



Course syllabus

Faculty of Technology
Department of Computer Science

1DT301 Datorteknik I, 7,5 högskolepoäng
Computer Technology 1, 7.5 credits

Main field of study
Electrical Engineering

Subject Group
Computer Science

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by Faculty of Technology 2014-10-03
The course syllabus is valid from autumn semester 2015

Prerequisites
Problem Solving and Programming 7.5 higher education credits (1DV506) or equivalent.

Objectives

After the course the student should have knowledge about:

- computer hardware
- microprocessors
- assembler programming
- computer communication with units outside the computer
- interrupts
- write, test and troubleshoot computer programs in assembler on the actual microprocessor
- develop simple programs in assembler

Content

The AVR ATMEGA16, PIC16F877 or a similar microprocessor and a specific development card are used in the course.

Practical work and lectures are based on the actual microprocessor.

The course consists of the following topics:

- programming in assembler
- computer hardware
- computer architecture

- address-, data- and control buses
- input and output units
- timers
- interrupts
- microprocessor, memory and memory handling
- higher level programs and assembler

Type of Instruction

Lectures and practical work. Practical work is mandatory.

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).

Written reports of laboratory experiments and/or written examination. 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.

Credit Overlap

This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 1DT101 Computer Technology 1, 7.5 credits

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

Foyer Per, *Mikroprocessorteknik*, Studentlitteratur, 2005. Pages 275. (275)