AI2711 Theory of Science and Research Methodology 7.5 credits

Theory of Science and Research Methodology

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

Establishment

Course syllabus for AI2711 valid from Spring 2008

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The aim of the course is to provide an overview of theories and methods in research, with emphasize on methods in the field of social sciences. The course provides the students with the necessary practical skills to manage their master thesis work.

Learning outcomes:

After this course the students will be able to demonstrate their understanding of the research process by

- Writing literature reviews
- Formulating research proposals
- Being able to defend their proposals
- Being able to design a small-scale social science research project
- Develop an outline for a dissertation

Course contents

Lectures on:

- Traditions in scientific thinking and modes of reasoning
- Concepts in science (hypothesis, model, theory, correlation, definition etc)
- Research methodologies in the field of social sciences
- Techniques to collect and analyse data
- Traditions and formats of scientific writing
- Literature search
- Doing a literature review
- Referencing, designing tables and graphs

Assignments will address the topics:

- Hypothesis testing
- Definitions
- Scrutinizing scientific text
- Writing a master thesis
- Literature search
- Outline for individual master thesis

Course literature

Denscombe, Martyn. (1998/2003). The Good Research Guide for small-scale social research projects. Maidenhead: Open University Press.

Gillham, Bill. (2000). Case Study Research Methods. London and New York: Continuum.

Hansson, Sven Ove. (2007). The Art of Being Scientific.

Examination

- ÖVN1 - Exercises, 4.5 credits, grading scale: P, F
- TEN1 - Examination, 3.0 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.

Examination, TEN1, 3 credits, A-F

Exercises, ÖVN1, 4.5 credits, P/F

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.