



## Professional Education Programs

### Course Programming in C, C++, Java

#### Overview

Object oriented programming languages are widely used for the development of complex software systems.

C++ and Java are two powerful languages that are quite popular among developers of object-oriented systems. Mastering of these languages is a prerequisite and provides significant benefit to those who plan to get involved in the process of developing object oriented software systems. The course is designed to provide good background to these languages and, in addition, to the programming language C, which influenced the design of both of them.

#### Objectives

This introductory course is designed to provide a good background to software developers, especially those who target object oriented software systems. By its completion course participants will be able to design and develop programs of moderate size and complexity in any of the three programming languages.

#### Who should attend

This Full Course is addressed to:

- Engineers and programmers who plan to write systems code
- Developers and programmers of object oriented software systems

The course consists of three parts, one for each programming language. Since these parts are independent of each other participation in any combination that fits the needs of attendees is also feasible.

#### Prerequisites

Basic programming skills.

#### Duration

12 half-day sessions

#### Instructor

Dr. S. Efremidis

#### Course outline

In-class lectures that build the necessary theoretical background on the topic cover 75% of the course duration, while the rest 25% is devoted to acquiring hands-on experience through laboratory exercises (to be carried out in AIT's software lab). Practical training accompanies each of the sessions presented below.

Optional homework assignments will be available to interested groups and/or individuals.

The course contents per programming language follow:

Programming in C

- Session 1:
  - Introduction
  - Types, operators and expressions
- Session 2:
  - Control flow and functions
  - Pointers and arrays
- Session 3:
  - Structures
  - Program organization
- Session 4:
  - Memory management
  - Input and output





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### Programming in C++

- Session 1:
  - Introduction
  - Declarations and constants
- Session 2:
  - Expressions and statements
  - Functions and Files
- Session 3:
  - Classes and objects
- Session 4:
  - Derived classes
  - Overloading
- Session 5:
  - Templates
  - Exception handling

### Programming in Java

- Session 1:
  - Introduction
  - Declarations and constants
- Session 2:
  - Expressions and statements
  - Classes and objects
- Session 3:
  - Inheritance
  - Interfaces and packages
- Session 4:
  - Exception handling
  - Threads and multithreading programs

**Tuition Fee** N/A

Discount Policy

Cancellation Policy

**Program Registration** [www.ait.edu.gr/profPrograms/reg\\_form/admission\\_form.asp](http://www.ait.edu.gr/profPrograms/reg_form/admission_form.asp)

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