



## 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)