AG1814 Sustainable Development for Computer Science and Engineering 6.0 credits

Hållbar utveckling för datateknik

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for AG1814 valid from Autumn 2017

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

DH1600 Communication in Engineering Sciences or other courses in communication or language.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The objective of the course is that you after the course should be able to:

1. present and discuss the concept sustainable development and what it can mean, primarily related to environmental and social concerns

2. present political objectives for sustainable development set up in society

3. explain links between ecological, social and technical systems, how they interact and what kind of limitatations exist.

4. describe broadly human's impact on climate and ecosystem

5. explain and discuss the relevance of conputer science for sustainable development

6. on an overarching level analyze the implications for sustainable development of computer science applications, and propose system design with respect to that

7. in a group of 3-5 people carry out and present a project work

Course contents

The course aims to give you as a student, basic knowledge of strategies and solutions for sustainable development of social, technological and ecological systems.To support of this, the course will help you gain understanding of how humans affect ecosystems and how this in turn affect humans.We also want to give you knowledge of assessment tools for sustainable development that you can use as a computer technician. Computer scienceis a powerful factor of change in society and may contribute to both solutions and problems of sustainable development, for example regarding resources use and communication in society. During the course we discuss different ways to facilitate sustainable development with aid of computer science technology, and various problems related to the same.

Disposition

The course is divided into three parts: one lecture and seminar part, which is examined by one larger written assignment (INL1,2.5cr), one smaller written assignments where the students in pairs will work with problem solution tasks, integrated into the seminars (INL1,1cr),and a group project(PRO1,2.5cr). Lectures, seminars and the problem solution part (2.5+1 cr) will take place during the first half of the course and project workin the second half, so that the acquired knowledge can be applied in the project work. Each student must also submit a short self-reflection, describing her/his own work and role in the project.

Course literature

Meddelas senare

Examination

- INL1 - Written Assignment 1, 2.5 credits, grading scale: A, B, C, D, E, FX, F
- INL2 - Written Assignment 2, 1.0 credits, grading scale: P, F
- PRO1 - Project Assignment, 2.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.