



Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

1ED022 Datorteknik I, 7,5 högskolepoäng
Computer Technology 1, 7.5 credits

Main field of study
Electrical Engineering

Subject Group
Electrical Engineering

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by Organisational Committee 2009-08-11

The course syllabus is valid from spring semester 2010

Prerequisites
General entry requirements and Mathematics D, Physics B or Mathematics 3c, Physics 2. Problem Solving and Programming 7.5 higher education credits (1DV006) or equivalent.

Expected learning outcomes

After the course the student should have knowledge about:

- computer hardware
- microprocessors
- assembler programming
- computer communication with units outside the computer
- interrupts

The student should also be able to:

- 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 U,3,4 or 5.

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.

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 written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the department.

Required Reading and Additional Study Material

Required reading

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