

Microsoft
Technology Associate

HTML5 Application Development Fundamentals

Courseware 8375-1

Exam 98-375

ISBN 978-1-55332-437-9

Course Description

HTML5 Application Development Fundamentals is aimed at High School and College students interested in pursuing a career developing HTML5 client applications capable of running on touch-enabled devices. The MTA 98-375 focuses on HTML5, CSS and JavaScript as the core skills required to develop client-side applications. Students who complete this course will have reviewed all of the exam objectives and be on their way to preparing for Microsoft Technology Associate Exam #98-375. It can also serve as a stepping stone to the Microsoft Certified Technology Specialist exams.

Course Series

This *HTML5 Application Development Fundamentals* courseware is one in the Microsoft Technology Associate Series. Other courses available in the series include:

- Software Development Fundamentals
- Database Administration Fundamentals
- Windows Operating System Fundamentals
- Networking Fundamentals

The Microsoft Technology Associate Series contains exercises that students can use to learn each of the features discussed. The exercises in this course will create a hands on experience using HTML5, CSS3, and JavaScript that will help in preparing for the Microsoft MTA HTML5 Application Development Fundamentals exam.

Course Prerequisites

Pre-requisite knowledge includes a familiarity and comfort level using the Windows operating system and a basic understanding of directories, file locations, use of a web browser, URL's, and basic networking concepts such as the difference between a client and a server.



Lesson 1: Understanding Core Concepts

Lesson Objectives
 Introduction to HTML5
 Application Development
 HTML and W3C
 CSS and CSS3
 JavaScript Versus Java
 HTML Tags and Elements
 Basic Tag Syntax
 HTML Elements and Nesting
 Deprecated Elements
 Modifying an HTML Element
 Using Attributes
 Attributes and Attribute Syntax
 Required Tags for All Pages
 The DOCTYPE
 Character Encoding and Entities
 Creating a Page with Required Tags
 Developer Tools and HTML Editors
 Notepad and Notepad++
 Microsoft Visual Studio and DreamSpark
 Adobe Dreamweaver
 Lesson Summary
 Review Questions

Lesson 2: Displaying Text and Organizing Content

Lesson Objectives
 Working with Text Elements
 Headings and Paragraphs
 Anchors and Hyperlinks
 HTML Text Elements with New Meaning
 New HTML5 Text Elements
 Organizing Content
 Creating Lists
 Creating Tables
 Semantic Elements
 What is Semantic HTML?
 Forms and Validation
 Introducing Forms and Input
 Input Types and Form Elements
 Select Lists, Data Lists, and Text Areas
 Lesson Summary
 Review Questions

Lesson 3: Displaying Graphics and Media

Lesson Objectives
 Using Tags to Display Graphics
 Images and Figures
 Introducing HTML5 Graphics
 Using Scalable Vector Graphics
 Creating SVG Graphics
 Using HTML5 Tags to Play Media
 HTML5 Video
 HTML5 Audio
 Lesson Summary
 Review Questions

Lesson 4: Understanding Core Concepts of CSS

Lesson Objectives
 Introducing CSS
 CSS Internal, External, and Inline
 Understanding CSS Syntax
 CSS ID's and Classes
 CSS and the DIV Element
 CSS Dimension Properties
 CSS Text Properties
 CSS Font Properties
 CSS Link States and Pseudo-Classes
 CSS Pseudo-Classes
 CSS Nesting Selectors
 CSS Table Borders and Grouping
 CSS Managing Content Flow
 Block and Inline Elements
 CSS Positioning and Alignment
 Margins and Center Alignment
 CSS Manage Content Overflow
 Content Overflow
 Scrolling Overflow
 Visible Overflow
 Hidden Overflow
 Lesson Summary
 Review Questions

Lesson 5: Arranging the User Interface Using CSS Layouts

Lesson Objective
 The Box Model
 CSS Flexible Box Layout
 Changing the Parent Flex Container
 The Grid Layout Model
 Lesson Summary
 Review Questions

Lesson 6: Managing the Flow of Text Content Using CSS3

Lesson Summary
 Managing Content Flow
 Creating CSS Regions
 CSS Region Overflow
 Multi-Column Layout and Hyphenation
 CSS3 Hyphenation
 CSS Exclusions
 Adobe and CSS Exclusions
 Lesson Summary
 Review Questions

Lesson 7: Managing the Graphical Interface using CSS3

Lesson Objectives
 Graphic Effects
 Rounded Corners
 Text and Box Shadows
 Background Gradients
 Radial Gradients
 Transparency
 Text Effects
 Typography and Web Open Font Format
 2D and 3D Transformations
 2D Translate
 2D Scale
 2D Rotate
 2D Skew
 Compound Transformations
 Transitions and Animations
 Animations
 SVG Filter Effects
 Lesson Summary
 Review Questions

Lesson 8: JavaScript Coding Essentials

Lesson Objectives
 Introduction to JavaScript
 Client-side versus Server-side Processing
 JavaScript in HTML
 Browser Settings
 Variables, Data Types, and Operators
 Variables and Data Types
 Operators
 Changing Elements and Listening To Events
 Finding HTML Elements
 Manipulating Elements
 Finding CSS Selectors
 Listening to and Handling Events
 Event Listeners and Functions

JavaScript Conditions and Loops
Loops
Using JavaScript Libraries
jQuery
jQuery Plugins
Lesson Summary
Review Questions

Lesson 9: JavaScript Graphics and Animations

Lesson Objectives
JavaScript and the HTML5
Canvas
The Canvas Basics
Drawing Rectangles and Boxes
Drawing Lines
Drawing Circles and Arcs
Gradients on the Canvas
Drawing Text on the Canvas
Drawing an Image on the
Canvas
Create Animations using
JavaScript
JavaScript Animation using the
Canvas
JavaScript Libraries for the
Canvas
Lesson Summary
Review Questions

Lesson 10: Access Data and Operating System Resources

Lesson Objectives
Access Data Using JavaScript
Accessing Data
IndexedDB
Web Storage
App Cache
Review Questions

Lesson 11: The Touch Interface and Accessing Hardware

Lesson Objectives
Responding to the Touch
Interface
The Touch Interface
Touch Event Types
Pointer Events
Multi-Touch Gestures
Coding HTML5 APIs
Geolocation API
Web Workers API
File API
Accessing Devices
Device Orientation
Accessing the Camera and
Microphone
Lesson Summary
Review Questions

Lesson 12: Manage the Application Life Cycle

Lesson Objectives
Platform Fundamentals
The Application Life Cycle
Windows Runtime
Environment
App Package vs App Container
Manage Application State
Debug and Test HTML5
Applications
Validate Your HTML and CSS
Validate Your Package
Publishing to an App Store
Lesson Summary
Review Questions