Faculty of Health, Science and Technology
Computer Science

Syllabus

Sustainable Computing

Course Code:	DVGB16
Course Title:	Sustainable Computing *Hållbar IT*
Credits:	3
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 2024-01-24, and is valid from the Autumn semester 2024 at Karlstad University.

Prerequisites
Operating Systems, 5 ECTS credits, or equivalent

Learning Outcomes
Upon completion of the course, students should be able to
- give an account of the concept sustainable computing,
- give an account of sustainability perspectives related to IT use,
- give an account of standards and certificates relevant for sustainable IT products,
- describe sustainable computing in relation to technology,
- relate sustainable computing to sustainable development,
- evaluate IT use in relation to environmental perspectives,
- discuss the potential of more sustainable choices of hardware and software, and
- use methods and tools to measure energy use.

Content
The course covers and examines the concept sustainable computing, environmental perspectives on IT use, and standards and certificates related to sustainable IT products. In addition, the course treats methods and tools for measuring energy use and approaches to improving energy efficiency for IT use, especially in relation to data centres. The course content is treated in lectures, seminars, course literature with reading assignments, and additional materials. Students also complete hand-in assignments.

Reading List
See separate document.

Examination
Assessment is based on individual hand-in assignments and an oral seminar presentation, performed in groups but assessed individually.

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 Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course. For students in Engineering, 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.