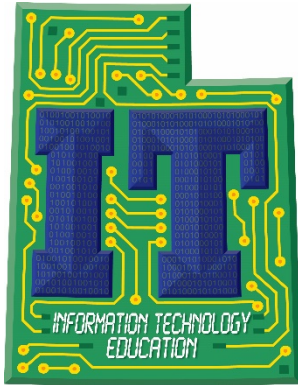


# STRANDS AND STANDARDS

## WEB DEVELOPMENT 2



### 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. They follow the steps to create a website by planning, designing, developing, deploying, and maintaining of the website projects. Students will learn and use different scripting technologies to create more dynamic and interactive websites. They will learn what it takes for a career in Web Development as they complete projects and create their own web site.

<b>Intended Grade Level</b>	9-12
Units of Credit	0.5
Core Code	35.02.00.00.065
Concurrent Enrollment Core Code	35.02.00.13.065
Prerequisite	Web Development 1
Skill Certification Test Number	894, 993, 9451, 9454
Test Weight	0.5 or 1.0
<b>License Type</b>	CTE and/or Secondary Education 6-12
<b>Required Endorsement(s)</b>	
Endorsement 1	Web Development, or
Endorsement 2	Computer Science Level 1, or
Endorsement 3	Computer Science Level 2

## STRAND 1

**Fundamentals of HTML5: Students will demonstrate creation of “well formed” web pages. (Suggested time proportion 20%)**

### Standard 1

Use advanced HTML5 elements to create web pages.

- Incorporate SVG image maps on web page.
- Incorporate forms on web page. Examples: radio, checkbox, text, text area.
- Understand the action that will run on the server on form submit button. (PHP file)
- Incorporate iframes on a web page.
- Incorporate Javascript on a web page.
- Use a GUI-based HTML editing software to create web pages.

## STRAND 2

**Cascading Style Sheets (CSS): Students will format web pages using CSS. (Suggested time proportion 40%)**

### Standard 1

Use selectors in a CSS.

- Link to internal and external style sheet.
- Implement a tags, ID, & classes to modify an HTML element.
- Implement an id selector to modify a single element on the page.
- Implement class selectors to modify several class elements using span.
- Implement contextual selectors to modify nested elements.
- Implement selectors a: link, a:visited, a:active a:hover

### Standard 2

Format page layout with advanced CSS.

- Use width, height, or auto to adjust the size.
- Use float to position elements.
- Use absolute, relative, fixed, and static to position elements.

- Use text align, margin, and padding

### Standard 3

Frameworks to layout web pages.

- Format web pages using frameworks like: BootStrap, JQuery, etc.
- Explore new frameworks.
- Use frameworks to create responsive pages.

### Standard 4

Code animation and graphics with advanced CSS

- Buttons (ie, rounded, colored, etc.)
- Create Navigation Bars
- Image overlay hover (ie. Fade in, slide in, ect)
- Image slider

## STRAND 3

**Site Planning and Design: Students will plan, design, implement, and maintain website(s).**  
**(Suggested time proportion 20%)**

### Standard 1

Create a website plan and pitch for a client.

- Identify basic principles of website usability, readability, and accessibility.
- Plan a website by using sketches, website hierarchy, or a site map.
- Communicate with others (such as peers and clients) about design and content plans.
- Produce website designs that work on various devices and browser versions/configurations.
- Plan, communicate, or present a client's website before, during or after website development.

### Standard 2

Create content for website.

- Create and prepare 2D images. .gif, .png, .jpg, .svg
- Prepare rich media; such as, video, sound, or animation.
- Identify when to use various image and digital media file formats.
- Optimize images for web content, such as resize, resolution, compress, thumbnails.
- Understand the use of favicons.
- Identify how to avoid violating copyright rules.

### Standard 3

Uploading and maintaining a site.

- Understand and be able to describe the capabilities of web servers.
- Upload pages to a web server. \* Optional if security allows
- Differentiate between types of IP addresses.

- Describe a static IP address.
- Describe a Dynamic IP address.
- Differentiate between ipv4 and ipv6.
- Conduct basic technical tests such as validating the website (wc3 compliant), accessibility, SEO, etc.
- Present web pages to others for quality assurances (QA) such as team members and clients for feedback and evaluation on technical merits and usability.
- Identify methods for collecting site feedback, such as using counters, feedback forums, Google Analytics, Google Webmaster Tools.
- Provide site maintenance using bug reports, backups, and promotion.
- Document all aspects of website maintenance.

### Standard 4

Use version control in projects.

- Utilize tools like Git/Github, Tortoise SVN, ect.
- Understand basic terms and procedures of version control.

### Standard 5

Work as a team to create a website.

- Use good oral and written communication skills as a team member
- Use Agile/Scrum project management tools to help the teamwork.

## STRAND 4

**Advanced Web Concepts: Students will explore advanced web concepts. (Suggested time proportion 15%)**

### Standard 1

Demonstrate the use scripting and other interactive tools.

- Use HTML5 tags
- Add interactivity to your website using JavaScript.
- Understand the difference between client side and server side scripting languages.
- Explore HTML5 elements, such as; canvas, drag and drop, audio, video, geolocation.

### Standard 2

Understand other web technologies.

- Understand when to use a database.
- Describe new and emerging Web technologies such as Web 2.0, wikis, blogs, forums, etc.
- Understand the purpose of content management systems (CMS) such as Wordpress, Drupal, Weebly, etc.

### STRAND 5

**Exploration & Preparation for Careers in Web Development: Students will explore careers in Web Development and prepare a portfolio of projects created. (Suggested time proportion 5%)**

#### Standard 1

Explore IT Web Development careers.

- Identify job roles in the Information Technology (IT) industry as they apply to web development. Full-stack Developer, Front-end back-end developer.
- Understand the responsibilities, tasks, and skills each job requires.

#### Standard 2

Create a Student portfolio.

- Prepare an electronic portfolio of projects developed in the class.

#### Standard 3

Participate in a CTSO, Utah Digital Media Arts, or competition.

- Compete in a project-based competition using web design and development skills.

#### Performance Skills

- Validate website HTML
- Validate Website CSS

### Skill Certificate Test Points by Strand

Coming Soon.