CompuScholar, Inc.

Alignment to Arkansas **Web Design I** Standards

Course Title: **CompuScholar: Web Design**
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Note 1: Arkansas standards were derived from this document:

http://ace.arkansas.gov/cte/informationForms/curriculumFrameworks/Documents/Frameworks/Business/webdesigndmt2007.pdf

Note 2: Citation(s) listed may represent a subset of the actual instances where objectives are met throughout the course.

Arkansas ACE: Business and Marketing Technology Standards	
Course Title:	**Web Design I**
Course/Unit Credit:	1
Course Number:	492650
Grades:	10 - 12

Web Design I: Design Methodology Technology is the first level of Web Page Design, and it prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to basic Web design and the dynamics of networking/internetworking, Web hosting and Web design in e-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web Page Design and construction industry. Further, this course provides for and directly maps to the Certified Internet Webmaster "Foundations" national certification examination.

Unit 1: Web Design Process		CITATION(S)
1.1 Define terminology	1.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
1.2 Identify elements of the Web site development process	1.2.1 Examine job responsibilities and tasks of a Web designer or Web development team member	Supplemental Lesson 8
	1.2.2 Demonstrate the collaborative nature of a Web development project	Chapters 14, 28 Supplemental Lesson 8

	1.2.3 Develop a Web site vision statement	Chapters 14, 28 Supplemental Lesson 4
	1.2.4 Develop a site strategy and identify strategy implementation tactics	Chapters 14, 28 Supplemental Lesson 4
	1.2.5 Prepare a project evaluation, including acceptance, documentation, summary of technologies used, and project style guidelines	Chapters 14, 28 Supplemental Lesson 4
	1.2.6 Create a Web page and site templates that fulfill design specifications	Chapters 14, 28 and throughout the course
	1.2.7 Compare and connect site project implementation factors (includes stake- holder input, time frame, scope, desired functionality, and required technologies)	Chapters 14, 28 Supplemental Lesson 4
	1.2.8 Complete a Web project plan, including development timetable, site rollout plan	Chapters 14, 28 Supplemental Lesson 4
	1.2.9 Examine Web site characteristics (e.g., interactivity, navigation, database integration) and the project resources they require	Chapters 14, 28 Supplemental Lesson 4
1.3 Identify customer expectations with Web site project and design	1.3.1 Relate customer needs and usability with site design principles and aesthetics (includes distinguishing site design customer from site audience)	Chapter 10 Chapter 13
	1.3.2 Explain potential customer expectations and feedback	Supplemental Lesson 4
	1.3.3 Recommend plans and progress used to regularly ensure that completed project meets stakeholder/customer expectations	Supplemental Lesson 4
	1.3.4 Classify changes in project scope (includes scope creep)	Supplemental Lesson 4
	1.3.5 Examine changes in development plans	Supplemental Lesson 4
	1.3.6 Prepare project tracking report	Chapters 14, 28 Supplemental Lesson 4

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Unit 2: Web Site Layout		CITATION(S)
2.1 Define terminology	2.2.1 Apply the mindmapping process to structure a Web site	Chapter 13, Lesson 1
2.2 Identify Web design principles in order to evaluate and develop a site's aesthetic qualities and its ability to enhance viewer experience	2.2.2 Explain design goals appropriate for the business/organization represented by the site and the site's intended audience	Chapter 10 Supplemental Lesson 4
	2.2.3 Show a site metaphor	Chapter 10
	2.2.4 Examine site design and architecture specifications	Chapter 10 Chapter 13 Chapters 14, 28 Supplemental Lesson 4
	2.2.5 Examine branding on the Web site	Chapter 10
	2.2.6 Classify and use common Web page design and layout elements (includes color, space, font size, and style, lines, logos, symbols, picturogrms, images, and stationary features)	These topics covered in multiple chapters throughout the course
	2.2.7 Compare ways that design helps and hinders audience participation (includes target audience, stakeholder expectations, and cultural issues)	Chapter 10
	2.2.8 Design space and content to create a visually balanced page or site that presents a coherent, unified message (includes symmetry, asymmetry, and radial balance)	Chapter 10
	2.2.9 Analyze the use of color to introduce variety, stimulate users, and emphasize messages.	Chapter 6 Chapter 10
	2.2.10 Examine design strategies to control a user's focus on a page	Chapter 10
	2.2.11 Recommend strategies and tools visual con sistency to Web pages and site (includes style guides, page templates, image placement, and navigation aids)	Chapter 10
	2.2.12 Examine a site's message, culture, and tone (professional, casual, formal, informal) using images, colors, fonts, and content style	Chapter 10

	2.2.13 Modify unnecessary elements that distract from a page's message	Chapter 10
	2.2.14 Design a plan to make Web content printer- friendly	N/A
	2.2.15 Design for screen resolution issues in online content	N/A
	2.2.16 Explain audience and end-user capabilities (includes lowest common denominator in usability)	Chapter 13
	2.2.17 Experiment with hexadecimal values to specify colors in X/HTML	Chapter 6
	2.2.18 Use image colors to determine effectiveness in various cultures	Chapter 6 Chapter 10

Unit 3: Web Site Usability and Accessibility		CITATION(S)
3.1 Define terminology	3.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
3.2 Identify issues that affect Web site usability	3.2.1 Examine audience usability tests	Chapter 13, Lesson 2
	3.2.2 Classify and apply user-accessibility standards and laws, including W3C, WAI/WCAG, ADA Section 508, and International standards	Chapter 13, Lesson 2
	3.2.3 Connect common user-accessibility challenges and solutions	Chapter 13, Lesson 2
	3.2.4 Analyze site testing (functionality, usability, and browser compatibility)	Chapter 13, Lesson 2 Supplemental Lesson 9
	3.2.5 Explain accessibility issues and solutions related to Web images and animation (includes text-reader capability, and captioning)	Chapter 13, Lesson 2
	3.2.6 Perform site testing (functionality, usability, and browser compatibility)	Chapter 13, Lesson 2 Supplemental Lesson 9

Unit 4: Browsers and Navigation Concepts		CITATION(S)
4.1 Define terminology	4.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
4.2 Identify Web design principles to enable navigation, usability, and accessibility	4.2.1 Examine Web site hierarchy/architecture concepts (includes appropriate page depth for content)	Chapter 13, Lesson 1
	4.2.2 Explain common navigation conventions	Chapter 5 Chapter 13, Lesson 1
	4.2.3 Decide upon and apply a navigation action plan	Chapter 5 Chapter 13, Lesson 1
	4.2.4 Examine site strategies and technologies to avoid, including pop-up windows, single-browser sites, and spam	Best practices recommended as needed throughout the course
	4.2.5 Explain functionality of pop-up/pop-under windows (includes creation, benefits, disadvantages, reasons to omit from your site)	N/A

Unit 5: Web Graphics and Multimedia		CITATION(S)
5.1 Define terminology	5.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
5.2 Identify image files and use images in X/HTML pages and site design	5.2.1 Explain the difference between vector and raster graphic types	Chapter 11, Lesson 1
	5.2.2 Use appropriate image file formats, including browser-compatibility issues and lowest common denominator in audience usability (includes GIF 87a, GIF 89a, JPEG, JPEG 2000, PNG, BMP)	Chapter 11, Lesson 1
5.3 Identify multimedia and plug-in technologies to enhance a Web site	5.3.1 Examine multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria	Chapter 11 Chapter 19 Supplemental Lesson 6

Unit 6: Ethical and Legal Issues in Web Development		CITATION(S)
6.1 Define terminology	6.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
6.2 Identify ethical and legal issues relevant to Web development and design	6.2.1 Analyze the difference between legal and ethical issues	Chapter 16
	6.2.2 Discover using Web content text, graphics, code properly, including original content, misleading/inaccurate information, copyrighted content, licensing, and avoiding infringement	Chapter 16
	6.2.3 Examine site strategies and technologies to avoid, including pop-up windows, single-browser sites, and spam	Best practices recommended as needed throughout the course
	6.2.4 Explain strategies to avoid violating end-user provacy and trust (includes refusing to share or sell end-user information, opt- in/opt-out for mailing lists)	Chapter 16
	6.2.5 Explain privacy disclaimers appropriate to site purpose and audience	Chapter 16
	6.2.6 Explain international legal issues, including fair use, trademarks, and contracts	Chapter 16
	6.2.7 Examine nature and purpose of site content (includes audience appropriate- ness, intended vs. unintended audience, potentially offensive content vs. legal content, and global and cultural perspectives)	Chapter 16

Unit 7: HTML, XML, XHTML and the Evolution of Markup		CITATION(S)
7.1 Define terminology	7.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
7.2 Identify basic HTML and XHTML (X/HTML) to develop a series of Web pages	7.2.1 Explain the origins of HTML and XHTML, X/HTML standards, and distinguish among X/HTML versions	Chapter 1 Chapter 16

	7.2.2 Use X/HTML code to create a static Web page with text and images	HTMl5 used throughout the course
	7.2.3 Use X/HTML to apply design principles and layout elements (including fonts, space, colors, lines, images) to Web pages	HTMl5 used throughout the course
	7.2.4 Examine non-standard X/HTML code and the ways that proprietary code affects Web development	Chapter 21
	7.2.5 Explain Extensible Markup Language (XML), and distinguish XML from HTML and XHTML	Chatper 1
	7.2.6 Explain and create a "well-formed" XML document	N/A

Unit 8: Web Page Structure – Tables and Framesets		CITATION(S)
8.1 Define terminology	8.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
8.2 Identify Web design principles to enable navigation, usability, and accessibility	8.2.1 Create X/HTML tables to appropriately format data (includes table design)	Chapter 12
	8.2.2 Create X/HTML framesets (include simple nested, combines, inline), and target frames correctly	Supplemental Lesson 12
	8.2.3 Explain common user-accessibility challenges and solutions	Chapter 13

Unit 9: Cascading Style Sheets		CITATION(S)
9.1 Define terminology	9.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
9.2 Identify Web design principles to evaluate and develop a site's aesthetic qualities and its ability to enhance viewer experience	9.2.1 Show ways to apply Web page formatting with Cascading Style Sheets (CSS1 and CSS2) using various methods (includes linking, embedding, inline), and use style sheets to simplify Web site design	Chapter 6 and throughout the course
	9.2.2 Create an external style sheet and link it to an X/HTML document	Chapter 6 and throughout the course

9.2.3 Explain strategies and tools for visual consistency to Web pages and site (includes style guides, page templates, image placement, and navigation aids)	Chapter 10

Unit 10: Site Content and Metadata		CITATION(S)
10.1 Define terminology	10.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
10.2 Use X/HTML and extended technologies to enhance Web page structure, format, and usability	10.2.1 Develop or obtain written consent that conveys the site's message, including clear and concise writing, professional editing, style guides, consistency, jargon, voice, and tone	Chapter 3 Chapter 17 Supplemental Lesson 7
	10.2.2 Add metadata tags and content to X/HTML documents to influence search engine placement (includes refining <meta> tags in existing pages)	Chapter 3 Chapter 13, Lesson 4

Unit 11: Site Development with Microsoft FrontPage		CITATION(S)
Publisher's Note: This course recommends Komodo Edit as a 3rd party development platform. Topics below are generally covered in the context of Komodo Edit. Schools may substitute other web authoring tools if desired.		
11.1 Define terminology	11.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
11.2 Discuss Web pages that use GUI site development applications	11.2.1 Connect site development using X/HTML text editors using GUI site management applications	See note above
	11.2.2 Use site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional	See note above
	11.2.3 Apply adding images to web pages and create image maps using GUI site development applications	Chapter 11 Supplemental Lesson 10
	11.2.4 Apply text, tables, and hyperlinks to Web pages using GUI site development applications	Chapters 3, 5, 12

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	11.2.5 Create Web forms using GUI site development applications	Supplemental Lesson 11
	11.2.6 Create page and site templates using GUI site development applications	Chapter 14, 16, 28
	11.2.7 Apply CSS to page and site templates using GUI site development applications	CSS used throughout the course
	11.2.8 Apply page and site templates to new pages using GUI site development applications	Chapter 14, 16, 28
	11.2.9 Discover and validate source code using GUI site development applications	Supplemental Lesson 9
	11.2.10 Use GUI site development applications to enforce compliance with accessibility standards	Supplemental Lesson 9
	11.2.11 Experiment with adding search capability to a Web site	N/A

Unit 12: Site Development with Dreamweaver		CITATION(S)
Publisher's Note: This course recommends Komodo Edit as a 3rd party development platform. Topics below are generally covered in the context of Komodo Edit. Schools may substitute other web authoring tools if desired.		
12.1 Define terminology	12.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
12.2 Identify Web pages that use GUI site development applications	12.2.1 Use site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional	See note above
	12.2.2 Add images to web pages and create image maps using GUI site development applications	Chapter 11 Supplemental Lesson 10
	12.2.3 Apply text, tables, and hyperlinks to Web pages using GUI site development applications	Chapters 3, 5, 12
	12.2.4 Create Web forms using GUI site development applications	Supplemental Lesson 11
	12.2.5 Create page and site templates using GUI site development applications	Chapter 14, 16, 28
	12.2.6 Apply CSS to page and site templates using GUI site development applications	CSS used throughout the course

	12.2.7 Apply page and site templates to new pages using GUI site development applications	Chapter 14, 16, 28
	12.2.8 Discover and validate source code using GUI site development applications	Supplemental Lesson 9
	12.2.9 Use GUI site development applications to enforce compliance with accessibility standards	Supplemental Lesson 9
	12.2.10 Create rollover images on a Web page	Chapter 18 Chapter 24

Unit 13: Web Pages with Homesite 5.5		CITATION(S)
Publisher's Note: This course recommends Komodo Edit as a 3rd party development platform. Topics below are generally covered in the context of Komodo Edit. Schools may substitute other web authoring tools if desired.		
13.1 Define terminology	13.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
13.2 Identify basic HTML and XHTML (X/HTML) to develop a series of Web pages	13.2.1 Identify X/HTML code to create a static Web page with text and images	See note above
13.3 Identify image files, and the use of images in X/HTML pages and site design	13.3.1 Insert image files in Web pages using X/HTML	Chapter 11
13.4 Identify Web sites using GUI site development applications	13.4.1 Compare and connect site development using X/HTML text editors to using GUI site management applications	See note above
	13.4.2 Explain site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional	Chapter 16

Unit 14: Image Editing with Fireworks		CITATION(S)
Publisher's Note: This course recommends Komodo Edit as a 3rd party development platform. Topics below are generally covered in the context of Komodo Edit. Schools may substitute other web authoring tools if desired.		
14.1 Define terminology	14.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
14.2 Examine image files in Fireworks	14.2.1 Use image-editing software to create functional images that complement your page/site	Chapters 11, 14, 28
	14.2.2 Perform common image manipulation functions (includes cropping, rasterizing, adding text to existing images, modifying height/width dimensions, modifying resolution, and chosing bit depths)	Chapter 11
	14.2.3 Create transparent and animated images (includes GIF and PNG)	N/A
	14.2.4 Create images layers; insert image files in Web pages	Chapter 11

Unit 15: Multimedia with Flash		CITATION(S)
15.1 Define terminology	15.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
15.2 Use multimedia and plug-in technologies to enhance a Web site	15.2.1 Examine Shockwave-Flash (SWF) technology features (includes animation, streaming, timelines, and layers) and authoring software	N/A
	15.2.2 Use SWF-authoring software to create animations, add buttons, perform "tweening", create movie clips, and apply masks	N/A
	15.2.3 Explain Scalable Vector Graphics (SVG) characteristics (includes XML-based, two-dimensional, searchable, scalable, and zoom support)	N/A
	15.2.4 Experiment with adding SWF animation files and SVG files to X/HTML pages	N/A

	15.2.5 Explain strategies and benefits of using SWF and SVG technologies in training industry/instructional design to facilitate	N/A
	15.2.6 Apply plug-in/viewer technology to Web pages to support varoius files types industry/instructional design to facilitate (includes Portable Document Format [PDF], Scalable Vector Graphics [SVG], and Flash SWF technologies)	N/A
5.3 Identify client-side and server-side programming to enhance Web site functionality	15.3.1 Connect and contrast client-side and server-side technologies used to create dynamic content for Web pages	Chapter 13 Chapters 25, 26, 27
	15.3.2 Use JavaScript to detect browsers, redirect pages, preload pages, and confirm user choices	Chapters 25, 26, 27

Unit 16: JavaScript and DHTML Fundamentals		CITATION(S)
16.1 Define terminology	16.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
16.2 Identify client-side and server- side programming to enhance Website functionality	16.2.1 Connect and contrast client-side and server-side technologies used to create dynamic content for Web pages	Chapter 13 Chapters 25, 26, 27
	16.2.2 Explain common JavaScript objects, properties, and methods	Chapters 25, 26, 27
	16.2.3 Use JavaScript to detect browsers, redirect pages, preload pages, and confirm user choices	Chapters 25, 26, 27
	16.2.4 Use JavaScript dot notation to access X/HTML objects	Chapters 25, 26, 27
	16.2.5 Create rollover images on a Webpage using scripting technology	Chapters 25, 26, 27
	16.2.6 Explain Dynamic HTML (DHTML) and the technologies it requires, and identify browser-specific DHTML code for use with Microsoft Internet Explorer, Netscape, and Mozilla	N/A
	16.2.7 Use XML to create a basic Web application (e.g., Really Simple Syndication [RSS] newsfeed)	N/A

Unit 17: Plug-Ins and Java Applets		CITATION(S)
17.1 Define terminology	17.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
17.2 Use multimedia and plug-in technologies to enhance a Web site	17.2.1 Create an X/HTML link to a downloadable file	Chapter 5
	17.2.2 Create rich media streaming ads and compare them to conventional online ads (includes considering bandwidth limitations)	N/A
	17.2.3 Examine Java applet functionality, and create an animated applet for display on a Web site	Supplemental Lesson 6

Unit 18: HTTP Servers, Web Applications, and Database		CITATION(S)
18.1 Define terminology	18.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
18.2 Identify client-side and server- side programming to enhance Website functionality	18.2.1 Connect and contrast client-side and server-side technologies used to create dynamic content for Web pages	Chapter 13
18.3 Identify client-side and server- side programming to enhance Website functionality	18.3.1 Explain how XML is used to create a basic Web application (e.g., Really Simple Syndication [RSS], newsfeed)	N/A
	18.3.2 Explain Secure XML	N/A
	18.3.3 Explain how Common Gateway Interface (CGI) is used to process Web Forms	N/A
	18.3.4 Explain the use of cookies to enhance Web site functionality	N/A
8.4 Identify how to connect Web pages to a database	18.4.1 Explain the elements of a database and their functionality	Chapter 13
	18.4.2 Explain general database query types	N/A (available in other CompuScholar courses)

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	18.4.3 Explain the three Database Management System (DBMS) types	N/A (available in other CompuScholar courses)
	18.4.4 Compare information types that can be contained in a database, including X/HTML, images, XML, and inventories	N/A
	18.4.5 Connect to a Web page to a database using various methods	N/A

Unit 19: Web Site Publishing and Maintenance		CITATION(S)
19.1 Define terminology	19.1.1 Prepare a list of terms with definitions	Terms defined as needed throughout the relevant chapters.
19.2 Identify how to publish and maintain a production Web site	19.2.1 Explain how to use a staging/mockup server to test a site (includes advantages, hardware/software choices, and configurations)	N/A
	19.2.2 Compare in-house Web site hosting to hosting with an Internet Service Provider (ISP) or Application Service Provider (ASP)	Supplemental Lesson 1
	19.2.3 Publish a Web site using an FTP client	N/A
	19.2.4 Create and configure Domain Name System (DNS) entries (includes subdomains, and shared domains)	Supplemental Lesson 2
	19.2.5 Explain site security issues, including attacks (social engineering, denial of service, and brute force) and ways to thwart them	N/A
	19.2.6 Explain how to maintain a Web site (includes user feedback, and auto and manual link checking)	N/A
	19.2.7 Show how to document changes to a site	Supplemental Lesson 4