Faculty of Health, Science and Technology
Computer Science

Syllabus

Computer Engineering

Course Code:	DVGA03
Course Title:	Computer Engineering *Datorsystemteknik*
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

Major Field of Study:
DVA (Computer Science)

Course Approval
The syllabus was approved by the Faculty of Health, Science and Technology 2018-01-29, and is valid from the Autumn semester 2018 at Karlstad University.

Prerequisites
Programming Techniques (7.5 credits) or equivalent.

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, and
- solve programming problems in the programming language C and in an assembly language and give an account of the relation between high-level and low-level language.

Content
Students develop an understanding of the structure and function of computers and of the interface between software and hardware. The course covers the following areas: data representation and arithmetic, assembly programming, C programming, memory system, the function and structure of modern processors, and interrupt handling.

Instruction is mainly in the form of lectures, 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
Assessment is based on a written test, mandatory laboratory reports and hand-in assignments.

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

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 evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate
A course certificate will be provided upon request.

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