

Introduction

C++ for Developers

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Course Introduction

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Scope of C++ for Developers

Purpose

The purpose of this course is to provide students with both theoretical knowledge and practical skills in software development using the C++ programming language.

Goal

The goal is for students to be able to independently develop applications in C++, as well as to select and apply appropriate tools, techniques, and methods based on given requirements and specifications.

Subjects of the course

- C++ syntax, data types and I/O operations
- Object-oriented programming
- Data structures and algorithms
- Memory management, pointers and references
- Standard Template Library
- Embedded software development
- Multi-threaded software
- C++ Build process

Assignments

Assignment #1

Individual assignment focusing on application software development.

Assignment #2

Individual assignment focusing on embedded development.

Routines

For Success

The 3 C's

CODE! CODE! CODE!

Programming is a craftsmanship and you need to practice it. Do all practice assignments, make your own projects and make sure to program every day during the course.

If you need help with coming up with ideas for own projects, feel free to reach out to me.

AI as a teacher

AI is a powerful tool for learning. Here is a prompt you can use when chatting to improve your learning:

“You are my C++ teacher.

Do not solve the problem or write full code for me.

Instead:

- Ask guiding questions.
- Point me to concepts I should review.
- Suggest possible approaches or strategies.
- Explain mistakes in my reasoning without giving the final answer.”

Solve your own problems

Do not use AI to solve problems. Being a developer revolves around being a problem solver, practice the skill first before using short-cuts.

A good alternative is to ask one of your classmates and open up for a discussion.

