C++ Programming

Course Plan

EDA031, study period 3 2016/17
(with project work during period 4).
7.5 credits.

Administrative Information

Welcome! In this course you will learn C++. You will study the language with many details and also the standard library. The informal goal of the course is "to make real C++ programmers out of the participants, not Java programmers who use C++ syntax".

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

Informal prerequisites: "good at programming", "likes programming", "used to computers". You will most probably be bored by the course if you don't fulfill these requirements ...

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Homepage `http://cs.lth.se/EDA031/`
Please check the homepage regularly.

Course Contents

lectures	12
computer labs (compulsory)	4
project (compulsory)	1

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

Lippman, Stanley B., Moo, Barbara E. and Lajoie, Josée: *C++ Primer,* fifth edition, Addison-Wesley 2012, ISBN 0–321–71411–3. A very good book, everything is correct, a good reference, easier to read than Stroustrup.

Stroustrup, Bjarne: *The C++ Programming Language,* fourth edition, Addison-Wesley 2013, ISBN 0–321–56384–0. Stroustrup is the inventor of C++. Not easy reading, but everything's there.

In addition to the textbook, there are additional handouts from the department (copies of overhead slides, instructions for the computer labs, instructions for the project). All material is on the course web.

Course Contents, Details

Lectures Mondays 10–12, MA:4, Thursdays 8–10, V:B.

Lecture Schedule The schedule is from last year's lectures and will probably need to be modified. Only the subject of each lecture is given. Detailed reading instructions will be on the course web after each lecture.

16/1	Introduction
19/1	Introduction cont'd, types, expressions and such
23/1	More types, strings & vectors, iterators, arrays
26/1	Expressions, statements, functions
30/1	Classes
2/2	Copying and moving
6/2	Vectors vs. arrays, operator overloading
9/2	More overloading, inheritance
13/2	Templates, iterator intro
16/2	More iterators, function objects
20/2	Algorithms, container classes
23/2	About the exam and about the project
27/2,2/3	No lecture – reserve

Computer Labs The computer labs are compulsory. There is one lab per week during calendar weeks 5–8 (study week 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 8–10, Tuesdays 8–10 or 13–15, Wednesdays 15–17, Thursdays 15–17.

You must work in groups of two people. Signing up for the labs:

- Visit `sam.cs.lth.se/Labs` in a browser.
- Enroll at the same time as your lab partner. If you enroll on your own, the system will assign you a partner.
- Use your StiL id as user id. If the system doesn't accept your user id, use the box at the bottom to have the system e-mail you (to your address in Ladok) your id.
- Contact `Roger.Henriksson@cs.lth.se` if you have any problem or questions or need to change your lab time, ...

Exercises There are no scheduled exercise sessions. Instead, there are exercises with assignments that you can solve at the computer. You should solve one of the exercises each week. The exercise texts, programs that you shall use, and suggested solutions are on the course homepage.

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

The project report is due Monday, April 24. You may naturally hand in the project earlier. See the project description for instructions of how to hand in the project.

Examination

Examination The exam is written. Aid at the exam: one C++ book.

Regular exam: Friday March 17, 14–19, MA10 D–H.

Alternate exam: Monday June 5, 8–13, MA8 B–C.

Final Grade To obtain a final grade you must have passed the written examination, the labs and the project.