# ID1004 Object-oriented Programming 7.5 credits

Objektorienterad programmering

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 ID1004 valid from Autumn 2008

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

## Language of instruction

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

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# Intended learning outcomes

After taking this course the student should be able to: * in their own programming environment: write a program, prepare it and run it* have a method for finding and correcting errors * describe and reason about the strategy used to solve a specific programming problem* be able to find and select suitable components from a class library* have a basic understanding of compilers and debuggers You show that you have reached these goals by describing your process of work and your programs output, both during the work, and when presenting the work for final evaluation * on your own solve a specific programming task* verbally describe and motivate a problem solving strategy used* use relevant programming structures (methods, classes etc.) to simplify the solution* assess whether or not the solution meet the requirements* use the basic functionality in a debugger* use existing software components* discuss a programs qualitative properties You show that you have reached these goals by implementing the programing assignments and verbally presenting these * discuss basic programming concepts and the relationships between these* discuss basic object oriented concepts* from a description of a smaller problem, be able to write a program that solves the problem* illustrate and describe your algorithm in some algorithm notation* discuss a programs qualitative properties  You show that you have reached these goals on the written exam

# Course contents

* Abstractions (methods and classes)* Data types, variables, type systems* Assignment, expressions* Sequence, selection, iteration* Method calls, parameter passing* The basics of object orientation -- classes, objects, messages, encapsulation* Library components (i.e. GUI components)* Basic event driven programming* Collections* Debugging* Design patterns* Simple program analysis

# Course literature

Java Software Solutions, John Lewis & William LoftusUpplaga: 5 Förlag: Addison Wesley År: 2007ISBN: 0-321-37337-5

# Examination

• INL1 - Assignments, 4.5 credits, grading scale: P, 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.

**Written exam (3 credits). This part decides the grade on the course. Possible grades are A/B/C/D/E/Fx/F. Students close to a passing grade on the exam will**

**be given the opportunity of a supplementary exam to get a passing grade. This means that the student may get a passing (E) but not higher grade. The examiner notifies the students who are close to a passing grade about this opportunity at the same time as the results of the exam is given out. Supplementary exams must be completed before deadline and can only be used to get a passing grade on the specific exam. Programming assignments (4.5 credits). Possible grades are P/F. All assignments has to be presented verbally for grading. There is plenty of opportunities for this during the actual course, but just a few after. More information about this is given in the course material. You have to pass all assignments within the same academic year.**

## 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.