



Course syllabus

Faculty of Technology

Department of Computer Science and Media Technology

1DT10U Datorteknik I, 7,5 högskolepoäng

1DT10U Computer Technology 1, 7.5 credits

Main field of study

Computer Engineering

Subject Group

Computer Science

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved by Faculty of Technology 2013-10-15

The course syllabus is valid from autumn semester 2013

Prerequisites

Problem Solving and Programming 7.5 higher education credits (1DV006) 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

The teaching consists of lectures, tutorials and practical work. Practical work is carried out individually or in groups. 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)