

# Object Oriented Programming and Java

Programme course

6 credits

Objektorienterad programmering och Java

TDDD78

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, Computer Science

## Course level

First cycle

## Advancement level

G1X

## Course offered for

- Computer Science and Software Engineering, M Sc in Engineering
- Computer Science and Engineering, M 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 knowledge in programming. Practical programming experience in Python, corresponding to (for example) the course Functional and Imperative Programming in Python.

## Intended learning outcomes

After the course, the student will be able to:

- Explain and apply basic concepts of object oriented programming, e.g. classes, instances, messages, methods and polymorphism.
- Understand and draw class diagrams using the UML standard.
- Describe and apply basic design patterns.
- Implement object oriented programs in Java.

## Course content

- Object oriented programming concepts, such as classes, instances, messages, methods, polymorphism, instance variables and inheritance.
- Design principles and design patterns, specially the use of polymorphism and inheritance vs. delegation.
- Class diagrams in UML.
- The Java programming language and the most important class libraries, including programming of simple graphical user interfaces.

## Teaching and working methods

The course consists of laboratory assignments and a programming project.

## Examination

LAB3	Laboratory work	3 credits	U, G
PRA3	Project assignment	3 credits	U, 3, 4, 5

## Grades

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

## Department

Institutionen för datavetenskap

## Director of Studies or equivalent

Peter Dalenius

## Examiner

Jonas Kvarnström

## Education components

Preliminary scheduled hours: 64 h

Recommended self-study hours: 96 h

## Course literature

Valfri bok om Java och objektorienterad programmering.

Föreläsningsanteckningar och annat material kommer att finnas tillgängligt på nätet.

## 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://stydokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).