

## Course Description

This Hands-On course provides the knowledge necessary to design and develop dynamic Web pages using JavaScript. It introduces students to JavaScript and how the language can be used to turn static XHTML pages into dynamic, interactive Web pages.

Students will learn the syntax of the JavaScript language and how client-side scripts interact with server-side programs. Additional topics include the Document Object Model, form validation, cookies, how to create functions, and how to create your own script files.

Hands-on exercises are performed throughout each day to demonstrate key concepts. At the end of this class, participants will have the knowledge necessary to utilize the power of JavaScript to provide dynamic content on their Web sites and much more..

## Students Will Learn

- **JavaScript Language and Syntax**
- **JavaScript Directives**
- **Scripting CSS**
- **Creating and Using Functions**
- **JavaScript Objects**
- **Arrays**
- **Cookies**
- **Event Handling**
- **And More...**

## Target Audience

Anyone interested or working with JavaScript.

## Prerequisites

Basic computer skills and knowledge of HTML fundamentals including use of Cascading Style Sheets. Students who are not

familiar with HTML should register for the course Web Site Development with HTML/JavaScript.

## Course Outline

### Introduction to Client-Side JavaScript

- Embedding JavaScript in an XHTML Document
- Evolution of the JavaScript Language
- JavaScript Versions and Browser Support

### Statements and Operators

- Variable Declarations
- Assignment Operators and Statements
- Arithmetic Operators
- Logical Operators
- Comparison Operators
- String Operators
- Conditional Operators
- Operator Precedence

### DOM/CSS Scripting

- Introduction to the Document Object Model (DOM)
- Using the getElementById method
- Modifying Page Content with the DOM
- Manipulating CSS using JavaScript
- Programmatic Access to CSS

### Implementing Functions

- Defining Functions
- Invoking Functions
- Named and Anonymous Functions
- Passing Arguments
- Local vs. Global Variables
- Using the return Statement

### Implementing Control Constructs

- Introduction to Conditional and Looping Constructs
- The if else Statements
- The do while Statements
- The for in Statements
- The switch Statement

### JavaScript Objects

- The JavaScript Browser Object Model
- JavaScript Object Properties
- Object Methods
- The new Keyword
- The this Keyword
- Creating New Object Instances Using Constructor Functions
- String, Date and Array Objects

## Fundamental JavaScript Directives

- Inline JavaScript
- Linking Web Pages to External JavaScript Files
- JavaScript Using <script> Tags and Attributes
- Deferred scripts
- <noscript> Tags

## Implementing Arrays

- Using Arrays in JavaScript
- Predefined JavaScript Object Arrays
- Creating Arrays
- Reading and Writing to an Array
- Common Array Properties and Methods

## Cookies

- Overview of JavaScript Cookies
- Session and Persistent Cookies
- Using Cookies on a Web Page
- Common Uses of JavaScript Cookies

## Common Applications

- Form Validation and Testing
- Working with Regular Expressions
- User Interaction
- Local Form Processing
- Object Detection
- Creating New Windows
- Adding Content to a Window
- Browser Awareness Using the navigator Object
- Interactive Graphics

## Event Handling

- The W3C and Internet Explorer Event Models
- The Event Object
- Registering JavaScript Events
- Inline Event Handlers
- Processing Keyboard and Mouse Events

## Delivery Method

Instructor-Led with numerous Hands-On labs and exercises.

## Equipment Requirements

**(This apply's to our hands-on courses only)**

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring

their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

### **Course Length**

3 Days