



idevelop

C++

**& PROGRAMMING
FUNDAMENTALS**



DESCRIPTION

In the new world we live in, coding is a universally valuable skill, whether you're a scientist, artist, or a humanist. Algorithms are everywhere, and we all have to understand how they work.

The C language is particularly well suited as an introduction to coding: It's a tried-and-true language, and it allows you to understand computing processes at a deep level.



COMPETENCES

Upon completion of this course, participants will be able to:

- Know the principles of computational logic.
- Obtain the necessary knowledge to, as a teacher, help in the development of students' programming skills.
- Know how to use a variety of digital resources to make activities more interesting for students.
- Increase student engagement and motivation.
- Use of student devices inside and outside the classroom.
- Development of collaborative activities.
- Increase performance and effectiveness in lesson preparation.
- Take advantage of the resources available for the classroom, free and easy to use.
- Be more effective teachers, knowing how to solve computational logic problems that students pose.



RESULTS

- The participant becomes familiar with the programming language.
- The participant increases their computational logic skills.
- The participant knows the basic structure and elements of an algorithm.
- The participant know C++ language.



METHODOLOGY

The methodology used in the course is 'learning by doing' in the form of a guided tutorial.

The teacher, after briefly explaining some concepts and approaching the necessary tools, proposes a project in which participants will have to create educational resources for the class.

The teacher then becomes a support, helping the participants in their learning experience, at the end of the course there will be a test to assess the learning outcomes and the knowledge gained.



DAY BY DAY

WELCOME SESSION

By Project Coordinator
Introducing the Tutor
Handing in of the course folders and useful information
Introducing the course objectives.

DAY 1: GETTING FAMILIAR WITH THE CODING

09:00-14:00 Review of the Course Program

Course schedule

Presentations

The importance of coding today

COFFEE BREAK

Introduction to programming with offline activities

DAY 2: INTRODUCTION TO BLOCK CODING

09:00-14:00 What is block coding?

Scratch software features

COFFEE BREAK

Introduction to block programming with Scratch

DAY 3: COMPLETE PROJECTS WITH SCRATCH

09:00-14:00 See examples of games and projects created with scratch

Choosing and planning a scratch project

COFFEE BREAK

Scratch project development

DAY 4: INTRODUCTION TO C++ (PART 1)

09:00-14:00 History of the C language

Installation and use of C++

COFFEE BREAK

Lexical Elements and Data Types

DAY 5: INTRODUCTION TO C++ (PART 2)

09:00-14:00 Flow of Control and Simple Functions

Advanced Functions, Recursion, Arrays, and Pointers

COFFEE BREAK

Arrays and pointers



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