

Web Development II

*This exam is in pilot status for the 20-21 school year. No certificate is available.

EXAM INFORMATION	DESCRIPTION														
<p>Exam Number 894</p> <p>Items 48</p> <p>Points 54</p> <p>Prerequisites NONE</p> <p>Recommended Course Length ONE SEMESTER OR ONE YEAR</p> <p>National Career Cluster INFORMATION TECHNOLOGY</p> <p>Performance Standards INCLUDED (OPTIONAL)</p> <p>Certificate Available NO (PILOT)</p>	<p>Web Development 2 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.</p> <p>EXAM BLUEPRINT</p> <table border="1"> <thead> <tr> <th>STANDARD</th> <th>PERCENTAGE OF EXAM</th> </tr> </thead> <tbody> <tr> <td>1. Fundamentals of HTML5</td> <td>19%</td> </tr> <tr> <td>2. Cascading Style Sheets (CSS)</td> <td>35%</td> </tr> <tr> <td>3. Site Planning & Design</td> <td>19%</td> </tr> <tr> <td>4. Advanced Web Concepts</td> <td>6%</td> </tr> <tr> <td>5. JavaScript</td> <td>20%</td> </tr> <tr> <td>6. Careers in Web Development</td> <td>2%</td> </tr> </tbody> </table>	STANDARD	PERCENTAGE OF EXAM	1. Fundamentals of HTML5	19%	2. Cascading Style Sheets (CSS)	35%	3. Site Planning & Design	19%	4. Advanced Web Concepts	6%	5. JavaScript	20%	6. Careers in Web Development	2%
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STANDARD 1

Fundamentals of HTML5: Students will demonstrate creation of "well formed" web pages

Objective 1 Use advanced HTML5 elements to create web pages.

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

STANDARD 2

Cascading Style Sheets (CSS): Students will format web pages using CSS

Objective 1 Understand the use of various CSS selectors.

1. Understand the cascade order for inline, internal, and external style sheet.
2. Implement element selections to modify HTML elements (tag, ID, & classes)
3. Implement an id selector to modify a single element on a page.
4. Implement class selectors to modify several class elements.
5. Implement contextual selectors to modify nested elements.
6. Implement selectors a:link, a:visited, a:active a:hover

Objective 2 Format page layout with advanced CSS.

1. Use width, height, or auto to adjust the size of the elements.
2. Use float to position elements.
3. Use absolute, relative, fixed, and static to position elements.
4. Use text align, margin, and padding.

Objective 3 Frameworks to layout web pages.

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

Objective 4 Code animation and graphics with advanced CSS.

1. Buttons. (ie, rounded, colored, etc.)
2. Create Navigation Bars.
3. Image overlay hover. (ie. Fade-in, slide-out, etc.)
4. Image slider.

STANDARD 3

Site Planning and Design: Students will plan, design, implement, and maintain website(s)

Objective 1 Create a website plan and pitch for a client.

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

Objective 2 Create content for website.

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

Objective 3 Uploading and maintaining a site.

1. Understand and be able to describe the capabilities of web servers.
2. Upload pages to a web server. * Optional if security allows.
3. Differentiate between types of IP addresses.
4. Describe a static IP address.
5. Describe a Dynamic IP address.

6. Differentiate between ipv4 and ipv6.
7. Conduct basic technical tests such as validating the website (wc3 compliant), accessibility, SEO, etc.
8. Present web pages to others for quality assurances (QA) such as team members and clients for feedback and evaluation on technical merits and usability.
9. Identify methods for collecting site feedback, such as using counters, feedback forums, Google Analytics, Google Webmaster Tools.
10. Provide site maintenance using bug reports, backups, and promotion.
11. Document all aspects of website maintenance.
12. Identify internet protocols: http, https, ftp, tcp/ip

Objective 4 Use version control in projects.

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

Objective 5 Work as a team to create a website.

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

STANDARD 4

Advanced Web Concepts: Students will explore advanced web concepts

Objective 1 Demonstrate the use of scripting and other interactive tools.

1. Use HTML5 tags
2. Add interactivity to your website using JavaScript.
3. Understand the difference between client side and server side scripting languages.

Objective 2 Understand other web technologies.

1. Understand when to use a database.
2. Describe what a Web 2.0 site is and how wikis, blogs, and forums work.
3. Understand the purpose of content management systems (CMS) such as WordPress, Drupal, Weebly, etc.

STANDARD 5

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

Objective 1 Intro to JavaScript.

1. Introduce JavaScript and how it is used in web development.
2. Learn a few basic JavaScript commands.
3. Create a simple webpage using JavaScript.

Objective 2 Variables in JavaScript.

1. Introduce variables and uses.
2. Learn about variable scope.
3. Use input in programs.

Objective 3 Input in JavaScript.

1. Review variables.
2. Learn how to gather input from the user.
3. Create a simple webpage using JavaScript.

Objective 4 Conditionals in JavaScript.

1. Review if statements.
2. Learn how to create a custom function.
3. See input in programs.

Objective 5 Functions in JavaScript.

1. Review functions.
2. Learn syntax for conditionals.
3. Use if statements in programs.

STANDARD 6

Exploration & Preparation for Careers in Web Development: Students will explore careers in Web

Objective 1 Explore IT Web Development careers.

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

Objective 2 Create a Student portfolio.

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

Objective 3 Participate in a CTSO, Utah Digital Media Arts, or competition.

Web Development II

Performance assessments may be completed and evaluated at any time during the course. The following performance skills are to be used in connection with the associated standards and exam. To pass the performance standard the student must attain a performance standard average of 8 or higher on the rating scale. Students may be encouraged to repeat the objectives until they average 8 or higher.

Student's Name: _____

Class: _____

PERFORMANCE STANDARDS RATING SCALE



- Validate website HTML
- Validate Website CSS

Workplace Skills

The following workplace skills should be discussed, taught, and re-enforced in the course:

- Communication
- Teamwork
- Critical and Creative Thinking
- Problem Solving
- Dependability
- Legal requirements / expectations

PERFORMANCE STANDARD AVERAGE SCORE:

Evaluator Name: _____

Evaluator Title: _____

Evaluator Signature: _____

Date: _____