

## **SYLLABUS**

# **Object oriented programming 7.5 credits D0037D**

**Objektorienterad programmering**

**Course syllabus admitted: Autumn 2023 Sp 1 - Present**

**DECISION DATE  
2021-02-17**

# Object oriented programming 7.5 credits D0037D

## Objektorienterad programmering

### First cycle, D0037D

**Education level**  
First cycle

**Grade scale**  
G U 3 4 5

**Subject**  
Datalogi

**Subject group (SCB)**  
Computer Technology

## Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Basic knowledge in imperative programming, e.g. D0009E Introduction to programming.

Good knowledge in English equivalent to English 6.

## Selection

The selection is based on 1-165 credits.

## Course Aim

After course completion, the student should be able to demonstrate:

1. basic knowledge about a) the scientific foundation of Object-oriented Programming and Design and b) the proven experience programmers in this field of Computer Science;
2. an ability to create, analyse and critically evaluate various technical solutions in terms of the design and implementation of large computer programs by using a modern object-oriented programming language;
3. an ability to plan and use appropriate methods to undertake advanced programming tasks within predetermined parameters;
4. an ability to present and discuss information, problems and solutions both verbally and in textual form

## Contents

Classes and objects, encapsulation of methods and data structures. Inheritance as a mechanism for the reuse of code. Shadowing. Inheritance hierarchies, types, static and dynamic types, sub types, polymorphism. Abstract data types. Design and computation patterns. Program design and documentation. Integrated development environments.

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures and laboratory work. In the practical lab work we use an object oriented programming language (usually C++).

## Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Examination consists of a final written exam and mandatory programming assignments. The course objectives are examined as follows:

1. Final written exam. Individual lab assignments;
2. Individual lab assignments;
3. Individual lab assignments;
4. Final written exam. Individual lab assignments;

## Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

## Overlap

The course D0037D is equal to D0011D, D0010E, D0035E, ISI733

## Course offered by

Department of Computer Science, Electrical and Space Engineering

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0004	Laboratory work	U G#	4	Mandatory	A11	
0005	Written exam	G U 3 4 5	3.5	Mandatory	A21	

## Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

## Last revised

by Jonny Johansson, HUL SRT 2021-02-17

## Syllabus established

by LTU Skellefteå 2007-12-08