Linnæus University

Dnr: UGA 2013/2972-3.1.2

Course syllabus

Faculty of Technology

Department of Computer Science and Media Technology

1DT101 Datorteknik I, 7,5 högskolepoäng
1DT101 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 2013-12-18
The course syllabus is valid from autumn semester 2014

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
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 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.

Required Reading and Additional Study Material
Required reading
Foyer Per, *Mikroprocessorteknik*, Studentlitteratur, 2005. Pages 275. (275)