The curriculum should define relevant Internet vocabulary as needed.	Throughout the course as needed
Standard 3: Understand the Purpose of domains	
a. Explain the purpose of an IP address.	Chapter 15, Lesson 3
b. Explain the purpose of a domain name and identify its parts (protocol, sub-domain, domain, top level domain, file path, file name).	Chapter 5, Lesson 4 Supplemental Lesson 2
Standard 4: Understand the function of a Domain Name Server.	
a. Explain the function of a Domain Name Server (DNS).	Chapter 15, Lessons 2-3
b. Understand how to register a domain name.	Supplemental Lesson 2
Standard 5: Define important Internet communications protocols and their roles in delivering basic Internet services.	
a. Identify different Internet protocols (http, https, ftp, and tcp/ip.)	Chapter 15, Lessons 2,5 Chapter 16, Lesson 2
b. Describe how each protocol is used	Chapter 15, Lessons 2,5 Chapter 16, Lesson 2
Standard 6: Demonstrate knowledge of standard copyright rules	
a. Understand copyright for original creations	Chapter 11, Lesson 1 Chapter 16, Lesson 1
b. Understand the creative commons license	Chapter 11, Lesson 1
c. Understand when to obtain permission for non-original work.	Chapter 11, Lesson 1
Standard 7: Understand the use and purpose of acceptable use policy (AUP).	
a. Understand the AUP for your school	Chapter 16, Lesson 1
b. Understand ethical behavior as described in the AUP. Intellectual Property, Netiquette, Respecting Privacy, Anti-Spamming Laws, etc.	Chapter 16, Lesson 1

STRAND 2: Fundamentals of HTML5: Students will demonstrate creation of “well formed” web pages.	CITATION(S)
Standard 1: Demonstrate knowledge required to create a web page.	
a. Code the foundation for a webpage. Include the element tags html, head, title and body.	Chapter 2, Lesson 4 Chapter 3, Lessons 1-2
b. Structure the page using semantic elements such as: header, nav, main, section, article, aside, footer, etc.	Ch 17, Lesson 2: section Ch 17, Lesson 3: header, footer Ch 17, Lesson 4: article, aside, nav
Standard 2: Understand appropriate file structure and naming.	
a. Use logical file structure to build websites	Chapter 2, Lessons 1-2 Chapter 5, Lesson 2 Chapter 6, Lesson 5
b. Incorporate appropriate file naming for a website.	Chapter 1, Lesson 3
Standard 3: Use the DOCTYPE Declaration	
a. Develop pages using the DOCTYPE declaration	Chapter 2, Lesson 4
b. Validate code according to the DOCTYPE used.	Chapter 2, Lesson 4 Supplemental Lesson 9
Standard 4: Know, develop and use the rules to create “well formed” web pages with appropriate HTML structure and standards that can be validated. (W3C)	
a. Use lowercase for elements is consistency and best practice.	Chapter 2, Lesson 3
b. Properly nest elements	Chapter 4, Lesson 2
c. Use quotes on attribute values.	Chapter 3, Lesson 1
Standard 5: Demonstrate the use of elements and attributes.	
a. Create pages with tags and attributes at the block and inline level. (h1, h2, h3, h4, h5, h6, p, hr, br, meta, style, etc.)	Ch 3, Lesson 1: meta Ch 3, Lesson 2: h1, h2 (etc.), p Ch 3, Lesson 3: strong, em, blockquote, cite, br Ch 4, Lesson 1: block vs inline elements, div, span Ch 4, Lesson 3: ul, ol, li Ch 6, Lesson 3: style

b. Create web pages with text formatting, links, images, lists, tables, relative vs absolute connections, etc.	Chapter 3, Lesson 3 Chapter 4, Lesson 3 Chapters 5, 11, 12
c. Code special characters such as: © " < > & —.	Chapter 4, Lesson 2
d. Demonstrate the use of semantic elements such as: audio, video, track, mark, picture, figure, source, and canvas	Ch 18, Lesson 1: figure, figcaption Ch 19, Lesson 2: video, source Ch 19, Lesson 3: audio, source
Standard 6: Specify page description, keywords, viewport, and author using meta tags.	
a. Specify page description, keywords, and author using meta tags.	Chapter 3, Lesson 1
b. Declare encoding using meta tags.	Chapter 3, Lesson 1
c. Understand principles of search engine optimization	Chapter 13, Lesson 4

STRAND 3: Cascading Style Sheets (CSS): Students will format web pages using CSS.	CITATION(S)
Standard 1: Apply essential syntax & parts of the CSS.	
a. Add a background attributes such as: color and image.	Chapter 6, Lesson 1 Chapter 8, Lesson 2
b. Add font attributes such as: type, size, and color.	Chapter 6, Lesson 1 Chapter 7, Lesson 1
c. Add border attributes such as: width, style, and color.	Chapter 8, Lesson 3
d. Add style rule, declaration, selector, property value	Chapter 6, Lesson 1
Standard 2: Apply CSS to your website	
a. Apply CSS to an element using an inline style	Chapter 6, Lesson 1
b. Apply CSS to a webpage using an internal style.	Chapter 6, Lesson 3
c. Apply CSS to a website using an external stylesheet.	Chapter 6, Lesson 5

STRAND 4: Site Planning and Design: Students will plan, design, implement, and maintain website(s).	CITATION(S)
Standard 1: Analyze Project requirements	
a. Identify the purpose and audience for a website.	Chapter 10, Lesson 1 Chapter 13, Lesson 1 Chapter 13, Lesson 2
b. Demonstrate knowledge of website accessibility standards that address the needs of people with visual and motor impairments. Such as using alt tags, strong instead of bold, etc..	Chapter 3, Lesson 3 Chapter 13, Lesson 2
c. Identify and follow steps in the website planning and development.	Chapter 13, Lesson 1 Chapters 14 and 28 Supplemental Lesson 4
Standard 2: Planning site design and page layout	
a. Demonstrate knowledge of best practices for designing a website; such as, maintaining consistency, separating content from design, using standard fonts, Google fonts, and Web-safe colors.	Chapter 6, Lesson 2 Chapter 7, Lesson 1 Chapter 10, Lesson 1 Chapter 25, Lesson 4
b. Demonstrate effective web development and design principles, including the use of color, white space, font styles, viewing patterns, background images, balance, etc.	Chapter 6, Lesson 2 Chapter 7, Lessons 1-2 Chapter 8, Lesson 2 Chapter 10, Lesson 1
c. Identify basic principles of website usability, readability, and accessibility.	Chapter 6, Lesson 2 Chapter 10, Lesson 1 Chapter 13, Lesson 2
d. Plan a website by using sketches, website hierarchy, or a site map.	Chapter 13, Lesson 1 Chapter 14, Lesson 1

STRAND 5: The student will create and prepare images to integrate with website design, using image editing software.	CITATION(S)
Standard 1: Open, edit, and save an image for effective use on your website.	
a. Crop and resize various images.	Chapter 11, Lesson 1
b. Add a border and/or drop shadow to an image or text.	Chapter 11, Lesson 3 Chapter 20, Lesson 3
c. Optimize an image (resize and change resolution for optimal load time.)	Chapter 11, Lesson 1
d. Enhance an image to improve photo quality (red eye, auticolor, etc).	N/A
Standard 2: Create buttons or navigation bar	Chapter 10, Lessons 2,4 Chapter 24

Standard 3: Design a logo or banner to incorporate into a Web page.	Chapter 10, Lesson 2
Standard 4: Optional: Use a digital camera to incorporate photos into a Web page.	Chapter 11, Lesson 1

STRAND 6: Exploration & Preparation for Careers in Web Development: Students will explore careers in Web Development and prepare a portfolio of projects created.	CITATION(S)
Standard 1: Explore IT Web Development careers	
a. Identify job roles in the Information Technology (IT) industry as they apply to web development.	Supplemental Lesson 8
b. Understand the responsibilities, tasks, and skills each job requires.	Supplemental Lesson 8
Standard 2: Create a Student portfolio	
a. Prepare an electronic portfolio of projects developed in the class.	N/A (But existing projects may be modified as needed)

STRAND 7 (Optional): JavaScript has become an essential web technology along with HTML and CSS, as most browsers implement JavaScript. Students will understand basic JavaScript in front-end and back-end development, mobile app development, desktop app development, and game development.	CITATION(S)
Publisher's Note: While we devote 3 chapters to JavaScript and jQuery, we avoid making this a "programming" class with concepts like variables, functions and conditional logic.	
Standard 1: Intro to JavaScript	
a. Introduce JavaScript and how it is used in web development.	Chapters 25 - 27
b. Learn a few basic JavaScript commands.	Chapters 25 - 27
c. Create a simple webpage using JavaScript	Chapters 25 - 27
Standard 2: Variables in JavaScript	N/A
Standard 3: Input in JavaScript	N/A
Standard 4: Functions in JavaScript	N/A
Standard 5: Conditionals in JavaScript	N/A