C++ Programming

Course Plan

EDAF50, study period VT1–2 2021.
7.5 hp.

Administrative Information

Welcome! In this course you will learn about C++ and study both the language and the standard library. An important part of the course is to use the differences between C++ and Java to illustrate some important programming concepts, and show aspects of program design that are built into the Java language, but where the C++ programmer has to make a choice. An informal goal of the course is to give participants the tools to become real C++ programmers, not Java programmers who know C++ syntax.

Prerequisites Taken and passed EDAA01 Programming–Second Course (or corresponding).

Course coordinator Sven Gestegård Robertz, email: sven.robertz@cs.lth.se

Student expedition Ulrika Templing, office: E:2179. (Only email contact due to COVID-19) email: expedition@cs.lth.se

Web page http://cs.lth.se/edaf50/
Please check the course web page regularly. Part of the teaching will be done in the Canvas course linked from the course web page.

Course literature As long as you learn C++ you may use any book. Some alternatives (both of the books cover the C++11 standard):


In addition to the textbook, there are additional resources from the department available on the course web page: the lecture slides, instructions for the computer labs and the project.
Course Content, Details

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Lectures

Wednesdays 10–12, and Thursdays 13–15, given remotely

Preliminary headlines for the lectures:

L1: Introduction, functions, variables, and data types
L2: Introduction cont’d, Pointers and arrays. User defined types
L3: Modularity: source code organization, error handling
L4: Classes
L5: Resource management
L7: Templates and function objects
L8: Classes and polymorphism
L9: Standard library containers. More on classes
L10: More about the standard library
L11: Low-level details. Loose ends
L12: Recap. About the project
L13–L14: No lecture planned

Computer labs

The computer labs are compulsory. There is one lab per week during study weeks 3–6. Instructions and assignments are in the handout “Laboratory Exercises, C++ Programming”.

The labs are mostly homework and need extensive preparation. Alternative times for the lab sessions: Mondays 13–15, Tuesdays 15–17, Wednesdays 8–10 or 15–17, or Thursdays 10–12 or 15–17.

The labs are done in groups of two students. Signing up for the labs:

- Visit https://sam.cs.lth.se/Labs
- Enroll at the same time as your lab partner. If you enroll on your own, the system will assign you a lab partner.
- Use your StiL id as user id.
- Contact the course coordinator if you have any problems, questions, or need to change your lab time.

Exercises

There are no scheduled exercise sessions. Instead, there are exercises with problems that you can solve at the computer. You should solve one of the exercises each week (from the second week). The exercise texts, programs to use and suggested solutions are on the course web page.

Project

The project is compulsory and is to be carried out in groups of two to four students. The project description is in the handout “Project Description, C++ Programming”.

The project report is due Wednesday, April 21. You may of course hand in the project earlier. See the project description for instructions on how to hand in the project.
Examination

*Parts*
The course is reported as two parts:

- Written Examination 4 hp.
- Laboratory Work and Assignment 3.5 hp

Both parts must be completed to pass the course.

The final grade is based on the result of the written examination.

Please note that you may bring “one C++ book” to the written examination.

*Written examination*  Thursday 18/3, 14:00–19:00

*Alternative date*  Friday 20/8, 8:00–13:00