



## Course syllabus

Faculty Board of Science and Engineering  
School of Computer Science, Physics and Mathematics

1DV006 Problemlösning och programmering, 7,5 högskolepoäng  
Problem Solving and Programming, 7.5 credits

### **Main field of study**

Computer Science

### **Subject Group**

Informatics/Computer and Systems Sciences

### **Level of classification**

First Level

### **Progression**

GIN

### **Date of Ratification**

Approved by Organisational Committee 2009-12-01

The course syllabus is valid from autumn semester 2010

### **Prerequisites**

General entry requirements and Mathematics C or Mathematics 3b / 3c.

## Expected learning outcomes

After the course the student should be able to:

- briefly describe the process of object-oriented programming
- describe object-oriented concepts like modularisation, abstraction and encapsulation
- describe the concepts syntax and semantic
- develop simple programs in Java
- describe the syntax of the language Java
- describe how concepts like modularisation, abstraction and encapsulation are supported by Java
- describe the most commonly used classes in the Java Standard Library

## Content

The following theoretical parts are treated:

- fundamental elements in object oriented programming
- object oriented modelling and problem solving
- briefly look at recursive functions

The following parts in Java are treated:

- classes and objects
- methods and arrays
- simple data types and related methods
- statements
- handling exceptions
- input and output to external files
- class library in Java
- graphical user interfaces

## Type of Instruction

Teaching consists of lectures and practical assignments. Practical assignments are individual or carried out in groups.

## Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

Assessment of the students' performance is made through written and/or oral examination or practical programming examination and/or presentation of mandatory assignments. The assessment method is decided at the start 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

## Other

Upon request, a Swedish University degree will be issued upon successful completion of the full demand for that degree.

Upon request, a Swedish University course certificate will be awarded upon successful completion of the course.

## Required Reading and Additional Study Material

### Required reading

Lewis, J & Loftus, W, *Java Software Solutions, Foundations of Program Design, 5th Ed.*, Addison-Wesley, 2007 eller senare. Pages 500 (760).

DFM, *Distributed material*. Pages 100.