



## Course syllabus

Faculty of Technology

Department of Computer Science and Media Technology

1DV602 Programvaruteknik – Processer, 15 högskolepoäng

Software Engineering – Processes, 15 credits

### **Main field of study**

Computer Science

### **Subject Group**

Informatics/Computer and Systems Sciences

### **Level of classification**

First Level

### **Progression**

G1F

### **Date of Ratification**

Approved by Faculty of Technology 2014-10-03

The course syllabus is valid from autumn semester 2015

### **Prerequisites**

Problem Solving and Programming 7.5 credits (1DV006) and Programming and Data Structures 7.5 credits (1DV007) or equivalent.

## Objectives

Upon completion of the course, the student should be able to:

- describe and explain concepts and principles of object oriented software development
- describe and explain fundamental theories, techniques and methods in software engineering
- master advanced object oriented modelling principles and techniques
- individually, or in teams, perform specific software development tasks for collecting and analysing requirements, develop and evaluate a design, and test and document an implementation.
- individually, or in teams, perform a software development project using object oriented technology

## Content

The course covers:

- modeling in UML
- software engineering processes
- project, planning and control of project execution
- basic principles of software reuse and maintenance
- requirements engineering
- object oriented analysis
- object oriented design
- design patterns
- software testing

## Type of Instruction

Teaching consists of lectures, seminars and practicals. The course also includes a software development project. Practicals are carried out individually or in groups. Attendance at some activities is mandatory.

## Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of the students performance is made through writ-ten or oral tests and/or the presentation of compulsory practi-cal assignments. The types of assessment used will be decided upon, at the beginning of the course.

Students who do not pass the regular examination are given the opportunity to do a resit examination shortly after the regular examination.

## Course Evaluation

A written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the department.

## Credit Overlap

The course cannot be included in a degree along with the following course/courses of which the content fully, or partly, corresponds to the content of this course:1DV102 Software Engineering – Processes, 15 credits

## Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

## Required Reading and Additional Study Material

### Required reading

Sommerville, I, *Software Engineering 8th Ed.* Addison-Wesley, (2007). Pages 600 (800).

Booch, G, *Object-Oriented Analysis and Design with Applications, 3rd Ed.* (2007). Pages 500 (720).