Linnæus University

Jnr: UGA 2013/1243-3.1.2

Course syllabus

Faculty of Technology
Department of Computer Science

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
G1N

Date of Ratification
Approved 2009-12-01
Revised 2013-06-14 by Faculty of Technology. Type of instruction, examination, course evaluation and literature list are revised.
The course syllabus is valid from autumn semester 2013

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

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
- 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
- describe the object-oriented concepts inheritance and polymorphism
- model and implement systems using the object-oriented concepts inheritance and polymorphism

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 and arrays
- simple data types and related methods
- statements
- handling exceptions
- simple input and output from keyboard/screen
- the Java class library
- inheritance and polymorphism in object oriented programming
- object oriented modelling using inheritance

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 Fail (U), Pass (G) or Pass with Distinction (VG).
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.

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.

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.

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.