

5 Days

## 20480: Programming in HTML5 with JavaScript and CSS3

Programming in HTML5 with JavaScript and CSS3 Training is a five-day expert level that qualifies an individual as an MCSD: SharePoint Applications. This training course focuses on HTML5, CSS3, and JavaScript language and will help students to enhance their programming skills. It is an entry point into both the Web application and Windows Store apps training paths.

After completing the course, the candidates will be able to use HTML5/CSS3/JavaScript to implement programming logic, define and use variables, perform looping and branching, developing user interfaces, capture and validate user input, store data, and create well-structured application.

This course is a pre-requisite for qualifying the exam of MCSD: SharePoint Applications (70-480).

This course uses Visual Studio 2012, running on Windows 8.

## Course Details

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### Course Outline

#### **Module 1: Overview of HTML and CSS**

This module provides an overview of HTML and CSS, and describes how to use Visual Studio 2012 to build a Web application.

##### **Lessons**

- Overview of HTML
- Overview of CSS
- Creating a Web Application by Using Visual Studio 2012

#### **Module 2: Creating and Styling HTML5 Pages**

In this module, you will learn the new features of HTML5, and describes how to create and style HTML5 pages.

##### **Lessons**

- Creating an HTML5 Page
- Styling an HTML5 Page

#### **Module 3: Introduction to JavaScript**

In this module, you will learn about the JavaScript language, and shows how to use JavaScript to add interactivity to HTML5 pages.

##### **Lessons**

- Overview of JavaScript Syntax
- Programming the HTML DOM with JavaScript

- [Introduction to jQuery](#)

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

In this module, you will learn the new input types available with HTML5, and describes how to create forms to collect and validate user input by using the new HTML5 attributes and JavaScript code.

##### **Lessons**

- [Overview of Forms and Input Types](#)
- [Validating User Input by Using HTML5 Attributes](#)
- [Validating User Input by Using JavaScript](#)

#### **Module 5: Communicating with a Remote Data Source**

In this module, you will learn how to send and receive data to and from a remote data source by using an XMLHttpRequest object and by performing jQuery AJAX operations.

##### **Lessons**

- [Sending and Receiving Data by Using XMLHttpRequest](#)
- [Sending and Receiving Data by Using jQuery AJAX operations](#)

#### **Module 6: Styling HTML5 by Using CSS3**

In this module, you will learn how to style HTML5 pages and elements by using the new features available in CSS3.

##### **Lessons**

- [Styling Text](#)
- [Styling Block Elements](#)
- [CSS3 Selectors](#)
- [Enhancing Graphical Effects by Using CSS3](#)

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

In this module, you will learn how to write well-structured and easily-maintainable JavaScript code, and how to apply object-oriented principles to JavaScript code in a Web application.

##### **Lessons**

- [Writing Well-Structured JavaScript](#)
- [Creating Custom Objects](#)
- [Extending Objects](#)

#### **Module 8: Creating Interactive Pages using HTML5 APIs**

In this module, you will learn how to use some common HTML5 APIs to add interactive features to a Web application.

##### **Lessons**

- [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**

In this module, you will learn how to add offline support to a Web application, to enable the application to continue functioning in a user's browser even if the browser is disconnected from the network.

#### **Lessons**

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

#### **Module 10: Implementing an Adaptive User Interface**

In this module, you will learn how to create HTML5 pages that can dynamically detect and adapt to different devices and form factors.

#### **Lessons**

- Supporting Multiple Form Factors
- Creating an Adaptive User Interface

#### **Module 11: Creating Advanced Graphics**

In this module, you will learn how to create advanced graphics for an HTML5 Web application by using a Canvas element, and by using Scalable Vector Graphics.

#### **Lessons**

- Creating Interactive Graphics by Using Scalable Vector Graphics
- Programmatically Drawing Graphics by Using a Canvas

#### **Module 12: Animating the User Interface**

In this module, you will learn how to enhance the user experience in an HTML5 Web application by adding animations.

#### **Lessons**

- Applying CSS Transitions
- Transforming Elements
- Applying CSS Key-frame Animations

#### **Module 13: Implementing Real-Time Communications by Using Web Sockets**

In this module, you will learn how to use Web Sockets to transmit and receive data between an HTML5 Web application and a server.

#### **Lessons**

- Introduction to Web Sockets
- Sending and Receiving Data by Using Web Sockets

#### **Module 14: Creating a Web Worker Process**

In this module, you will learn how to use Web Worker Processes to perform long-running operations asynchronously and improve the responsiveness of an HTML5 Web application.

#### **Lessons**

- Introduction to Web Workers
- Performing Asynchronous Processing by Using a Web Worker

## Who Should Attend

This course is intended for developers who have 6-12 months of programming experience and are keen to learn developing applications using HTML5 with JavaScript and CSS3 (either Windows Store apps for Windows 8 or web applications).

This course is intended for students who have the following experience:

- 1-month experience creating Windows client applications
- 1 – 3months experience creating Web applications, including writing simple JavaScript code
- 1 month of experience using Visual Studio 2010 or 2012

This course is not intended for developers with three or more months of HTML5 coding experience.

## Pre Requisite

Before attending this course, participants must have at least three months of professional development experience.

In addition to their professional experience, students who attend this training should have a combination of practical and conceptual knowledge related to HTML5 programming. This includes the following prerequisites:

- Understand the basic HTML document structure
- How to use HTML APIs.
- How to use HTML tags to display text content.
- How to use HTML tags to display graphics.
- Understand how to style common HTML elements using CSS,
- How to create and use variables
- How to implement basic CSS styling.
- Understand how to write JavaScript code to add functionality to a web page

## Exams

Microsoft Certified Professional (MCP) [70-480]

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