



Faculty of Economic Sciences, Communication and IT
Computer Science

Syllabus

Course Approval

The syllabus was approved by the Faculty Board of Economic Sciences, Communication and IT on 31 August 2011, and is valid from the Spring semester of 2012 at Karlstad University.

Course Code: DVGA03

Computer Engineering, 7.5 ECTS Credits
(Datorsystemteknik, 7.5 Swedish credit points)

Degree Level: Bachelor

Progressive Specialisation: G1F (First cycle, has less than 60 credits in first-cycle course/s as entry requirements)

Language of Instruction

Swedish

Prerequisites

General admission requirements plus Basic Programming 7.5 ECTS cr. and Software Development Methodology 7.5 ECTS cr. or equivalent.

Major Field of Study

DVA (Computer Science)

Learning Outcomes

Upon completion of the course students should be able to:

- explain and describe how the various parts of a computer work and interact,
- explain how different types of processors are structured and function,
- describe and use the interface between software and hardware to the extent needed for effective use of hardware in software solutions,
- solve programming problems in an assembly language and give an account of the relation between high-level and low-level language.

Content and Form of Instruction

Students develop an understanding of the structure and function of computers and of the interface between software and hardware. The course covers the following: gates, binary number systems, memory, assembly programming, the function and structure of modern processors, operating systems, I/O units and interrupts. Different system programmes and their functions are introduced and placed in a context.

Instruction is mainly in the form of lectures (except in distance education), literature studies with reading instructions, study material, and hand-in assignments. The practical component includes exercises and laboratory work, using current programming language and software development tools.

Reading List

See separate document.

Examination

Examination is in the form of a written test, laboratory reports and hand-in assignments.

Grades

One of the grades 5 (Distinction), 4 (Some Distinction), 3 Pass , or Fail (U), is awarded in the examination of the course and its modules.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University stipulate the obligations and rights of students and staff.

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