



KidCoder: Web Design

Online Course Syllabus and Planner

Updated November, 2015

Online Course Overview

Course Title: *KidCoder: Web Design*

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Length: 2 semesters

Student Pre-Requisites: Basic computer literacy skills, 4th – 12th grade status.

Description: The *KidCoder: Web Design* curriculum is a one-year (two-semester) online course covering HTML, CSS, and JavaScript skills for 4th-12th grade students – fun for all ages! Other introductory programming courses are not required; students merely need to have typical computer usage skills prior to starting this course.

Materials:

- Online Student and Teacher logins
- Komodo Edit IDE (free download)
- Windows or Mac OS personal computer
- Course activities (hands-on programming assignments)
- Course instructional videos, lesson text, and supplemental documentation

Labs and Grading

Every chapter contains one or more hands-on programming labs where students will design or implement web pages to demonstrate understanding of the lesson topics. During the first semester, hands-on labs will be completed using simple text editors (e.g. Notepad or TextEdit) built into their Windows or Mac OS operating systems. We introduce the free cross-platform Komodo Edit software during the second semester to provide advanced HTML editing features. Alternative IDEs



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may be used at teacher discretion. The hands-on labs, combined with individual lesson quizzes and end-of-chapter tests, are used to determine the student grade.

Please Note: Some course lessons and activities may include opportunities for students to work in teams or small groups. If your student is working individually (e.g. as a homeschooler), simply complete those activities as an individual. One student can perform each of the tasks that would be spread across multiple team members in a group setting. Other lesson sections with peer-supported vocabulary re-enforcement or feedback tasks can be skipped or completed with a teacher, if desired.

Course Planner

A typical school year consists of approximately 36 calendar weeks or 180 days of school. This course plan covers 34 school weeks of core material, assuming students are working 3-5 hours per week to stay on pace. Some students may move faster or slower than the suggested pace.

Each chapter contains several hands-on “Work With Me” activities, lesson quizzes and a chapter test in addition to the listed Lab assignments. Teachers may choose to add Supplemental Lessons as desired to meet student interests.

Week	Reading and Objectives	Labs
1	Chapter One: Web Tools and Languages <ul style="list-style-type: none">• Web Browsers• The Language of “Mark-up”• File Naming and Extensions	Secret Message Hunt Practice viewing existing HTML source code.
2	Chapter Two: Your First Web Page <ul style="list-style-type: none">• Root Directories• Home Pages• Essential HTML Symbols• HTML File Layout	Body Text Experiments Use <code></code> and <code>
</code> elements for formatting.



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Week	Reading and Objectives	Labs
3	Chapter Three: Head and Body Elements <ul style="list-style-type: none">• Header Elements• Body Elements• Highlighting Content	Silent Owl Add a <code><blockquote></code> to the page
4	Chapter Four: Organizing Content <ul style="list-style-type: none">• Dividing Up Your Page• Keeping It Neat• HTML Lists	Make an Un-ordered List Create a list on the page
5-6	Chapter Five: Connecting Your Site <ul style="list-style-type: none">• Bookmarks and Hyperlinks• The Internal (Relative) Link• The Navigation Bar• The External (Absolute) Link• Email Links	Linking Your Raptors Home Page Add a navigation bar with hyperlinks
7-8	Chapter Six: Cascading Style Sheets <ul style="list-style-type: none">• Inline Styles• Choosing Colors• Embedded CSS• Applying CSS Rules• External Cascading Style Sheets	External Raptors CSS Create an external CSS file for the Raptors website



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Week	Reading and Objectives	Labs
9	Chapter Seven: Common CSS Properties <ul style="list-style-type: none">• Font Styles• Margins and Padding• Styling by ID, Class, or Group	Raptors Margins and Padding Adjust margin and padding styles on the Raptors site styles
10	Chapter Eight: Styling Links, Backgrounds, and Borders <ul style="list-style-type: none">• Styling Links• Background Images• Borders	Raptors Borders and Background Add borders and background to the Raptors site styles
11	Chapter Nine: Positioning <ul style="list-style-type: none">• Arranging Containers• Positioning Nested Elements• Playing with Layers• Floating Positions	Positioning Raptors Containers Float the navigation bar to the left side of the Raptors page
12	Chapter Ten: Creating Your Brand <ul style="list-style-type: none">• Design Principles• Styling the Banner• Creating Custom Bullets• Styling Navigation Bars	Brand Research – Review and analyze existing websites for effective use of color and graphics. Branding Raptors – Add several color and graphical touches to the overall Raptors site styles



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Week	Reading and Objectives	Labs
13	Chapter Eleven: Working with Graphics <ul style="list-style-type: none">Finding and Editing ImagesAdding ImagesPositioning and Styling Photos	Cropping and Editing the Great Grey Owl Edit and crop a web image. Creating Other Raptors Sub-Pages Use templates to create additional pages in the Raptors website
14	Chapter Twelve: Tables <ul style="list-style-type: none">Adding a TableTable FormattingFinishing Touches for Tables	Raptors Size Table Create and style a new table comparing Raptor sizes
15	Chapter Thirteen: Web Site Design Strategies <ul style="list-style-type: none">Project PlanningAccessibilityStatic, Dynamic, and Interactive SitesSearch Engine Optimization and Marketing	Storyboard and Site Map Practice creating a storyboard and site map for a chosen website topic
16-17	Chapter Fourteen: Mid-Term Project <ul style="list-style-type: none">Online ResearchBuild Your WebsiteEvaluation and Feedback	Students will work in teams to research, design, create, test, and review a website on a topic of interest. Individual students may complete all phases instead of using teams.



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Week	Reading and Objectives	Labs
18-19	Chapter Fifteen: Computers and Networks <ul style="list-style-type: none">• Survey of Computer Hardware and Software• Internet History and Structure• Networking Components and Addressing• Network Topology• Network Protocols	Investigate Your Environment <p>Study how the networking infrastructure works at your home or school.</p>
20-21	Chapter Sixteen: Tools and Trends <ul style="list-style-type: none">• Computer Ethics• Web Security• Emerging Trends in HTML5• Web Editing Tools• Komodo Edit Projects	Install Komodo Edit <p>Install the software package and prepare for use.</p> Aquamaniacs Home Page Layout <p>Configure the initial home page.</p>
22	Chapter Seventeen: HTML5 Concepts <ul style="list-style-type: none">• HTML5 and Web Browsers• Defining Areas with Sections• Headers and Footers• Articles, Asides and Navs	Analyzing Websites for HTML5 <p>Review existing public websites to see how they use HTML5</p> Styling Articles and Asides <p>Apply styles to the articles and asides on the Dolphins page</p>



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Week	Reading and Objectives	Labs
23	Chapter Eighteen: Figures and Annotations <ul style="list-style-type: none">• Figures and Captions• Figure Annotation with Relative Positioning• Dynamic Annotations	Leaping Dolphins Apply site-wide styles to figures and captions
24	Chapter Nineteen: Adding Audio and Video <ul style="list-style-type: none">• Linked and Embedded Videos• HTML5 Video• HTML5 Audio	Sound Bites Add sound clips to a new page
25	Chapter Twenty: Introducing CSS3 <ul style="list-style-type: none">• Browser Compatibility• Colors and Transparency• Advanced Borders and Shadows• Custom Fonts	Branding Aquamaniacs Apply several CSS features to get the main Aquamaniacs look and feel.
26	Chapter Twenty-One: Cool CSS3 Features <ul style="list-style-type: none">• Advanced Backgrounds• Gradients• Image Transformations	Grooving and Shaking Apply transformations and other features to sample fish images
27	Chapter Twenty-Two: Relationship Selectors <ul style="list-style-type: none">• Parent-Child Relationships• Parent and Child Selectors• Sibling Selectors	Emperor Penguins Style a new page using relationship selectors



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Week	Reading and Objectives	Labs
28	Chapter Twenty-Three: Pseudo-Selectors <ul style="list-style-type: none">Pseudo-Class and Pseudo-Element SelectorsFirst and Last Child Pseudo-SelectorsNumbered and Combined Selectors	Lobsters Style a new page using pseudo-selectors
29	Chapter Twenty-Four: Dynamic Menus <ul style="list-style-type: none">Dynamic Menus and Nested ListsStyling First-Level Dynamic MenusStyling Second-Level Dynamic Menus	Lionfish Add dynamic annotations to a new page
30	Chapter Twenty-Five: Introducing JavaScript <ul style="list-style-type: none">JavaScript ConceptsJavaScript Events and FunctionsManaging Elements with JavaScriptExternal JavaScript Files	Cuttlefish Add JavaScript behavior to a new page
31	Chapter Twenty-Six: Dynamic Pages with jQuery <ul style="list-style-type: none">The jQuery LibraryjQuery Syntax and Page LoadingjQuery EventsHiding and Showing Elements	Otters Add jQuery behavior to a new page



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Week	Reading and Objectives	Labs
32	Chapter Twenty-Seven: jQuery Special Effects <ul style="list-style-type: none">Fading and SlidingTiming and Multiple EffectsjQuery Animation	Dancing Octopus Create an animation using jQuery
33-34	Chapter Twenty-Eight: Final Project <ul style="list-style-type: none">The Big Picture <p>Individual students may complete all phases instead of using teams.</p>	Start to Finish Students will follow the same basic steps as the mid-term project and work in teams to research, design, create, test, and review a website on a topic of interest.
35-36 or as desired	Supplemental Lessons <ul style="list-style-type: none">Evaluating Web Hosts and ServersDomain Name RegistrationUsing Search EnginesProject ManagementVideo EditingJava AppletsTechnical WritingWeb Development Roles	Supplemental Lessons may be added by the teacher as desired to satisfy student interest.