IV2034 Systems Theory and IT 7.5 credits

Systemteori och IT

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

Establishment

Course syllabus for IV2034 valid from Spring 2009

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

For "single course" students:

- Completed documented upper secondary education incl documented proficiency in English and
- 180 ECTS credits (hp) in information technology/ computer science/ computer and systems sciences.

Language of instruction

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

Intended learning outcomes

The course deals with the basic characteristics of systems thinking. The purpose is to give the student tools to handle complex issues regarding IT and organizations.

After completing the course, the student shall be able to:

- define and exemplify basic concepts of systems theory

- explain the characteristics and functions of a system by using a systemic approach

- compare systems models and their diverse areas of application

- describe the role of IT-systems and IT-management in organizations

- describe and diagnose a real system by using systems theory

Course contents

In order to handle complex issues in organisations, such as how to use IT effectively, a holistic approach is needed. This course introduces the students to systems sciences, i.e., knowledge about systems. The term 'system' is understood in a very general way, but in this course we focus on the intersection between information technology/organizations and systems sciences.

The course is concerned with descriptions and definitions of central terms in the area of systems theory. Systems behave and appear in different ways - and to be able to study, understand and design them, we need working concepts. Systems concepts and models are compared and exemplified. Holism, subsystems, processes, relations and environment are covered. Furthermore, we will discuss efficiency and effectiveness of a system, information management and control. In what ways the systems theory can be used in order to study IT-systems and IT-management are also covered.

Course literature

Management Systems: Conceptual Considerations, Schoderbek, Schoderbek, Kefalas

Upplaga: Beställs på DSV Förlag: Richard D. Irwin, Inc. År: 1990

ISBN:

Dictionary (English to Swedish), review questions and lecture slides.

Examination

- INL1 - Assignment, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 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.

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

Other requirements for final grade

Written exam, grading system: A/B/C/D/E/Fx/F
Assignment, grading system: Pass/Fail (P/F)

To pass the course, the student has to pass on both the written exam and the assignment. The course grade is based on the grade of the exam.

Students who failed on the written exam but are judged to be close to pass will be given the opportunity to make an additional assignment to pass the exam (E). No higher grade than an 'E' is available at this point. The students in question will be informed as the result of the written exam is made public. The students have to submit the additional assignment in accordance with the stated deadline, and the assignment is only valid in order to pass on the exam concerned.

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.