Course : Learn to program (with C#)

Development novices learn the basics of algorithmics

Practical course - 3d - 21h00 - Ref. OGR

Price : 1650 € E.T.

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This course introduces the fundamentals of imperative programming: variables, conditionals, loops and functions. The many practical exercises are in C#, but all programming languages are alike. You can then move on to C or Python without too much difficulty.

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
- Compiling and running a program
- Debugging and testing a program
- Understanding the main principles of Object-Oriented Programming

Intended audience

Anyone who needs to learn programming.

Prerequisites

No special knowledge required.

Practical details

Hands-on work

This course contains more than 60% hands-on work in Visual Basic (INP course), Java (INJ course), C# (OGR course) or Python (IPY course).

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.

TERMS AND DEADLINES

1 The foundations of programming

- What is a program? What is a language? The different paradigms. Which language for which application?
- Compilers. Executables.
- The responsibilities of a programmer.
- What is an algorithm?
- The needs met by an algorithm.
- The concept of pseudo-language.

Hands-on work

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

2 Genesis of a first program

- Write a simple program: syntax and instructions.
- Compile and run the program.
- What is a bookshop? Its role, its use.

Hands-on work

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

3 Programming rules

- Naming convention.
- Syntax convention.
- Using comments. Why comment on developments?
- Improve program readability: code indentation, code breakdown, etc.

4 Variables

- What is a variable?
- Why type a variable?
- Primitive types: integers, strings, real numbers, others.
- Declaration, definition and initialization of a variable.
- Constants.
- Input, display, assignment, type conversion.
- Organize data in tabular form.
- Advanced types: record, matrix, tree.

Hands-on work

Write several simple programs to manipulate variables.

5 Operators and expressions

- The different operators (multiplicative, additive, comparison, equality, logic, assignment).
- Combination of operators.
- Boolean expression.

Hands-on work

Handling operators and Boolean expressions.

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 Control structures

- Alternative selections (if, if-then-no, case selection).
- Instruction blocks (notion of Start... End).
- Iterative loops (while-repeat, repeat-until, for-from-to).
- Instruction nesting.
- Comments.

Hands-on work
Use control structures to implement an algorithm.

7 Procedures and functions

- Definitions: procedure, function.
- Why are they essential to programming (reusability, readability, etc.)?
- Parameter passing.
- The return code of a function.
- Awareness of the limits of variable value passing.
- Notion of passage by address.
- Call functions.

8 Introduction to object-oriented programming

- Object programming concepts: class, attribute, method, argument.
- Object modeling based on functional requirements.
- Introduction to best practices in program design and organization.

Hands-on work
Illustration of object concepts.

9 Debugging and runtime monitoring

- Switch to debug mode.
- Step-by-step execution. Execution from method call to method call.
- How to set a stopping point.
- View variables.

Hands-on work
Use a debugger to control program execution.

Dates and locations

REMOTE CLASS
2026 : 15 June, 28 Sep., 7 Dec.

PARIS LA DÉFENSE
2026 : 15 June, 28 Sep., 7 Dec.