Perspectives to Computer and Software Technology

Programme course

6 credits

Perspektiv på data- och mjukvaruteknik

TDDE25

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science
and Media Technology

Date determined
2017-04-24

Main field of study
Computer Science and Engineering, Computer Science

Course level
First cycle

Advancement level
G1X

Course offered for
- Master of Science in Computer Science and Engineering
- Master of Science in Computer Science and Software Engineering

Prerequisites
Although there are no prerequisites, this course will be run in parallel with the introduction to programming course and be tightly integrated with it.

Intended learning outcomes
The main goal of this course is to give the students a broad overview and survey of computer science and computer engineering. It is intended to provide a foundation for understanding both the relevance and interrelationships of fundamental topics and future courses the students will be exposed to in this field. At the end of this course, the student will be able to:

- Explain on a basic level both the breadth and depth of computer science and engineering as a field.
- Show a practical understanding of “computational thinking” as a way to model, solve problems and write software programs.
- Demonstrate this practically by participating in a software programming project related to one or more of the topics presented during the lectures.

Course content
The following will be covered during the course:

- Selected perspectives topics in computer science and engineering presented at seminars
- Seminars reinforcing the use of “computational thinking” in modeling, problem-solving and programming.
- Practical guidance for the programming projects presented at seminars
- Introduction of the concept of sustainable development in computer science and engineering.

Teaching and working methods

The course will be organized around perspectives seminars and a programming project consisting of both a programming part and a written part. The programming project will be integrated with the introductory programming course that is taken in parallel with this course. The course will end with a full day conference in which each of the student groups will present their programming projects to all course participants. A selection of take-home questions related to the perspectives topics will be distributed. The final conference is obligatory to attend.

Examination

UPG1	Hand-in Assignments	2 credits	U, G
PRA1	Project Work	4 credits	U, G

Grades are given as 'Fail' or 'Pass'.

Grades

Two grade scale, older version, U, G

Department

Institutionen för datavetenskap

Director of Studies or equivalent

Peter Dalenius

Examiner

Patrick Doherty

Course website and other links

http://www.ida.liu.se/~TDDD63

Education components

Preliminary scheduled hours: 50 h
Recommended self-study hours: 110 h

Course literature

Books

J. Glenn Brookshear, *Computer Science: An Overview* Latest Edition
Selected readings. To be distributed.