

JavaScript: Programming (3rd Edition)

Course length: 3 day

Course description

Overview: Students will learn how to program by using JavaScript 1.3.

Prerequisites: *HTML Programming: Level 1* and a strong familiarity with using the Internet or equivalent knowledge.

Delivery method: Instructor-led, group-paced, classroom-delivery learning model with structured hands-on activities.

Target student: Students enrolling in this course should have a strong understanding of HTML programming and should have a basic familiarity with JavaScript. They should have examined scripts written by others and have implemented other people's scripts on their web pages. This is a serious programming course for those students who want to gain a full understanding of this powerful programming language.

Performance-based objectives

Lesson objectives help students become comfortable with the course, and also provide a means to evaluate learning. Upon successful completion of this course, students will be able to:

- * List the JavaScript syntax rules and implement good coding practices.
- * List the data and variable types that JavaScript supports, use the many control statements available in JavaScript, and create and use functions.
- * Describe object characteristics, use objects, instantiate objects, and create custom objects.
- * Describe the purpose of the Document object and use its properties, methods, and event handlers.
- * Script with frames in mind.
- * Describe the purpose of the Form object and use its properties, methods, and event handlers to read and write to HTML forms.
- * Choose a general process for validating user input into web forms.
- * Validate user input into HTML forms including testing for required fields, numeric data and numeric data within a range of values specified, and string data.
- * Describe the purpose of the Date object, instantiate and use instances of the Date object to create clocks, count-down timers, and perform date math.
- * Describe the purpose of the Math object and use its constants and methods to perform mathematical operations.
- * Characterize the compatibility landscape and choose between the various techniques for dealing with potential incompatibilities. Detect browsers in order to create code that works around platform incompatibilities.

Course content

Lesson 1: Getting Started with JavaScript

- JavaScript Overview
- JavaScript Programming Overview

Lesson 2: JavaScript Building Blocks?Variables and Operators

- Variables and Data Types Overview
- Using Variables and Data
- Operators

Lesson 3: JavaScript Building Blocks?Control Statements

- Controlling the flow ? JavaScript Control Statements

Lesson 4: JavaScript Building Blocks?Functions and Objects

- Functions
- Objects

Lesson 5: The Window Object

- The Window Object
- Dialog Boxes
- Status Bar Messages
- Window Manipulations

Lesson 6: The Document Object

- The Document Object
- Writing to Documents
- Dynamic Documents

Lesson 7: Working with Frames

- HTML Frames Review
- Scripting for Frames

Lesson 8: Working with Forms and Forms-based Data

- The Form Object
- Working with Form Elements and Their Properties

Lesson 9: Validating Form Data

- A General Approach
- Testing for Required Fields
- Validating Numeric Data
- Validating String Data

Lesson 10: Dates and Math

- Overview of the Date Object
- Using and manipulating Dates
- Overview of the Math Object
- Doing Math with JavaScript

Lesson 11: Introduction to Cross-browser Compatibility

- Examining the Compatibility Landscape
- Detecting Browser and Platforms