

## IMT1082 Object-Oriented Programming - Study plans 2016-2017

**Course code:**

IMT1082

**Course name:**

Object-Oriented Programming

**Course level:**

Bachelor (syklus 1)

**ECTS Credits:**

10

**Duration:**

Vår

**Language of instruction:**

Norwegian

**On the basis of:**

IMT1031 - Fundamental Programming

**Expected learning outcomes:**

Knowledge:

- Read and explain more advanced C++ syntax.
- Explain and use object-oriented approach / thinking.
- Find an suitable/appropriate data structure for moderate big computer program.
- Explain the use of a small programming library (toolbox).
- Develop an application (as project work) consisting of a number of different files.
- Understanding the quality aspects of development and maintenance of software.

Skills:

- Understand and use more advanced C++ syntax.
- Solve programming tasks with object-orientation approach/thinking.
- Using and mastering a programming library.
- Choose, create and manage more sophisticated data structures, primarily consisting of lists and arrays/tables.
- Master tools for version control, code analysis and testing.

General Competence:

- Cooperate with other people in a project.
- Analyze, plan and implement a larger work (project).
- Dealing with and adhere to deadlines.

**Topic(s):**

Principles for object-orientation

Introduction to language elements as:

- Classes and objects (repetition)

- Overloading

- Inheritance

- Pointers

- Dynamic allocation

- Lists

- Virtual functions and late binding

Bigger programs (application) consisting of multi-files.

Tools for version control, code analysis and testing.

**Teaching Methods:**

Lectures

Mandatory assignments

Exercises

Project work

**Form(s) of Assessment:**

Written exam, 4 hours

**Grading Scale:**

Alphabetical Scale, A(best) – F (fail)

**External/internal examiner:**

Graded by course instructor and examiner.

**Re-sit examination:**

Re-sit examination in August.

**Tillatte hjelpemidler:**

A: Alle trykte og håndskrevne hjelpemidler tillatt. Alle kalkulatorer tillatt.

**Coursework Requirements:**

2 of 3 mandatory assignments and project work must be approved. Clearly inadequate work, not independently own work or deadline that is not complied is considered as undelivered.

The mandatory assignments must be submitted before the student can join a group and start the project work. It requires active participation in the project to get it approved. Group participants must sign a paper dealing that all students have been active/participating, and each one can be extracted for an oral exam to get the project approved.

**Academic responsibility:**

Faculty of Computer Science and Media Technology

**Course responsibility:**

Universitetslektor Frode Haug

**Teaching Materials:**

Lafare, Robert. (2002). Object-Oriented Programming in C++. Indianapolis, IN: SAMS

Faglærer. Kompendium. Gjøvik: HiG

**Publish:**  
Yes