

COURSE OVERVIEW:

Programming in HTML5 with JavaScript and CSS3 is a 5-day course which provides an introduction to HTML5, CSS3, and JavaScript. This course helps students 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 selected to support and demonstrate the structure of various application scenarios. They are intended to focus on the principles and coding components, structures that are used to establish an HTML5 software application. This course uses Visual Studio 2012, running on Windows 8.

PREREQUISITES:

The knowledge and skills that a learner should have before attending this course are as follows:

- Students 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 tags to display text content.
 - How to use HTML tags to display graphics.
 - How to use HTML APIs.
 - Understand how to style common HTML elements using CSS, including:
 - How to separate presentation from content
 - How to manage content flow.
 - How to control the position of individual elements.
 - How to implement basic CSS styling.
 - Understand how to write JavaScript code to add functionality to a web page:
 - How to create and use variables
 - How to use:
 - Arithmetic operators to perform arithmetic calculations involving one or more variables



- Relational operators to test the relationship between two variables or expressions
- Logical operators to combine expressions that contain relational operators
- How to control the program flow by using if ...else statements.
- How to implement iterations by using loops.
- How to write simple functions.

WHO SHOULD ATTEND:

This course is intended for professional developers who have 6-12 months of programming experience and who are interested in 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:

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

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

Students choosing to attend this course without a developer background should pay special attention to the training prerequisites. Developers who have more than 5 years programming experience may find that portions of this training are fundamental in nature when presenting the syntax associated with certain programming tasks.

Individuals who are interested in taking exam 70-480: Programming in HTML5 with JavaScript and CSS3, can also attend this course.

COURSE OUTLINE:

Module 1: Overview of HTML and CSS

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

Module 2: Creating and Styling HTML5 Pages

- Creating an HTML5 Page
- Styling an HTML5 Page

Module 3: Introduction to JavaScript

- Overview of JavaScript Syntax
- Programming the HTML DOM with JavaScript
- Introduction to jQuery

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

- 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

- Sending and Receiving Data by Using XMLHttpRequest
- Sending and Receiving Data by Using jQuery AJAX operations

Module 6: Styling HTML5 by Using CSS3

- Styling Text
- Styling Block Elements
- CSS3 Selectors
- Enhancing Graphical Effects by Using CSS3

Module 7: Creating Objects and Methods by Using JavaScript

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

Module 8: Creating Interactive Pages 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 Scalable Vector Graphics
- Programmatically Drawing Graphics by Using a Canvas

Module 12: Animating the User Interface

- Applying CSS Transitions
 - Transforming Elements
 - Applying CSS Key-frame
- Module 13: Implementing Real-Time Communications by Using Web Sockets

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

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

Module 14: Creating a Web Worker Process

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