



# 20480: Programming in HTML5 with JavaScript and CSS3

Duration: 5 Days

Method: Instructor-Led Training (ILT) | Live Online Training

## Course Description

This course introduces participants to HTML5, CSS3, and JavaScript. It will help participants gain basic HTML5/CSS3/JavaScript programming skills. This course is an entry point into both the Web application and Windows Store apps training paths. The course focuses on using HTML5/CSS3/JavaScript to implement programming logic, define and use variables, perform looping and branching, develop user interfaces, capture and validate user input, store data, and create well-structured application. The lab scenarios in this course are intended to focus on the principles and coding components/structures that are used to establish an HTML5 software application.

**NOTE:** This course uses Visual Studio 2017, running on Windows 10.

## Target Audience

This course is intended for:

- Professional Developers who are interested in developing applications using HTML5 with JavaScript and CSS3 (either Windows Store apps for Windows 10 or web applications).

## Prerequisites

To attend this course, candidates must have:

- 1-3 months experience creating Web applications, including writing simple JavaScript code
- 1 month experience creating Windows client applications
- 1 month of experience using Visual Studio 2017
- 6-12 months of programming experience.

## Course Objectives

Upon successful completion of this course, attendees will be able to:

- Explain how to use Visual Studio 2017 to create and run a Web application.
- Describe the new features of HTML5 and create and style HTML5 pages.



## Course Objectives *Continued*

- Add interactivity to an HTML5 page by using JavaScript.
- Create HTML5 forms by using different input types and validate user input by using HTML5 attributes and JavaScript code.
- Send and receive data to and from a remote data source by using XMLHttpRequest objects and Fetch API.
- Style HTML5 pages by using CSS3.
- Create a well-structured and easily-maintainable JavaScript code.
- Write modern JavaScript code and use babel to make it compatible with all browsers.
- Use common HTML5 APIs in interactive Web applications.
- Create Web applications that support offline operations.
- Create HTML5 Web pages that can adapt to different devices and form factors.
- Add advanced graphics to an HTML5 page by using Canvas elements, and by using and Scalable Vector Graphics.
- Enhance the user experience by adding animations to an HTML5 page.
- Use Web Sockets to send and receive data between a Web application and a server.
- Improve the responsiveness of a Web application that performs long-running operations by using Web Worker processes.
- Use Webpack to package web applications for production.

## Course Topics

### Module 1: Overview of HTML and CSS

- Overview of HTML
- Overview of CSS
- Creating a Web Application by Using Visual Studio 2017
- Module 2: Creating and Styling HTML Pages
- Creating an HTML5 Page
- Styling an HTML5 Page

### Module 3: Introduction to JavaScript

- Overview of JavaScript
- Introduction to the Document Object Model

### Module 4: Creating Forms to Collect and Validate User Input

- Creating HTML5 Forms
- Validating User Input by Using HTML5 Attributes
- Validating User Input by Using JavaScript

### Module 5: Communicating with a Remote Server

- Async programming in JavaScript
- Sending and Receiving Data by Using the XMLHttpRequest Object
- Sending and Receiving Data by Using the Fetch API



## Course Topics *Continued*

### Module 6: Styling HTML5 by Using CSS3

- Styling Text by Using CSS3
- Styling Block Elements
- Pseudo-Classes and Pseudo-Elements
- Enhancing Graphical Effects by Using CSS3

### Module 7: Creating Objects and Methods by Using JavaScript

- Writing Well-Structured JavaScript Code
- Creating Custom Objects
- Extending Objects

### Module 8: Creating Interactive Pages by Using HTML5 APIs

- Interacting with Files
- Incorporating Multimedia
- Reacting to Browser Location and Context
- Debugging and Profiling a Web Application

### Module 9: Adding Offline Support to Web Applications

- Reading and Writing Data Locally
- Adding Offline Support by Using the Application Cache

### Module 10: Implementing an Adaptive User Interface

- Supporting Multiple Form Factors
- Creating an Adaptive User Interface

### Module 11: Creating Advanced Graphics

- Creating Interactive Graphics by Using SVG
- Drawing Graphics by Using the Canvas API

### Module 12: Animating the User Interface

- Applying CSS Transitions
- Transforming Elements
- Applying CSS Keyframe Animations

### Module 13: Implementing Real-time Communication by Using Web Sockets

- Introduction to Web Sockets
- Using the WebSocket API

### Module 14: Performing Background Processing by Using Web Workers

- Understanding Web Workers
- Performing Asynchronous Processing by Using Web Workers

### Module 15: Packaging JavaScript for Production Deployment

- Understanding Transpilers And Module Bundling
- Creating Separate Packages for Cross Browser Support

## LABS INCLUDED

