# ID1301 Programming I, Java 7.5 credits

## Programmering I, Java

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for ID1301 valid from Autumn 2010

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

General eligibility for university studies in Sweden, i.e. completed upper secondary education including documented proficiency in Swedish and English. In addition, specific requirements of mathematics, physics and chemistry corresponding to Mathematics D/Mathematics 3c, Physics B/Physics 2 and Chemistry A/Chemistry 1.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

The course develops the students programming abilities so that he/she can solve easier tasks with the help of a computer. The course also lays a foundation for further studies in software engineering.
The student will be able to:
- Choose an appropriate form for data-storage (e.g. primitive values, vectors, lists or objects) and use the stored data in different ways
- Implement conditional actions and repetitions
- Develop appropriate methods, classes and packages to implement different operations
- Create objects of different standard classes and use their services
- Handle exception situations in a program
- Create programs that communicate with the standard input unit, standard output unit and the files in the file system
- Create appropriate object types to be able to implement given services

## Course contents

- Store data as primitive values and exert different operations with them
- Implement conditional actions and repetitions
- Store data in a vector of the inbuilt type
- Distribute code between different methods, classes and packages
- Use objects of the classes that exist in the standard library
- Exception situations in a program
- Input, output and files
- Define own object types. Nestled and inner classes. Lists.
- Inheritance and interface

## Disposition

Two work-forms are used in this course: lectures and laboratory work. In a lecture (for all students) different concepts are introduced and developed, and these concepts are illustrated with appropriate examples. The teacher and the students discuss these concepts.
A laboratory work further develops the concepts that were developed in the lectures. The student solves different problems with the help of a computer, and in that way verifies and deepens her/his knowledge and abilities. To be able to actively participate at the laboratory work, the student has to make all necessary preparations in advance.

## Course literature

Preliminärt:

- Galjic Fadil: Programmeringsprinciper i Java, del 1 (Upplaga: 1), Studentlitteratur, Lund, 2005, 91-44-03586-1
- Galjic Fadil: Programmeringsprinciper i Java, exempelsamling, del 1 (Upplaga: 1), Studentlitteratur, Lund, 2006, 91-44-03819-4
- Galjic Fadil: Programmeringsprinciper i Java, övningsbok, del 1 (Upplaga: 1), Studentlitteratur, Lund, 2005, 91-44-03805-4

# Examination

- LAB1 - Laboratory Work, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

During the course the student does and presents a certain amount of example-programs. An exam is done in the end of the course. To be able to do the examination the student must present all the example-programs first.
One grade is given for the example-programs, one for the final examination, and then one final grade for the course as a whole. Both for the grade for the example-programs and the final examinations the actual grading scale (A, B, C, D, E, Fx, F) is used.

The final grade for the whole course is a rounded mean value of the grade for the examination and the grade for the example-programs (the mean value rounds up).

# Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.