Linnæus University

Jnr: 2014/4165–3.1.2

Course syllabus

Faculty of Technology
Department of Computer Science

1DV506 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
G1N

Date of Ratification
Approved by Faculty of Technology 2014-12-08
The course syllabus is valid from autumn semester 2015

Prerequisites
General entry requirements and Mathematics 3b / 3c or Mathematics C (Field-specific entry requirements 12/A12).

Objectives
After the course the student should be able to:

- describe object-oriented concepts like modularisation, abstraction and encapsulation
- describe the concepts syntax and semantic
- develop simple programs in Java involving a few classes
- 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

The following parts in Java are treated:

- classes and objects
- methods, constructors, and fields
- simple data types and related operations
- control statements
- simple input and output from keyboard/screen
- arrays
- the Java class library
- The library classes Random, Math, ArrayList

Type of Instruction

Teaching consists of lectures and practical assignments. Practical assignments are individual or carried out in groups. The course can also be given as a distance learning course.

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´s 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 course evaluation will be carried out and compiled after the course is completed. The compilation will be presented to the current board as well as to the students and filed by the coordinating department.

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

Horstmann, Cay S., *Big Java: Late Objects,* John Wiley & Sons, 2012 or later. Pages 460 (900).
FTK, *Distributed material*. Pages 100.