

## Advanced C Programming

**Level:** advanced

**Length:** 35 – 40 hours

**Course objective:** exercise how to use C for solving practical problems by using C particularities.

### What you will learn

- Stereotypes and idioms of using C
- Particular ways to implement several design patterns
- Exercise how the design is mapped to code
- Exercise soft skills of communication and presentation

**Who can participate:** C programmers who want to exercise the use of C for solving interesting, more complex problems

**Prerequisites:** practical experience and knowledge of C at least at medium level

**Required facilities:** VGA projector, white board, computers, C development tools. It's highly recommended using an IDE, a good (free) example is Microsoft Visual C++ Express Edition or a dedicated distribution of Eclipse for C/C++

**Related courses:** The C Programming Language

**Minimal bibliography:** The C Programming Language, Brian W. Kernighan, Dennis M. Ritchie, ed. 2, 1988



## Description

This course is targeted to C programmers who want to deep their knowledge about the language and the ways to use it correctly & efficiently.

The training is highly interactive, the attendees are implied in discussing the ideas and in designing solutions which are ultimately expressed in C. The main purpose of this training is to exercise programming by using C.

**Note:** the subjects are adapted to the attendees' profile, their background, experience and goals. We can approach other subjects depending on the context.

## Examples of topics to include in curricula

1. Pointers to functions, callbacks
2. ADT – abstract data types in C
3. Design principles & design patterns in C
4. Embedded programming with C
5. Code optimizations techniques
6. Concurrent programming with POSIX threads