

INT300 : JavaScript Programming

Code : INT300 **Duration :** 3 days

Audience :

This course is intended for experienced HTML designers who want to learn how to use JavaScript to make Web pages more interactive.

Prerequisites :

To join this course knowledge of and experience with HTML is required. Prior programming knowledge is not required but beneficial in understanding the concepts.

Realization :

The subjects are discussed on the basis of presentation slides and demos. The theory is interspersed with exercises. The code is tested in different browsers.

Contents :

This course covers the basic principles and the use of the JavaScript language in HTML pages. After an introduction about the various ways in which JavaScript can be included in HTML pages and how the code is executed, the ECMA JavaScript standard is treated and the differences in handling JavaScript between browsers is discussed. Next the syntax of the JavaScript language is discussed including the variables, data types, operators and control flow constructs of JavaScript. JavaScript arrays and functions are also treated. An important aspect of JavaScript and a central element of the course is formed by the handling of events on the HTML page in JavaScript functions. The role of event functions for loading and submitting pages is treated and the events caused by mouse and keyboard interaction are discussed. Further attention is paid to the Document Object Model of HTML pages and the interaction with the page through JavaScript code and the DOM API. Next validating user input on forms on the client side through code is on the course schedule. The course concludes with a discussion of object orientation in JavaScript.

Module 1 : JavaScript Intro

- JavaScript History
- JavaScript Characteristics
- JavaScript Usage
- ECMA Standard
- Dynamic HTML
- Script Tag
- Simple Script
- Writing tot Document
- JavaScript Code Execution
- Script Files
- External Script Files
- Built-in Browser Objects
- Form Validation
- JavaScript Objects
- Timers in JavaScript
- Popup Boxes
- Debugging JavaScript
- JavaScript Tooling

Module 4 : Control Flow

- Control Structures
- if Statement
- if Examples
- if else Statement
- if else Examples
- Multiple Selections
- Nested if Statements
- switch case Statement
- Iteration Statements
- for Loop
- while Loop
- do..while Loop
- break and continue

Module 7 : Events

- HTML DOM Events
- Register Event Handlers
- Event Parameter
- Event Handlers List
- Mouse Events
- Key Events
- The DOM Event Model
- Common DOM Events
- Event Object Properties
- DOM Level2 Event Model

Module 2 : Variables and Data Types

- Data Types
- JavaScript Types
- Variables
- Variable Declaration
- Variable Initialization
- Identifiers
- Reserved Words
- Identifier Examples
- Numbers
- Special Values
- Number Usage
- Math Object
- Strings
- String Usage
- String Object Methods
- Booleans
- Objects

Module 5 : Arrays

- What are Arrays?
- Creating Arrays
- Initializing Arrays
- Accessing Arrays
- Array Indexes
- Array length
- Processing with for
- Processing with for each
- Multidimensional Arrays
- Array Methods
- Adding Elements
- Removing Elements
- Deleting Elements
- Associative Arrays
- Reversing Arrays
- Sorting Arrays

Module 8 : DOM API

- Document Object Model (DOM)
- Browser Object Model and DOM
- HTML DOM
- Document Object
- Properties and Methods
- DOM Navigation
- Navigate and Update
- DOM Manipulation
- DOM Node Types
- Node Type Properties
- Querying the DOM
- Common Element Properties

Category :



Internet



JavaScript Programming



Module 3 : Operators and Expressions

- What is an Operator?
- JavaScript Operators
- Arithmetic Operators
- Logical Operators
- Comparison Operators
- Assignment Operators
- String Operators
- Bitwise Operators
- Bitwise Operator Examples
- Other Operators
- Operator Precedence
- Expressions

Module 6 : Functions

- What are Functions?
- Defining Functions
- Calling Functions
- Function Parameters
- Using Parameters
- Variable Scope
- Returning from Functions
- Passing Parameters
- Data Validation
- Variable Argument List
- Function Best Practices

Module 9 : Validation

- What is Validation?
- Checking Form Input
- Regular Expressions
- Meta Characters
- Quantifiers
- Character Classes
- RegExp Examples
- String RegExp Methods
- Replacing
- RegExp Flags
- RegExp Object
- Using RegExp

Module 10 : JavaScript Objects

JavaScript Object Orientation

Objects

Defining Classes

Constructors

Class Members

Fields and Properties

Functions/Methods

Access Modifiers

public, private, protected

Safe Usage of "this"

Using JSON

Namespaces