CompuScholar, Inc.

Alignment to South Carolina **Web Design and Development I** Standards

South Carolina Course Details:

Course Name:	Web Design and Development I a.k.a. Fundamentals of Web Design and Development
Course Code:	5031
Credit:	1
Grade Level:	10 - 12

CompuScholar Course Details:

Course Title: **KidCoder: Web Design**
Course ISBN: **978-0-9887070-3-0**
Course Year: **2015**

Note 1: Standards were derived from South Carolina's "FUNDAMENTALS OF WEB DESIGN AND DEVELOPMENT" draft document, dated October 2014.

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

Course Description

This course is designed to provide students with the knowledge and skills needed to design and develop websites. Students will attain skills in designing, implementing, and maintaining websites using authoring tools. Successful completion of this course will prepare the student to take industry certification test(s).

Course Standards

A. SAFETY AND ETHICS	CITATION(S)
1. Identify major causes of work-related accidents in offices.	n/a
2. Describe the threats to a computer network, methods of avoiding attacks, and options in dealing with virus attacks.	**Chapter 16, Lesson 2** (Web Security)
3. Identify potential abuse and unethical uses of computers and networks.	**Chapter 16, Lesson 1** (Computer Ethics)
4. Explain the consequences of illegal, social, and unethical uses of information technologies (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices).	**Chapter 16, Lesson 1** (Computer Ethics)
5. Differentiate between freeware, shareware, and public domain software copyrights.	**Chapter 16, Lesson 1** (Computer Ethics)

6. Discuss computer crimes, terms of use, and legal issues such as copyright laws, fair use laws, and ethics pertaining to scanned and downloaded clip art images, photographs, documents, video, recorded sounds and music, trademarks, and other elements for use in Web publications.	**Chapter 11, Lesson 1** (Finding and Editing Images) **Chapter 16, Lesson 1** (Computer Ethics) **Chapter 19, Lesson 1** (Linked and Embedded Videos) **Chapter 19, Lesson 3** (HTML5 Audio)
7. Identify netiquette including the use of e-mail, social networking, blogs, texting, and chatting.	**Chapter 16, Lesson 1** (Computer Ethics)
8. Describe ethical and legal practices in business professions such as safeguarding the confidentiality of business-related information.	**Chapter 16, Lesson 1** (Computer Ethics)

B. EMPLOYABILITY SKILLS	CITATION(S)
1. Identify positive work practices (e.g., appropriate dress code for the workplace, personal grooming, punctuality, time management, organization).	**Supplemental Lesson 4** (Project Management) **Supplemental Lesson 8** (Web Development Roles) **Chapters 14 and 28** (Students demonstrate best practices while working in teams on extended group projects)
2. Demonstrate positive interpersonal skills (e.g., communication, respect, teamwork).	**Supplemental Lesson 4** (Project Management) **Supplemental Lesson 8** (Web Development Roles) **Chapters 14 and 28** (Students demonstrate interpersonal skills while working in teams on extended group projects)

C. STUDENT ORGANIZATIONS	CITATION(S)
1. Explain how related student organizations are integral parts of career and technology education courses.	n/a
2. Explain the goals and objectives of related student organizations.	n/a
3. List opportunities available to students through participation in related student organization	n/a
4. Explain how participation in career and technology education student organizations can promote lifelong	n/a

D. FOUNDATIONS OF WEB DESIGN	CITATION(S)
1. Define web terminology.	New web terms and keywords are introduced throughout the course. Examples include: **Chapter 2, Lesson 3** (Essential HTML Symbols) **Chapter 10, Lesson 1** (Design Principles) **Chapter 15, Lesson 1** (Essential Computer Hardware and Software) **Chapter 16, Lesson 4** (Network Topology)
2. Understand the history and evolution of the Web.	**Chapter 1, Lesson 2** (The Language of "Mark-Up") **Chapter 15, Lesson 2** (Internet History and Structure)
3. Research current best practices and emerging technologies.	**Chapter 16, Lesson 3** (Emerging Trends in HTML5) Best practices are described in context as appropriate. Examples include: **Chapter 1, Lesson 3** (File Naming and Extensions) **Chapter 2, Lesson 3** (Essential HTML Symbols) **Chapter 17, Lesson 2** (Defining Areas with Sections)
4. Utilize technical documentation as part of the design and development process.	**Chapter 13, Lesson 1** (Project Planning) **Chapters 14 and 28, Lesson 1 / Activity 1** (Site maps in team projects) **Supplemental Lesson 4 / Activity 4** (SDLC Documents)
5. Identify basic uses of web sites in business, industry, government, and education.	**Chapter 15, Lesson 2** (Internet History and Structure)
6. Identify the purpose and target audience of a website.	**Chapter 10, Lesson 1** (Design Principles) **Chapter 10, Activity 1** (Brand Research) **Chapter 17, Activity 1** (Analyze Websites for HTML5)
7. Explain the role of Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript in Web development.	Each of these technologies is covered in multiple chapters: **HTML throughout the course**, **CSS in Chapers 6+**, and **JavaScript in Chapters 25+**. Specific discussion of the 3 web layers can be found in **Chapter 25, Lesson 4** (External JavaScript Files). The role of JavaScript is also introduced in **Chapter 13, Lesson 3** (Static, Dynamic, and Interactive Sites).

8. Evaluate existing websites and their source code.	**Chapter 13, Lesson 2** (Accessibility) **Chapter 17, Activity 1** (Analyze Websites for HTML5) Students also evaluate peer websites as part of the Evaluation and Feedback phase of team projects in **Chapters 14 and 28**.
9. View multiple websites using various browsers.	**Chapter 1, Lesson 1** (Web Browsers) **Chapter 17, Lesson 1** (HTML5 and Web Browsers) **Chapter 20, Lesson 1** (Browser Compatibility)

E. PLANNING AND DESIGN	CITATION(S)
1. Determine the purpose and target audience of a website.	**Chapter 10, Lesson 1** (Design Principles) **Chapter 10, Activity 1** (Brand Research) **Chapter 17, Activity 1** (Analyze Websites for HTML5)
2. Create relevant and appropriate content including text, graphics, and hyperlinks.	**Chapters 3, 4, and 6** discuss text insertion and various text styles. **Chapter 11** covers creation and insertion of graphics. **Chapter 5** demonstrates how to create a variety of hyperlinks. Students will create their own text, graphics, and hyperlinked content in **Chapters 14 and 28** (team projects).
3. Develop a site map and navigation plan.	**Chapter 13, Lesson 1** (Project Planning) **Chapter 13 Activity** (Storyboard and Site Map) **Chapters 14 and 28** (Students will develop and use site maps and navigation strategies as part of team projects)
4. Identify concepts in usability for components of a website.	**Chapter 10, Lesson 1** (Design Principles) **Chapter 13, Lesson 1** (Project Planning - storyboards) **Chapter 13, Lesson 2** (Accessibility) **Chapter 13, Lesson 3** (Static, Dynamic, and Interactive Websites) **Chapter 17, Lesson 2** (Defining Areas with Sections) **Chapter 24** (Implementation of Dynamic Menus)

5. Develop wireframes for initial design concept.	**Chapter 13, Lesson 1** (Project Planning) **Chapter 14, Lesson 2 / Activity 2** (Team Projects)
6. Explore and apply color principles to websites.	**Chapter 6, Lesson 2** (Choosing Colors) **Chapter 11, Lesson 1** (Finding and Editing Images)
7. Explore and apply current best practices for web typography.	**Chapter 10, Lesson 1** (Design Principles)
8. Critique Web sites for professional quality in look and layout based on design principles.	**Chapter 13, Lesson 2** (Accessibility) **Chapter 17, Activity 1** (Analyze Websites for HTML5)

F. CONSTRUCTING WEBSITES	CITATION(S)
1. Develop a file management system for website content, utilizing proper naming conventions for files and folders.	**Chapter 1, Lesson 3** (File Naming and Extensions) **Chapter 2, Lesson 1** (Root Directories)
2. Define structure of a document using appropriate HTML elements.	**Chapter 2, Lesson 3** (Essential HTML Symbols) **Chapter 2, Lesson 4** (HTML File Layout)
3. Code a website utilizing proper HTML document structure and elements.	Students will code 4 major websites, including **Raptors** in the first semester, **Aquamaniacs** in the second semester, and **2 team-driven projects** in Chapters 14 and 28. Proper HTML structures and elements are emphasized throughout the course.
4. Determine appropriate HTML elements to present website content.	HTML elements for specific types of content are demonstrated throughout the course. Examples include: **Chapter 4, Lesson 1** (Dividing Up Your Page) **Chapter 4, Lesson 3** (HTML Lists) **Chapter 11, Lesson 2** (Adding Images) **Chapter 19, Lesson 2** (HTML5 Video) **Chapter 19, Lesson 3** (HTML5 Audio)
5. Create and modify internal and external CSS to format the styling of HTML elements and positioning of objects.	**Chapter 6, Lessons 1 and 3** (Internal CSS) **Chapter 6, Lesson 5** (External CSS) Students will use a variety of internal and external CSS rules throughout the remainder of the course.
6. Locate and integrate JavaScript code into websites.	**Chapter 26, Lesson 1** (The jQuery Library) **Chapters 25, 26, and 27** cover JavaScript in general and integration of jQuery to perform useful client-side interactions.

7. Test and debug websites in multiple browsers.	**Chapter 14, Lesson 3 / Activity 3 (**Evaluation includes verification in multiple browsers) **Chapter 20, Lesson 1** (Browser Compatibility)
8. Identify and use validation tools.	**Supplemental Lesson 9 / Activity 9** (Validation and Analytics Tools)

G. IMPLEMENTING AND MAINTAINING WEBSITES	CITATION(S)
1. Explain the domain naming system.	**Chapter 15, Lesson 2** (Internet History and Structure) **Chapter 15, Lesson 3** (Network Components and Addressing) **Supplemental Lesson 2** (Domain Name Registration)
2. Identify the process for obtaining a domain name, acquiring hosting, and uploading and maintaining a website.	**Chapter 15, Lesson 5** (Network Protocols - FTP demonstration) **Supplemental Lesson 1** (Evaluating Web Hosts and Servers) **Supplemental Lesson 2** (Domain Name Registration)
3. Research features and costs of domain name and hosting providers.	**Supplemental Lesson 1** (Evaluating Web Hosts and Servers) **Supplemental Lesson 2** (Domain Name Registration)

H. ACCESSIBILITY AND USABILITY	CITATION(S)
1. Describe legal requirements and standards for accessibility on the web.	**Chapter 13, Lesson 2** (Accessibility)
2. Optimize websites to accommodate users with special needs.	**Chapter 13, Lesson 2** (Accessibility)
3. Discuss issues relating to usability on a variety of platforms and devices.	**Chapter 10, Lesson 1** (Design Principles) **Chapter 13, Lesson 2** (Accessibility)