CIW Advanced HTML5 And CSS3 Specialist Objectives and Locations

The CIW *Advanced HTML5 And CSS3 Specialist* courseware and this appendix are designed to help students prepare for the CIW Advanced HTML5 And CSS3 Specialist exam (1D0-620). Students can use this appendix as a study guide to locate content within the CIW *Advanced HTML5 And CSS3 Specialist* course that corresponds to the specific skills objectives of the CIW Advanced HTML5 And CSS3 Specialist program. You can register for the CIW Advanced HTML5 And CSS3 Specialist exam at any Prometric (*www.prometric.com*) or VUE (*www.vue.com*) testing center. If your learning institution is a CIW Certification Testing Center (CTC) participant, then your instructor may be able to deliver CIW certification exams directly in your classroom. For more information about the CIW Advanced HTML5 And CSS3 Specialist certification or any other CIW certification, visit *www.CIWcertified.com*.

Advanced HTML5 And CSS3 Specialist Objective	*Advanced HTML5 And CSS3 Specialist* Courseware Lesson(s) and Section(s)
Domain 1: HTML5 Essentials	
1.1 Consider HTML5 development skills you can apply to both traditional and non-traditional delivery platforms, including mobile apps.	**Lesson 1: HTML5 Essentials** - Mobile Websites vs. Mobile Apps - App Development
1.2 Compare "apps" to mobile Websites.	**Lesson 1: HTML5 Essentials** - Mobile Websites vs. Mobile Apps
1.3 Identify the Web development trifecta and explain its significance.	**Lesson 1: HTML5 Essentials** - The Web Development Trifecta
1.4 Explain the evolution of HTML and its relevance to modern design techniques.	**Lesson 1: HTML5 Essentials** - The Evolution of HTML5
1.5 Explain the importance of universal markup creation.	**Lesson 1: HTML5 Essentials** - Universal Markup Creation
1.6 Create and deploy HTML5 structure tags.	**Lesson 1: HTML5 Essentials** - HTML5 Structure Elements - Lab 1-1: Structuring and validating a Webpage
1.7 Perform HTML5 code validation, including mobile webpages, which includes explaining the practical value of code validation and listing the steps to validate HTML5 code.	**Lesson 1: HTML5 Essentials** - Validating HTML5 Code - Lab 1-1: Structuring and validating a Webpage

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1.8 Apply HTML5 Multimedia Elements (including: video, audio, embed and canvas).	**Lesson 1: HTML5 Essentials** - HTML5 Multimedia Elements - HTML5 Graphics - Lab 1-2: Embedding video with the HTML5 \<video\> element - Lab 1-3: Embedding audio with the HTML5 \<audio\> element
1.9 Define common elements of HTML5 application programming interfaces (APIs).	**Lesson 1: HTML5 Essentials** - HTML5 APIs
1.10 Create appropriate navigation elements and hyperlinks for mobile Webpages.	**Lesson 1: HTML5 Essentials** - Navigation and Hyperlinks for Mobile Devices
1.11 Use images appropriately on mobile Webpages.	**Lesson 1: HTML5 Essentials** - Images and Mobile Design
Domain 2: Cascading Style Sheets (CSS) Technology and CSS Version 3 (CSS3)	
2.1 Explain the function and purpose of the Cascading Style Sheets (CSS) technology.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Cascading Style Sheets (CSS)
2.2 Explain the importance of using style guides when designing sites and documents.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Style Guides
2.3 Define common CSS terms and syntax.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - CSS Terms and Syntax
2.4 Apply CSS styles to format pages.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Applying CSS Styles - Lab 2-1: Formatting text with CSS
2.5 Develop and apply page layouts with CSS.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Page Layout with CSS - Lab 2-3: Laying out a page's structure using CSS - Lab 2-4: Positioning images relative to text using CSS
2.6 Use the CSS Box Model.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - The CSS Box Model - Lab 2-2: Modifying elements using CSS margins, borders and padding
2.7 Describe general concerns for developing Web documents that will be delivered on mobile devices.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Designing Websites for Mobile Devices - Lab 2-5: Modifying a site for mobile users

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2.8 Define common CSS positioning schemes and apply document flow.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Page Layout with CSS - Lab 2-3: Laying out a page's structure using CSS - Lab 2-4: Positioning images relative to text using CSS
2.9 Develop appropriate page layouts for use on mobile devices.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Designing Websites for Mobile Devices - Lab 2-5: Modifying a site for mobile users
2.10 List the features added to CSS functionality in CSS version 3 (CSS3).	**Lesson 3: Using CSS Version 3 (CSS3)** - Introduction to CSS3
2.11 Apply common CSS3 properties and selectors.	**Lesson 3: Using CSS Version 3 (CSS3)** - CSS3 Selectors and Properties - Lab 3-1: Using CSS3 selectors
2.12 Apply backgrounds, borders, fonts and text effects with CSS3.	**Lesson 3: Using CSS Version 3 (CSS3)** - CSS3 Background Properties - Lab 3-2: Adding CSS3 backgrounds - CSS3 Border Properties - Lab 3-3: Creating buttons and shadows with the CSS3 border properties - CSS3 Font Properties - CSS3 Text Effects - Lab 3-4: Using CSS3 fonts and text effects
2.13 Determine cross-browser compatibility for traditional and mobile Webpages.	**Lesson 3: Using CSS Version 3 (CSS3)** - Cross-Browser Compatibility
2.14 Describe essential Responsive Web Design (RWD) techniques and principles.	**Lesson 3: Using CSS Version 3 (CSS3)** - Responsive Web Design
Domain 3: Using Advanced CSS3 Techniques	
3.1 Apply 2D and 3D transformations with CSS3.	**Lesson 4: Using Advanced CSS3 Techniques** - CSS3 2D and 3D Transformations - Lab 4-1: Creating 2D and 3D transformations with CSS3
3.2 Apply transitions and animations with CSS3.	**Lesson 4: Using Advanced CSS3 Techniques** - CSS3 Transitions - Lab 4-2: Using CSS3 transitions - CSS3 Animations - Lab 4-3: Creating CSS3 animations

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3.3 Create accessible user interfaces with CSS3.	**Lesson 4: Using Advanced CSS3 Techniques** - CSS3 User Interfaces - Lab 4-4: Using the CSS3 *resize* property
3.4 Create menus and buttons with CSS3.	**Lesson 4: Using Advanced CSS3 Techniques** - Creating Menus and Buttons with CSS3 - Lab 4-5: Creating a CSS menu
3.5 Create transparencies and overlays with CSS3.	**Lesson 4: Using Advanced CSS3 Techniques** - Creating Menus and Buttons with CSS3 - Lab 4-5: Creating a CSS menu
3.6 Explain SASS and why it is an extension to CSS	**Lesson 4: Using Advanced CSS3 Techniques** - SASS
Domain 4: Introduction to JavaScript	
4.1 Define scripting languages and explain their functionality in Web development.	**Lesson 5: Introduction to JavaScript** - Introduction to Scripting
4.2 Define JavaScript, describe its main features and uses, and list characteristics of JavaScript that affect Web developers and design.	**Lesson 5: Introduction to JavaScript** - Introduction to Scripting - JavaScript Characteristics
4.3 Compare JavaScript to other languages used in Web development.	**Lesson 5: Introduction to JavaScript** - JavaScript vs. Other Languages
4.4 Embed JavaScript code into HTML5 documents.	**Lesson 5: Introduction to JavaScript** - Ways of Embedding JavaScript into HTML5 Documents
4.5 Define the roles of JavaScript objects, properties and methods in scripting and programming.	**Lesson 5: Introduction to JavaScript** - Objects, Properties and Methods - Lab 5-1: Using the JavaScript *alert()* method
4.6 Define the role of JavaScript variables in scripting and programming.	**Lesson 5: Introduction to JavaScript** - JavaScript and Common Programming Concepts - Lab 5-2: Using the JavaScript *prompt()* method - Lab 5-3: Using the JavaScript *document.write()* method
4.7 Define the role of JavaScript expressions and operators in scripting and programming(including conditional statements, arrays, loops, scope isolation and iterators).	**Lesson 5: Introduction to JavaScript** - Expressions and Operators - Lab 5-2: Using the JavaScript *prompt()* method - Lab 5-3: Using the JavaScript *document.write()* method - Conditional Statements - Arrays - Loops - Scope Isolation - Iterators - Regex

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Domain 5: JavaScript Events, Functions and Methods	
5.1 Define user events, and identify and use JavaScript event handlers.	**Lesson 6: JavaScript Events, Functions and Methods** - User Events and JavaScript Event Handlers
5.2 Describe the role of functions in JavaScript development.	**Lesson 6: JavaScript Events, Functions and Methods** - Introduction to JavaScript Functions
5.3 Use JavaScript code to define functions.	**Lesson 6: JavaScript Events, Functions and Methods** - Defining a Function - Lab 6-1: Creating a user-defined function in JavaScript - Lab 6-2: Using functions, arguments and return values in JavaScript - Lab 6-3: Calling a function from within another function in JavaScript
5.4 Use JavaScript code to call functions.	**Lesson 6: JavaScript Events, Functions and Methods** - Defining a Function - Lab 6-1: Creating a user-defined function in JavaScript - Calling a Function - Lab 6-2: Using functions, arguments and return values in JavaScript - Lab 6-3: Calling a function from within another function in JavaScript
5.5 Use methods as functions in JavaScript code.	**Lesson 6: JavaScript Events, Functions and Methods** - Methods as Functions
5.6 Use functions including promises, modules, Async, await and closures.	**Lesson 6: JavaScript Events, Functions and Methods** - Promises - Modules - Async/ Await & Closures - AJAX and JSON
5.7 Identify common errors in JavaScript.	**Lesson 6: JavaScript Events, Functions and Methods** - Methods as Functions - Errors In JavaScript
Domain 6: Using HTML5 APIs	
6.1 Define the Document Object Model (DOM).	**Lesson 7: Using HTML5 APIs** - Document Object Model (DOM)
6.2 Define application programming interface (API), and list the common HTML5 APIs.	**Lesson 7: Using HTML5 APIs** - Common HTML5 APIs
6.3 Use the HTML5 Canvas API for advanced techniques.	**Lesson 7: Using HTML5 APIs** - The Canvas API - Lab 7-1: Using the HTML5 Canvas API

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6.4 Use the HTML5 Geolocation API to obtain geographic information about a user.	**Lesson 7: Using HTML5 APIs** - The Geolocation API - Lab 7-3: Using the Geolocation API to obtain geographical information
6.5 Create drag-and-drop Web pages using the HTML5 Drag-and-Drop API.	**Lesson 7: Using HTML5 APIs** - The Drag-and–Drop API - Lab 7-4: Adding drag-and–drop elements to a Webpage with HTML5
6.6 Use the HTML5 File API to interact with files.	**Lesson 7: Using HTML5 APIs** - The File API - Lab 7-5: Using the HTML5 File API
6.7 Use the HTML5 History API to manipulate a browser's history.	**Lesson 7: Using HTML5 APIs** - The History API
6.8 Retrieve and manipulate HTML5 data using *XMLHttpRequest* and jQuery.	**Lesson 7: Using HTML5 APIs** - Retrieving Data with *XMLHttpRequest* - Manipulating Data with jQuery
Domain 7: Developing HTML5 Forms	
7.1 Describe the purpose and functionality of HTML5 forms.	**Lesson 8: Developing HTML5 Forms** - Introduction to HTML5 Forms - HTML5 Form Input Types
7.2 Develop cross-browser compatible forms using HTML5.	**Lesson 8: Developing HTML5 Forms** - Cross-Browser Compatible HTML5 Forms - HTML5 Form Input Types
7.3 List the new form input types available in HTML5.	**Lesson 8: Developing HTML5 Forms** - HTML5 Form Input Types - Lab 8-1: Using new HTML5 input types
7.4 Use the HTML5 <datalist> element.	**Lesson 8: Developing HTML5 Forms** - New Form Elements in HTML5 - Lab 8-2: Using the HTML5 <datalist> element
7.5 Explain the function of the HTML5 <output> element.	**Lesson 8: Developing HTML5 Forms** - New Form Elements in HTML5
7.6 Use HTML5 global attributes for HTML form elements including <fieldset>, <legend>, <label>, <select> and <textarea>.	**Lesson 8: Developing HTML5 Forms** - HTML5 Global Attributes for Form Elements - Lab 8-3: Using the <fieldset> and <legend> elements - Lab 8-4: Using the <textarea> element with the *placeholder* attribute

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Domain 8: Completing, Submitting and Validating User Input Forms	
8.1 Use HTML5 attributes for completing and submitting forms, including new attributes for the \<form>, \<input> and \<button> elements.	**Lesson 9: Completing, Submitting and Validating User Input Forms** - HTML5 Attributes for the \<form> Element - Lab 9-1: Using the HTML5 *autocomplete* attribute with \<form> - HTML5 Attributes for the \<input> Element - Lab 9-2: Using the HTML5 *autofocus* attribute with \<input> - Submitting Forms with the \<button> Element - Lab 9-3: Using the \<button> element to submit forms
8.2 Describe the general concepts and techniques used to validate user input from forms.	**Lesson 9: Completing, Submitting and Validating User Input Forms** - Concepts and Techniques for Validating User Input
8.3 Validate user input from forms using HTML5 attributes.	**Lesson 9: Completing, Submitting and Validating User Input Forms** - Validating User Input with HTML5 Attributes - Lab 9-4: Using the HTML5 *required* attribute - Lab 9-5: Using the HTML5 *pattern* attribute - Lab 9-6: Using the *pattern* attribute with HTML input types
8.4 Validate user input from forms using JavaScript.	**Lesson 9: Completing, Submitting and Validating User Input Forms** - Validating User Input with JavaScript
Domain 9: Copyright, Ethics and Legal Considerations	
9.1 Explain the importance of copyright rules in coding practices	**Lesson 10: Copyright, Ethics and Legal Considerations** - Copyright Laws in Coding, Really?
9.2 Describe accessibility compliance (including ADA and Section 508) responsibilities in Website development	**Lesson 10: Copyright, Ethics and Legal Considerations** - Why Accessibility? - Lab 10-1: Applying compliance requirements to your Website
9.3 Implement accessibility compliance in Website coding	**Lesson 10: Copyright, Ethics and Legal Considerations** - Lab 10-1: Applying compliance requirements to your Website
9.4 Identify appropriate netiquette and cultural references as it applies to Website design.	**Lesson 10: Copyright, Ethics and Legal Considerations** - Netiquette and Cultural Considerations - Lab 10-2: Identify sites that incorporate proper netiquette habits

Advanced HTML5 And CSS3 Specialist Objective	Advanced HTML5 And CSS3 Specialist Courseware Lesson(s) and Section(s)
9.5 Differentiate between ethical and legal responsibilities	**Lesson 10: Copyright, Ethics and Legal Considerations** - Netiquette and Cultural Considerations - How Does Ethics Effect Coding?
9.6 Compare local and international privacy laws (e.g., HIPPA, GDPR, etc.) and Website development responsibilities.	**Lesson 10: Copyright, Ethics and Legal Considerations** - Why Consider Global Laws? - Lab 10-3: Users privacy and your Website responsibilities
9.7 Consider appropriate security standards as it applies to Website design to protect personal and business information.	**Lesson 10: Copyright, Ethics and Legal Considerations** - Security Standards
9.8 Formulate standards to apply ethical reasoning and judgment on issues affected by technological advances (e.g., coding, hacking, spying).	**Lesson 10: Copyright, Ethics and Legal Considerations** - How Does Ethics Effect Coding?
Domain 10: Project Management and Critical Thinking	
10.1 Demonstrate Project Management strategies and tasks for Website development.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Designing Websites for Mobile Devices
10.2 Compare and contrast various management styles in technological organizations.	**Lesson 10: Copyright, Ethics and Legal Considerations** - How Does Ethics Effect Coding?
10.3 Identify a work-based learning experience in a local business environment.	**Lesson 2: Introduction to Cascading Style Sheets (CSS) Technology** - Designing Websites for Mobile Devices
10.4 Develop appropriate personal standards for leadership techniques, customer service strategies and personal ethics.	**Lesson 9: Completing, Submitting and Validating User Input Forms** - Validating User Input with JavaScript
10.5 Identify various potential website issues, and troubleshoot their causes and symptoms. (including: conformance to standards, site rendering, audience interaction and validation)	**Lesson 1: HTML5 Essentials** - Validating HTML5 Code
10.6 Solve problems using critical thinking, creativity and innovation skills.	**Lesson 1: HTML5 Essentials** - Validating HTML5 Code
10.7 Discuss the importance of time management, both professionally and personally.	**Lesson 10: Copyright, Ethics and Legal Considerations** - Netiquette and Cultural Considerations