1 Course title and credit points

The course is titled Computer Organization/Datorteknik and awards 7.5 ECTS credits. One credit point (högskolepoäng) corresponds to one credit point in the European Credit Transfer System (ECTS).

2 Decision and approval

This course is established by Head of Department of Computer Science and Engineering 2014-02-12. The course syllabus was revised by Head of Department of Computer Science and Engineering and applies from 2014-02-12.

3 Objectives

4 Content

The course comprises the following elements:

- Computer organization; CPU, memory, co-processors and external units
- Virtual memory and its hardware prerequisites
- Code execution principles
- Interrupt handling (ISR) and real-time-core principles (realtidskärna).
- Assembly language and basic assembly programming
- Assembler function
- Code linking to an executable program
- Various types of computer architecture, comparisons between various machines
- Overview of more advanced processors where prediction, i.e. conditional instructions, is included.

5 Aims and learning outcomes

6 Generic skills

7 Learning and teaching

The course comprises a set of lectures providing for the theoretical content. The course also includes occasional lectures of a more practical nature as well as supervised exercises, where the student will work hands on with his/her project on a, for the purpose, suitably adapted computer.

8 Assessment and grading

Examination of the course

<table>
<thead>
<tr>
<th>Code Module</th>
<th>Credit</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1405 Assignment 1</td>
<td>0.5 ECTS</td>
<td>G-U</td>
</tr>
<tr>
<td>1415 Assignment 2</td>
<td>2 ECTS</td>
<td>G-U</td>
</tr>
<tr>
<td>1425 Assignment 3</td>
<td>2 ECTS</td>
<td>G-U</td>
</tr>
<tr>
<td>1435 Exam[1]</td>
<td>3 ECTS</td>
<td>A-F</td>
</tr>
</tbody>
</table>

1 Determines the final grade for the course, which will only be issued when all components have been approved. The course will be graded A Excellent, B Very good, C Good, D Satisfactory, E Sufficient, FX Insufficient, supplementation required, F Fail.

9 Course evaluation

The course coordinator is responsible for systematically gathering feedback from the students in course evaluations and making sure that the results of these feed back into the development of the course.

10 Prerequisites

11 Field of education and subject area

The course is part of the field of education and is included in the subject area Computer Science.

12 Restrictions regarding degree

The course cannot form part of a degree with another course, the content of which completely or partly corresponds with the contents of this course.

13 Additional information

Replaces DV1117 and DV1130.

14 Course literature and other teaching material