



JavaScript Programming

Course ISI-1337C 5 Days Instructor-led, Hands on

Introduction

Today, JavaScript is used in 89.9% of all websites, including the most heavily-trafficked sites like Google, Facebook, YouTube, and Amazon. That's why every web developer should know how to use JavaScript. The problem is that JavaScript is surprisingly difficult to learn, not only for programming novices but also for experienced programmers. This fix-day, instructor-led course makes it easier than ever to become an accomplished JavaScript programmer.

This course is intended for client-side programmers who want to master JavaScript, from the basics all the way through expert-level skills like working with closures, callbacks, namespaces, modules, custom properties, and JSONis .

Then, the course builds on that base by presenting the additional skills that every JavaScript programmer must have. That includes working with arrays and web storage, creating and using your own object types in object-oriented applications, using regular expressions for data validation, and much more.

Finally, the course includes skills like how to bulletproof your applications by using closures, namespaces, and modules; how to make your functions more useful by using callbacks; and how to use JSON to transmit and store data. Then, you are introduced to jQuery which shows you how it can make your JavaScript code even better.

Prerequisites

To get the most out of this course you'll need be familiar with HTML and CSS, and how to use these two technologies to create web pages. JavaScript lives inside the web browser, and it's used to interact with a web page loaded into the browser. So being able to write HTML and style it with CSS is an important skill to have before you learn JavaScript. Students should attend Course 1372B, Introduction to HTML5, CSS3 for Web Designers and Developers or have equivalent skills and knowledge.

Course Objectives

Students will learn the following skills:

- Add JavaScript to a web page
- Create JavaScript animations
- Execute code based on conditions
- Repeat code with loops
- Use object oriented programming with JavaScript
- Access and alter styles

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- Dynamically create new HTML elements
- Navigate the document object model
- Enable drag and drop in the browser
- Handle errors and debug with Firebug

Course Outline

Module 1: Introduction to Web Development

- How a web application works
- The components of a JavaScript application
- The HTML Skills you need
- The CSS Skills you need
- How to test a JavaScript application
- How to use Aptana to develop JavaScript applications

Module 2: Getting Started with JavaScript

- How to include JavaScript in an HTML document
- The JavaScript syntax
- How to work with JavaScript data

Module 3: The Essential JavaScript Statements

- How to code the basic control statement
- How to work with arrays

Module 4: How to work with JavaScript objects, functions and events

- How to use objects to work with data
- How to use functions
- How to handle events

Module 5: How to Script Forms and Controls

- DOM scripting properties and methods
- How to script forms and controls
- How to add new nodes to the DOM

Module 6: How to Test and Debug a JavaScript Application

- An introduction to testing and debugging
- How to debug with Chrome's developer tools
- Other debugging methods

Module 7: How to Work with Numbers, Strings and Dates

- How to work with numbers
- How to work with strings
- How to work with dates and times

Module 8: How to Code Control Statements

- How to code conditional expressions
- How to code the selection structures
- How to code the iteration structures

Module 9: How to Work with Arrays and Web Storage

- How create and use an array
- How to use the methods of an Array object
- Other skills for working with arrays
- How to use web storage

Module 10: How to Create and Use Functions

- Basic skills for working with objects
- What you need to know about JavaScript prototypes
- Advanced skills for working with objects

Module 11: How to Create and Use Objects

- How to create and use an array
- How to use the methods of an Array object
- Other skills for working with arrays

Module 12: How to Use Regular Expressions, handle exceptions and validate data

- How to use regular expressions
- How to handle exceptions

Module 13: How to Work with Events, Images and Timers

- How to work with events
- How to work with images
- How to use timers

Module 14: How to Work with Closures, Callbacks and Recursion

- Introduction to closures
- How to use closures
- How to use callbacks



- How to use recursion

Module 15: How to Work with Namespaces, Modules and Custom Properties

- How to work with namespaces
- How to work with the module patterns
- How to customize properties

Module 16: How to Work with JavaScript Object Notation (JSON)

- An introduction to JSON
- How to work with JSON in JavaScript
- How to customize the stringify method
- How to customize the parse method

Module 17: When and How to Use JQuery

- Introduction to jQuery
- Introduction to jQuery UI
- Introduction to jQuery plugins
- How to create your own plugins