Reg No: DVGB18/20242

Faculty of Health, Science and Technology
Computer Science

Syllabus

Computer Engineering

Course Code:	DVGB18
Course Title:	Computer Engineering *Datorsystemteknik*
Credits:	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 2024-01-29, and is valid from the Autumn semester 2024 at Karlstad University.

Prerequisites
Programming Techniques, 7.5 ECTS 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 are structured and how they work and interact,
- give an account of data representation and arithmetic in computer systems,
- solve programming problems in an assembly language with the application of a convention for how resources (registers and stack memory) are used, and
- analyse time efficiency in programming sequences in terms of the structure of the memory system.

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, memory system, the function and structure of modern processors, and interrupt handling.

Reading List
See separate document.

Examination
Assessment is based on a written exam, individual written hand-in assignments, and laboratory tasks (completed individually or in pairs) that are presented orally and in writing.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

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.