

**Price:** R9,500.00 excl. VAT  
**Duration:** 5 days  
**Code:** JSWEB

# JavaScript Programming

## Description

JavaScript is one of the most important and popular languages in the world today. It is an essential skill for almost every developer, and a must for anyone who wants to develop for the web. This course will teach you the fundamentals of the JavaScript language. You will learn to write code that interacts with the web page, so that you can add functionality to your web site. It is also the foundation for learning how to use JavaScript frameworks such as jQuery.

## Objectives

After you have completed the JavaScript Programming course, you will be able to:

- Write programs using the JavaScript language and the JavaScript objects.
- Understand and use the Document Object Model to create interactive web pages.
- Understand how to use JavaScript frameworks such as JQuery.
- Understand the importance of progressive enhancement to ensure your web pages work in different browsers.

## Intended Audience

You should attend the JavaScript Programming course if:

- You are a programmer and you want or need to learn JavaScript.
- You need to be able to support JavaScript code.
- You are a web developer and you want to be able to add JavaScript to your web pages.

## Prerequisites

Before you attend the JavaScript Programming course:

- You must be able to code in HTML and CSS, and create HTML forms. If you can't code in HTML, or if you have only used a tool that does not show you the HTML code (like Dreamweaver), please first attend our HTML 5 and CSS course.
- You must already be a programmer and have experience in programming. If you have no programming background, start with our Introduction to Programming course.

## Course Contents

### **Introduction**

- The role of JavaScript.
- JavaScript versions.
- Cross-browser compatibility.
- Incorporating JavaScript in HTML pages.
- Browser console.
- Graceful degradation and progressive enhancement.

### **JavaScript Language Fundamentals**

- Statements and comments.
- Identifiers.
- Variables and constants.
- Data types and type conversion.

- Expressions and operators.
- Program flow: conditional and iterative statements.
- User-defined functions, parameters and return values.
- Strict mode.
- Introduction to error handling.

### ***JavaScript Objects***

- Objects, properties and methods.
- Intrinsic language objects versus document objects.
- The Array object.
- The Date object.
- The Math object.
- The String object.
- Other objects: Number, Boolean, Function, RegExp.

### ***Custom Objects***

- Programmer-defined objects.
- Object literals.
- For...in iteration.
- Prototypes.

### ***The Document Object Model***

- History of the DOM.
- Collections.
- The DOM hierarchy.
- The window object: dialog boxes, timers and other methods.
- The location object.
- The history object.
- The navigator object.
- The screen object.
- The document object.

### ***Element and Node Object***

- The Node object properties and methods.
- The Element object properties and methods.
- Creating and modifying elements and attributes.
- The Style object.

### ***Forms and Form Controls***

- Properties and methods for the form object and the form controls.

### ***Event Handling***

- HTML events.
- Registering event handlers
- Event handler invocation.
- Propagation.

### ***Working with data***

- Using XMLHttpRequest for AJAX.

- Using JSON.

#### **HTML 5 API**

- Canvas.
- Drag and drop.
- Geolocation.
- Web storage.
- Service worker.

#### **JavaScript Frameworks**

- Concept of a framework.
- Comparison of frameworks.
- Working with JQuery.
- Introduction to AngularJS.
- Introduction to NodeJS.
- Best practices.

*\*\* The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*