Publication date : 04/17/2024

Course : Learn to program (with JavaScript)

Development novices learn the basics of algorithmics

Practical course - 3d - 21h00 - Ref. IJV
Price : 1650 € E.T.

★★★★½ 4,4 / 5

This course introduces you to classical programming (variables, control and data structures) and gives a brief introduction to object programming. Many of the programs you'll create in the course are in JavaScript, but the concepts and methods you'll learn will be valid regardless of the languages you'll be working with in the future. We invite you to discover algorithmics via the JavaScript language.

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Structuring programs according to an algorithm
- ✓ Master the lexicon and syntax of a language to write a program
- ✓ Understand the concepts and differences between compiled and interpreted languages.
- ✓ Debugging and testing a program
- ✓ Access and manipulate data
- ✓ Understanding the main principles of Object-Oriented Programming

Intended audience

Anyone who needs to learn programming.

Prerequisites

No special knowledge required.

Practical details

This course contains more than 60% of practical work carried out as required in Java (course ref INJ), C# (course ref OGR), Python (course ref THO), or other language variations. .

Course schedule

PARTICIPANTS

Anyone who needs to learn programming.

PREREQUISITES

No special knowledge required.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

1 The foundations of programming and the genesis of a program

- What is a program? What is a language? The different paradigms. Which language for which application?
- The responsibilities of a programmer.
- Compiled languages - Interpreted languages
- What is an algorithm? The needs met by an algorithm. The concept of pseudo-language.
- What is a bookshop, library / Framework? Their role, their use.

Hands-on work

Introduction to different languages (Java, C#, C, C++, Python). Write your first algorithm in a pseudo-language.

2 Algorithms in the JavaScript environment

- Creation of basic files, tools.
- Using comments. Why comment on developments?
- Display: document, debug console, dialog box, alert box.

Hands-on work

Discover the development and execution environment. Write and run a first program.

3 Variables

- What is a variable?
- var and let variable declaration.
- Naming convention.
- Value assignment / modification.
- Use of constants.
- Display by concatenation.

Hands-on work

Write several simple programs to manipulate variables.

4 Data type and operators

- What is a type?
- Primitive types: boolean, number, string, null, undefined.
- Assignment, comparison, arithmetic and logic operators.
- Operator precedence and associativity.

Hands-on work

Write several programs manipulating types and operators.

5 Conditional control structures

- Alternatives or conditional instructions if, else if, else.
- Comparison operators for conditional structures.
- Conditional instructions: ternaries.
- Conditional instructions: the switch instruction.

Hands-on work

Write several programs with a conditional structure.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

6 Iterative control structure

- Iterative instructions: for loops.
- Iterative instructions: while loops.

Hands-on work

Écriture de plusieurs programmes à structure itérative. Utilisation des structures de contrôle pour implémenter un algorithme.

7 Methods and functions

- What is a method? What is a function?
- Methods available for strings and numbers.
- Function expressions and their declaration.
- Parameters, arguments and default settings.
- Return value of functions.
- The function call.
- Callback functions.
- Scope chain and lexical environment.

Hands-on work

Write several programs using existing methods. Create functions with and without parameters, and use the functions created.

8 Array data arrays

- What is a painting?
- Table declaration and assignment.
- Access table properties.
- Modify an element in an array.
- Iterate over the elements of an array.
- Imbrication of paintings.
- Introduction à la programmation fonctionnelle.

Hands-on work

Write several programs with table creation and manipulation.

9 Introduction to object-oriented programming

- What is an object?
- Declaration of objects.
- Object properties.
- Iterate on objects.
- JSON (JavaScript Object Notation) format.

Hands-on work

Illustration of object concepts.

10 Maintenance, debugging

- Read and interpret error messages.
- Use a debugger: execute a program step by step, breakpoints, inspect variables during execution.

Hands-on work

Use a debugger to control program execution.

Dates and locations

REMOTE CLASS
2026 : 25 Mar., 27 May, 5 Oct.

PARIS LA DÉFENSE
2026 : 25 Mar., 27 May, 5 Oct.