



ML1300 Computer Programming Basic Course 7.5 credits

Programmering grundkurs

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

Establishment

Course syllabus for ML1300 valid from Spring 2014

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Knowledge corresponding to admission requirements for Bachelor of Science in Engineering.

Basic experience of computers.

Language of instruction

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

Intended learning outcomes

The course will serve as an introduction to programming and provide basic understanding of the C programming language. The course will provide a good base for coming courses which includes programming.

To achieve a passing grade the student will have to write well structured code in the C programming language with particular attention to:

- formulate simple algorithms for given problems and realise these algorithms in program code
- use an IDE to write, execute and debug a program
- introduce and choose data types and variables, including compound, for data storage
- explain the difference between variable value and address/reference, and differences in memory use when storing different data types
- write functions for well delimited assignments
- divide problems in parts, implement and test step-by-step, by selecting appropriate test data
- divide a program in several modules/files to promote abstraction, reusing and maintenance
- write executable programs from a simple program design (e. g. top-down design diagram, pseudo code or flow-chart)
- use external files for data storage

For higher marks, the student shall be able to

- analyse larger programming assignments and structure solutions on several levels, containing problem analysis, comprehensive design, well designed user interface, separation of a problem into parts, modules and functions, and implementation

Course contents

- The C programming language. Pointers and structures.
- Problem analysis, structuring
- Modular programming, debugging, testing
- Data types, variables, compound data types
- Memory managing
- Sequence, selection, repetition
- Operators, arithmetics
- Functions
- File handling

Course literature

Examination

- ÖVN1 - Laboratory Experiments, 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.

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

The part ÖVN1 includes a project assignment, to work in a group that together writes a large program according to specification.

Other requirements for final grade

Passed written exam.

Passed lab assignments.

The final grade is based on all parts of the examination, gradescale A-F. The final grade is a weighted, so that ÖVN1 is of higher significance than TEN1.

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.