Linnæus University

Course syllabus

Faculty Board of Science and Engineering

School of Computer Science, Physics and Mathematics

1DV06U Problemlösning och programmering, 7,5 högskolepoäng
1DV06U 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 School of Computer Science, Physics and Mathematics 2011-06-10
The course syllabus is valid from autumn semester 2011

Prerequisites
Mathematics C. (Specific entry requirement 12 with the exception of Biology B,
Physics A and Chemistry B)

Objectives
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´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 at the end of the course in accordance with the guidelines of the University. The result of 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.