LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Programmering i C++
Programming in C++

EDAF30, 7,5 credits, G2 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED C/D
Date of Decision: 2023-04-18

General Information

Elective for: IDA3, IEA3
Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to give the student basic knowledge and skill in programming in C++. Special emphasis is placed on the language constructs that make C++ a more advanced, and also more complex, language than Java.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- know about and be able to describe the differences between C++ and Java
- have knowledge about the C++ language and standard library
- be able to explain fundamental concepts in object-oriented programming in C++
- understand and be able to explain the different kinds of function parameter passing
- know and be able to reason about how objects are allocated and represented in memory
- be able to interpret, analyse and explain given C++ code.

Competences and skills
For a passing grade the student must

- be able to develop a functioning C++ program from given specifications
- be able to systematically debug C++ code
- be able to use tools to develop C++ programs in a Unix environment.

Judgement and approach
For a passing grade the student must

- be capable of choosing a suitable language construct to solve a given problem
- be able to reason about how the choice of language construct affects the readability, robustness, and efficiency of a program

Contents

- History and overview of C++
- Types and variables
- Functions
- Operators and expressions
- Flow control
- Arrays, strings and pointers
- Memory and resource management
- I/O and streams
- Classes and encapsulation, member functions and free functions
- Inheritance
- Overloading, polymorphism, and generic programming
- Source code management
- The standard library

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Written examination. Compulsory course items: Computer laboratory exercises, project, hand-in assignments. The final grade is based on the result of the written examination.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts
Code: 0114. **Name:** Written Examination .
Credits: 4. **Grading scale:** TH. **Assessment:** Written examination. The final grade of the course is based on the result of the written examination.
Code: 0214. **Name:** Compulsory Items.
Credits: 3,5. **Grading scale:** UG. **Assessment:** To qualify for a a passing grade the laboratory work and hand-in assignments must be completed.

Admission

Admission requirements:

- EDAA10 Computer Programming in Java

The number of participants is limited to: No
The course overlaps following course/s: EDA031, EDA350, EDA623, EDAF50

Reading list

- Will be announced later, see the course web page.

Contact and other information

Course coordinator: Sven Robertz, sven.robertz@cs.lth.se
Course homepage: http://cs.lth.se/utbildning
Further information: This course is given at Campus Helsingborg.