Web and Mobile Design Series
Advanced HTML5 and CSS3 Specialist

Advanced HTML5 And CSS3 Specialist is the first course in the CIW Web And Mobile Design series. This course teaches the essentials of HTML5, Cascading Style Sheets (CSS) and JavaScript. These technologies, sometimes known as the "HTML5 Family" or the "Web development trifecta," can be used together to create Web pages that easily adapt to display on smartphones, tablets, gaming devices and smart TVs, as well as to traditional desktop computers.

This course builds upon your manual coding skills to teach you how to develop Web documents using new elements, attributes and selectors introduced in HTML5 (Hypertext Markup Language version 5) and CSS3 (Cascading Style Sheets version 3). You will create Web pages using the HTML5 structure elements, embed video and audio, and develop cross-browser user-input forms. You will use CSS3 to position and format content, and to create effects such as transformations, transitions and animation.

You will also learn basic JavaScript coding, and use HTML5 APIs (application programming interfaces) to extend the functionality of Web pages with modern features such as geolocation, drag-and-drop, canvas and offline Web applications. In addition, you will learn techniques for code validation and testing, form creation, inline form field validation, and mobile design for browsers and apps, including Responsive Web Design (RWD).

All CIW courses offer Case Studies for class discussion about real-world skills applications and job-related topics. Guided, step-by-step labs provide opportunities to practice new skills. You can challenge yourself and review your skills after each lesson in the Lesson Summary and Lesson Review sections. Additional skill reinforcement is provided in Activities, Optional Labs, Lesson Quizzes and a Course Assessment that are available from your instructor (for ILT training) or CIW Online (for self-study).

This coursebook includes supplemental online material containing the lab files used in class. To practice the skills presented in class or to perform any labs that were not completed, refer to the Classroom Setup section for information about system requirements and using the lab files.

The CIW *Advanced HTML5 And CSS3 Specialist* course prepares students to take the high-stakes CIW Advanced HTML5 And CSS3 Specialist certification exam.

Topics

HTML5 Essentials
Introduction to HTML5 and CSS3
Migration to Mobile Devices
The Web Development Trifecta
The Evolution of HTML5
HTML5 Structure Elements
Validating HTML5 Code
The <video> Element
The <audio> Element
HTML5 APIs

Using Cascading Style Sheets (CSS) Technology
Cascading Style Sheets (CSS)
Style Guides
CSS and HTML
CSS Terms and Syntax
Applying CSS Styles
Page Layout with CSS
CSS Positioning Schemes
The CSS Box Model

Introduction to CSS Version 3 (CSS3)
Introduction to CSS3
CSS3 Selectors and Properties

CSS3 Background Properties
CSS3 Border Properties
CSS3 Font Properties
CSS3 Text Effects

Using Advanced CSS3 Techniques
Introduction to Advanced CSS3 Techniques
CSS3 2D and 3D Transformations
CSS3 Transitions
CSS3 Animations
CSS3 User Interfaces
Creating Menus and Buttons with CSS3

Introduction to JavaScript
HTML5 and JavaScript
Introduction to Scripting
JavaScript Characteristics
JavaScript vs. Other Languages
Embedding JavaScript into HTML5 Documents
JavaScript and Common Programming Concepts
Objects, Properties and Methods

Variables
Expressions and Operators

JavaScript Events, Functions and Methods
User Events and JavaScript Event Handlers
Introduction to JavaScript Functions
Defining a Function
Calling a Function
Methods as Functions
Errors in JavaScript

Using HTML5 APIs
Introduction to HTML5 APIs
Document Object Model (DOM)
Common HTML5 APIs
The Canvas API
The Offline AppCache API
The Geolocation API
The Drag-and–Drop API
The File API
The History API
Retrieving Data with *XMLHttpRequest*
Manipulating Data with jQuery

Developing HTML5 Forms
Introduction to HTML5 Forms
Cross-Browser Compatible HTML5
  Forms
HTML5 Form Input Types
New Form Elements in HTML5
HTML5 Global Attributes for Form
Elements

**Completing, Submitting and
Validating User Input Forms**
Improving Forms with HTML5

HTML5 Attributes for the <form>
  Element
HTML5 Attributes for the <input>
  Element
Submitting Forms with the
  <button> Element
Concepts and Techniques for
  Validating User Input
Validating User Input with HTML5
  Attributes
Validating User Input with
  JavaScript

Designing for Mobile Devices
Introduction to Mobile Design
Mobile Web Sites vs. Mobile Apps
Designing Web Sites for Mobile
  Devices
Page Layout for Mobile Devices
Navigation and Hyperlinks for
  Mobile Devices
Images and Mobile Design
Validating and Testing Mobile Web
  Pages
Responsive Web Design

Target Audience

Individuals preparing to enter or continue in the workforce fields of Web site development and design can benefit from the CIW *Advanced HTML5 And CSS3 Specialist* course and/or certification:

- High school students

- College students

- Technical/trade school students

Professionals working in Web site development and design fields for any industry can benefit from the CIW *Advanced HTML5 And CSS3 Specialist* course and/or certification:

- Web and graphic designers

- Web marketing professionals

- Mobile application developers

- Art/creative directors

- Advertising professionals

- Entrepreneurs

Job Responsibilities

Web site development and design job responsibilities can include:

- Implementation of HTML5 coding solutions using HTML5 elements, attributes and values.

- Application of CSS3 functionality to Web documents using various properties, selectors and techniques.

- Integration of basic JavaScript coding into a Web page to create HTML5 APIs.

- Implementation of HTML5 and CSS3 techniques to apply to both traditional and mobile delivery platforms, including mobile apps.

- Transformation of traditional Web pages into mobile Web pages.

Prerequisites

The *Advanced HTML5 And CSS3 Specialist* courseware teaches intermediate and advanced HTML5 and CSS3 coding skills, as well as introductory JavaScript. Before taking this course, students should complete the CIW Site Development Associate course from the CIW Web Foundations series, or have equivalent basic HTML and CSS coding knowledge.