Object Oriented Programming

Programme course

4 credits

Objektorienterad programmering

TDIU20

Valid from: 2017 Spring semester

Determined by

Board of Studies for Computer Science
and Media Technology

Date determined

2017-01-25

Main field of study

Computer Science and Engineering

Course level

First cycle

Advancement level

G1X

Course offered for

- Computer Engineering, B Sc in Engineering
- Engineering Electronics, B Sc in Engineering

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

Basic course in imperative programming, preferably using C++

Intended learning outcomes

The student will work to gain knowledge and skills in object oriented programming using C++. After a completed
course, the student should be able to:
- identify and use common idioms used in object oriented C++ programming
- create independant, non-trivial classes in C++
- create polymorphic class hierarchies in C++
- create programs to separately test a class implementation

Course content

- Abstraction using encapsulation
  - Repetition of pointers and memory handling in C++
  - Object orientated programming
  - Classes: Concepts, Inheritance, Polymorphism
  - Introduction to UML (class diagrams)
  - Repetition of file separation
  - The tool make

Teaching and working methods

New content is presented during lectures and discussed in smaller lesson groups. The student then practices during
    labs.

Examination

LAB1	Computer based laboratory work	3 credits	U, G
DAT1	Computer examination	1 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för datavetenskap

Director of Studies or equivalent

Ahmed Rezine

Examiner

Klas Arvidsson

Education components

Preliminary scheduled hours: 32 h
Recommended self-study hours: 75 h

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.