

Appendix A: CIW Site Development Associate Objectives and Locations

Site Development Associate teaches you essential Webpage development skills. You will learn to develop Websites using Hypertext Markup Language version 5 (HTML5) and Cascading Style Sheets (CSS3). You will learn to write code manually, as well as use graphical user interface (GUI) authoring tools. You will also learn to insert images, create hyperlinks, and add tables, forms, video, and audio to your Webpages.

In addition to learning about HTML5 and CSS3 coding, you will learn how to use HTML5 Application Programming Interfaces (APIs) to extend the functionality of Webpages, such as geolocation, drag-and-drop, canvas, and offline Web applications. Other topics include validating your HTML code, recognizing the importance of search engine optimization (SEO), using style sheets extensively to format Webpage content, and implementing fundamental design concepts. Throughout the course, you will learn how Websites are developed as managed projects. You will also identify e-commerce solutions and relate Website development to business goals.

Domain 2: Site Development Associate Objective	Site Development Associate Courseware Lesson(s) and Section(s)
Subdomain 2.1: Demonstrate knowledge required to create a Webpage.	
2.1.1: Relate the history of markup languages to current techniques and technologies, including Standard Generalized Markup Language (SGML), previous versions of Hypertext Markup Language (HTML).	Lesson 1: Markup Language and Site Development Essentials - History of Markup Languages
2.1.2: Identify the format and various versions of HTML, including HTML 4.01, Extensible HTML (XHTML), HTML5.	Lesson 1: Markup Language and Site Development Essentials - History of Markup Languages
2.1.3: Use HTML elements and tags to format paragraphs and text.	Lesson 2: HTML5 Coding - Document Structure Tags - Preparing Your Development Environment - Paragraph Formatting and Block-Level Elements - Text-Level Elements - Lists
2.1.4: Create HTML hyperlinks for text, images, local files and remote sites (internal and external links).	Lesson 4: Hyperlinks - The Anchor Element - Creating Local Hyperlinks - Creating External Hyperlinks - Using Images as Hyperlinks - Creating Internal Links

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2.1.5: Design and format HTML tables to present information in an organized way.	Lesson 5: HTML Tables <ul style="list-style-type: none"> - Introduction to HTML Tables - CSS3 Properties for All Table Elements - Table and Data Alignment Options - Height and Width of Table Elements - Column and Row Spanning
2.1.6: Define the Document Object Model (DOM) and its relationship to Dynamic HTML (DHTML).	Lesson 8: Extending HTML <ul style="list-style-type: none"> - Dynamic HTML (DHTML) - Document Object Model (DOM)
2.1.7: Add comments to HTML code and document page/site creation.	Lesson 2: HTML5 Coding <ul style="list-style-type: none"> - Good Coding Practice
2.1.8: Explain the importance of consistently developing to a single W3C standard (e.g., HTML5).	Lesson 1: Markup Language and Site Development Essentials <ul style="list-style-type: none"> - History of Markup Languages Lesson 2: HTML5 Coding <ul style="list-style-type: none"> - Introduction to Using HTML - Good Coding Practice
2.1.9: Add third-party applications to your Webpage (e.g., Google Gadgets for the Web).	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Working with the Latest Web Technologies
2.1.10: Identify ways that a Web browser can become an application delivery platform, including strengths and weaknesses of the browser.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Working with the Latest Web Technologies
Subdomain 2.2: Add images and graphical formatting to HTML files, and create and edit images and audio.	
2.2.1: Incorporate graphical images into HTML pages.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements <ul style="list-style-type: none"> - Images in Webpages
2.2.2: Distinguish among and identify the uses and benefits of various graphic file formats, including GIF, GIF89a, JPEG, PNG TIFF, BMP.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements <ul style="list-style-type: none"> - Images in Webpages Lesson 7: Video, Audio and Image Techniques <ul style="list-style-type: none"> - Graphic Types - Animation

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2.2.3: Add tiled images and colors to Webpage backgrounds.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Separating Content in HTML -Images in Webpages - Specifying Colors - Page Colors and Backgrounds - Web Design Issues
2.2.4: Create and link client-side image maps.	Lesson 7: Video, Audio and Image Techniques - Image Maps
2.2.5: Perform advanced image formatting techniques.	Lesson 7: Video, Audio and Image Techniques - Image Transparency - Image Interlacing - Animation
2.2.6: Insert horizontal rules into Webpages.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Separating Content in HTML
2.2.7: Distinguish between raster and vector graphics.	Lesson 7: Video, Audio and Image Techniques - Graphic Types
2.2.8: Scan and edit hard copy sources and images.	Lesson 7: Video, Audio and Image Techniques - Creating and Managing Images
2.2.9: Identify steps for creating images, including resolution, format and layers.	Lesson 7: Video, Audio and Image Techniques - Creating and Managing Images
2.2.10: Identify benefits and drawbacks of using stock photography.	Lesson 7: Video, Audio and Image Techniques - Creating and Managing Images
2.2.11: Create a photo and portfolio management strategy, including online and offline storage, software and services.	Lesson 7: Video, Audio and Image Techniques - Creating and Managing Images
Subdomain 2.3: Identify and use design and color principles for Webpages.	
2.3.1: Define the browser-safe color palette.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Specifying Colors
2.3.2: Identify and use color values in Webpages (e.g., RGB and hexadecimal codes).	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Page Colors and Backgrounds
2.3.3: Identify and demonstrate the impact of color combinations to various audiences and cultures.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Web Design Issues

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2.3.4: Evaluate Webpage design and layout.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Web Design Issues
Subdomain 2.4: Create a basic HTML form that accepts user input.	
2.4.1: Construct and test HTML forms.	Lesson 6: Web Forms - Basic Tags for Creating Web Forms - Web Form Fields
2.4.2: Identify ways that CGI scripts can parse and transmit information from a form, including email, FTP, HTTP, HTTPS.	Lesson 6: Web Forms - Web Forms and CGI
Subdomain 2.6: Define Extensible Markup Language (XML), and identify its features and appropriate use.	
2.6.1: Describe the functionality of XML.	Lesson 1: Markup Language and Site Development Essentials - History of Markup Languages
Subdomain 2.7: Identify essential Website navigation issues, and ensure page/site accessibility.	
2.7.1: Obtain input from stakeholders about acceptable technologies and color combinations.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.7.2: Create an initial Website diagram (i.e., a story board or prototype), and translate it into a site map.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.7.3: Verify compliance with government and industry accessibility standards, including W3C Web Accessibility Initiative (WAI), U.S. Government Section 508, Americans with Disabilities Act (ADA).	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles Lesson 10: Website Development for Business - Front-End Issues
2.7.4: Validate Webpage design according to technical and audience standards adopted by employers.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles Lesson 2: HTML5 Coding - Document Structure Tags
2.7.5: Verify Website usability, viewability and browser compatibility.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.7.7: Identify the challenges of designing Websites for mobile devices (e.g., smartphones, tablets, game consoles).	Lesson 9: GUI HTML Editors and Mobile Websites - Developing Webpages for Mobile Devices

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Subdomain 2.8: Define and apply essential aspects of the Cascading Style Sheets (CSS) standard, including CSS versions 1, 2 and 3.	
2.8.1: Explain how to structure Web documents with CSS.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Web Design Issues
2.8.2: Identify ways to apply styles with CSS.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Cascading Style Sheets (CSS3)
Subdomain 2.9: Use the most current version of Hypertext Markup Language (HTML5) to create Webpages.	
2.9.2: Create a Webpage using the HTML5 standards.	Lesson 2: HTML5 Coding - Preparing Your Development Environment - Paragraph Formatting and Block-Level Elements
Subdomain 2.10: Identify technologies for enhancing the user's Web experience, including programming languages, multimedia technologies.	
2.10.1: Identify the uses and benefits of various document and multimedia file formats, including PDF, RTF, PostScript, EPS, MOV, MPEG, streaming media, non-streaming media.	Lesson 10: Website Development for Business - File Formats and Active Content
2.10.2: Define the following Web-related mechanisms for audience development (i.e., attracting and retaining an audience): push technology, pull technology, visitor tracking.	Lesson 10: Website Development for Business - Front-End Issues
2.10.3: Evaluate the benefits and drawbacks of proprietary technologies such as Adobe Flash and Microsoft Silverlight.	Lesson 10: Website Development for Business - Front-End Issues - File Formats and Active Content
2.10.5: Create a basic video file using video capture and editing software.	Lesson 7: Video, Audio and Image Techniques - The <video> Element
2.10.6: Insert a video file into a Webpage using the HTML5 <video> element and attributes.	Lesson 7: Video, Audio and Image Techniques - Introduction to Web Video, Audio and Image Techniques - The <video> Element
2.10.7: Insert an audio file into a Webpage using the HTML5 <audio> element and attributes.	Lesson 7: Video, Audio and Image Techniques - The <audio> Element
2.10.8: Describe various HTML5 Application Programming Interfaces (APIs), including canvas, geolocation, offline Web application, drag-and-drop.	Lesson 8: Extending HTML - HTML5 APIs - Canvas - Offline Web Application - Geolocation - Drag-and-Drop Functionality

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2.10.9: Demonstrate basic HTML5 API functionality using JavaScript and HTML5 elements.	Lesson 8: Extending HTML <ul style="list-style-type: none"> - Canvas - Offline Web Application - Geolocation - Drag-and-Drop Functionality
Subdomain 2.11: Use GUI-based HTML editing software to create Webpages.	
2.11.1: Evaluate a GUI HTML editor according to the W3C Authoring Tool Accessibility Guidelines.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - GUI HTML Editor Functionality
2.11.2: Validate HTML code.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Previewing Pages and Validating Code
2.11.3: Use font and page appearance options in a GUI HTML editor.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Creating Webpages with a GUI Editor
2.11.4: View source code and preview Webpages in a browser.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Previewing Pages and Validating Code
2.11.5: Create HTML tables using a GUI HTML editor.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - GUI HTML Editor Functionality - Creating Webpages with a GUI Editor
2.11.6: Publish (i.e., upload) Webpages and sites to a Web server.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Website Publishing
2.11.7: Evaluate various types of HTML editors that can edit files in mobile devices and cloud services.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Developing Webpages for Mobile Devices - Optimizing a Website for Mobile Viewing
2.11.8: Distinguish between mobile apps and mobile Websites.	Lesson 9: GUI HTML Editors and Mobile Websites <ul style="list-style-type: none"> - Mobile Apps vs. Dedicated Mobile Websites vs. Responsive Design Websites
Subdomain 2.12: Test and analyze Website performance issues.	
2.12.1: Test and validate Web documents.	Lesson 1: Markup Language and Site Development Essentials <ul style="list-style-type: none"> - Website Development Principles Lesson 2: HTML5 Coding <ul style="list-style-type: none"> - Preparing Your Development Environment
2.12.2: Estimate download time for Webpages.	Lesson 10: Website Development for Business <ul style="list-style-type: none"> - Bandwidth and Download Time
2.12.3: Test Webpages in multiple browsers.	Lesson 1: Markup Language and Site Development Essentials <ul style="list-style-type: none"> - Website Development Principles

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2.12.4: Document results of Website functionality testing.	Lesson 10: Website Development for Business - Front-End Issues
Subdomain 2.13: Identify steps in the Website planning and development process.	
2.13.1: Work as a team member to develop pages and sites.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.13.2: Collaborate with technical (e.g., IT) and non-technical (e.g., marketing) members of the organization to ensure sites meet requirements.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.13.3: Determine information and audience requirements for a site, including stakeholders such as customers, employees, shareholders, suppliers.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.13.4: Document a Website plan.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.13.5: Communicate the Website plan effectively, both orally and in writing.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.13.6: Obtain and document feedback, then improve the site, including working closely with sales and marketing to evaluate site effectiveness.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
Subdomain 2.14: Identify essential issues in developing and maintaining a Website, including project management, testing, legal issues.	
2.14.1: Define legal issues related to a Website, including trademarking, licensing, copyrighting, licensing copyrighted materials, scope of copyright, reach of copyright, copyrighting process, copyright infringement and consequences.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.14.2: Identify fundamentals of project management, including major stages of a Web design/development project cycle.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.14.3: Identify processes of pre-launch site/application functionality testing, including checking links, testing with various browsers, testing against corruption of your e-commerce site, load testing, access to the site, testing with various speed connections.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.14.4: Manage existing sites (e.g., remove dead links and/or upgrade connectivity when necessary).	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles Lesson 4: Hyperlinks - Managing Hyperlinks

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2.14.5: Remove old sites and pages.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
Subdomain 2.15: Plan and deliver oral presentations of your Website, during and after site development.	
2.15.1: Identify ways to elicit useful feedback from management and customers.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.15.2: Use presentation aids and support material, including charts, tables, figures, written content, overhead projection.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.15.3: Use presentation software (e.g., slidebased software).	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.15.4: Clarify technical concepts for a nontechnical audience, and use strategies to retain listener interest.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.15.5: Interpret verbal, non-verbal and written feedback.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.15.6: Address diversity and corporate/organizational culture when communicating your message by customizing meeting and message delivery, and listening for responses.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.15.7: Identify ways to lead meetings (e.g., make introductions, invite questions, set time frames, set action times, monitor time, ensure proper discussion focus, publish minutes).	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
Subdomain 2.16: Define electronic commerce (ecommerce) and related technologies and concepts necessary to develop a secure, useful interface (i.e., storefront).	
2.16.1: Define e-commerce terms and concepts, including EDI, business-to-business (B2B), business-to-consumer (B2C), Electronic Funds Transfer (EFT), merchant systems, relationship management, customer self-service, Internet marketing, Secure Electronic Transactions (SET).	Lesson 10: Website Development for Business - Developing a Business Website - E-Commerce Considerations
2.16.3: Identify payment models used in ecommerce, including payment gateways.	Lesson 10: Website Development for Business - E-Commerce Payment Technologies
2.16.4: Identify issues related to working in a global environment, including different currencies, multi-lingual issues, international shipping, legal and regulatory issues.	Lesson 10: Website Development for Business - Working in a Global Environment

Domain 2: Site Development Associate Objective	Site Development Associate Courseware Lesson(s) and Section(s)
2.16.5: Identify the importance of SSL/TLS to a transaction that contains sensitive information.	Lesson 10: Website Development for Business - E-Commerce Payment Technologies
2.16.6: Identify the importance of online indexing and cataloging.	Lesson 4: Hyperlinks - Creating Internal Links Lesson 10: Website Development for Business - Back-End Issues
2.16.7: Define search engine optimization (SEO) and related key terms (e.g., Internet marketing, organic vs. nonorganic [pay-per-click], Web analytics.	Lesson 10: Website Development for Business - Front-End Issues
Subdomain 2.17: Demonstrate knowledge of languages commonly used to provide database connectivity to Websites.	
2.17.1: Compare popular client-side and server-side programming languages, including JavaScript, Java, PHP, Python, .NET, C, C++, Visual Basic, C#).	Lesson 8: Extending HTML - Server-Side Languages - Client-Side Languages
2.17.2: Define Common Gateway Interface (CGI) methods, including .NET, Django, Python, JavaServer Pages (JSP), Server-Side JavaScript (SSJS), Active Server Pages (ASP), PHP Hypertext Preprocessor (PHP), Ajax.	Lesson 8: Extending HTML - Server-Side Languages - Web Application Frameworks - Connecting to a Database Lesson 9: GUI HTML Editors and Mobile Websites - Working with the Latest Web Technologies Lesson 10: Website Development for Business - Databases and Webpages
2.17.3: Define database connectivity technologies (e.g., Open Database Connectivity [ODBC], Java Database Connectivity [JDBC]), and explain the importance of connecting databases with Websites and other Internet-based services.	Lesson 10: Website Development for Business - Back-End Issues
2.17.5: Identify the value of n-tier applications and associated techniques in processing online transactions.	Lesson 8: Extending HTML - Connecting to a Database
Subdomain 2.18: Identify the benefits and drawbacks of running your own Web server versus using a service provider.	
2.18.1: Investigate costs associated with placing and developing your own server.	Lesson 1: Markup Language and Site Development Essentials - Hosting and Web Service Providers
2.18.2: Identify costs associated with using a cloud service provider.	Lesson 1: Markup Language and Site Development Essentials - Hosting and Web Service Providers

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2.18.3: Distinguish among dedicated hosting, co-location and virtual servers.	Lesson 1: Markup Language and Site Development Essentials - Hosting and Web Service Providers
2.18.4: Activate features provided by managed services (e.g., CGI, forms).	Lesson 6: Web Forms - Web Forms and CGI - Web Form Fields
2.18.5: Manage information relevant to a site (e.g., account information, passwords, IP addresses).	Lesson 1: Markup Language and Site Development Essentials - Hosting and Web Service Providers
Subdomain 2.19: Identify common strategies for managing an end user's experience and improving site creativity.	
2.19.1: Identify ways to use additional technologies to provide custom features to an end user (e.g., using JavaScript to detect Web browser type, using cookies).	Lesson 8: Extending HTML - Client-Side Languages
2.19.2: Manage branding issues when developing a site (e.g., logo placement and sizing).	Lesson 10: Website Development for Business - Developing a Business Website - Front-End Issues
2.19.3: Consider corporate/organizational culture when designing page layout.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.19.4: Demonstrate sensitivity to ethnic and cultural issues in page layout and design.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
Subdomain 2.20: Consider copyright and ethical issues when creating Webpages.	
2.20.1: Obtain proper permissions from developers when repurposing content (e.g., other developers' code, images, concepts).	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.20.2: Create and sign a Non-Disclosure Agreement (NDA) when necessary.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.20.3: Identify situations in which it is necessary to consult with a legal team.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
2.20.4: Identify ethical concerns when developing a Website.	Lesson 1: Markup Language and Site Development Essentials - Website Development Principles
Subdomain 2.21: Design Webpages to industry standards.	
2.21.1: Use CSS and HTML5 elements to create document structure.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Web Design Issues

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2.21.2: Distinguish between fixed width and liquid design layouts.	Lesson 3: Cascading Style Sheets (CSS3) and Graphical Elements - Web Design Issues
2.21.3: Create Webpages that rank highly for search engines that use spiders and screen readers.	Lesson 10: Website Development for Business - Internet Marketing and Search Engine Optimization (SEO)
2.21.4: Consult respected Web development resources, including books, trade journals, online sources, qualified individuals, user groups.	Lesson 10: Website Development for Business - Developing a Business Website
2.21.5: Identify ways to create pages for traditional and mobile-device browsers (e.g., validating code, appropriate resolutions, supported interpreters, extensive user testing).	Lesson 9: GUI HTML Editors and Mobile Websites - Developing Webpages for Mobile Devices