IMT4421 Scientific Methodology - 2012-2013

Course code:
IMT4421

Course name:
Scientific Methodology

Course level:
Master (syklus 2)

ECTS Credits:
5

Duration:
Autumn

Duration (additional text):
First half of autumn semester.

Language of instruction:
English

Expected learning outcomes:
Knowledge

- have deep knowledge about central questions within the theory of science
- be able to analyze central topics within the theory of science
- know central terminology for scientific work

Skills

- be able to suggest a topic of investigation within science
- independently be able to make a plan of how to carry out a scientific work
- competence to search for academic publications using central databases
- facilitate and analyze data from science projects

General knowledge

- competence to read and analyze scientific publications
- be able to report results from scientific projects, including projects carried out by the student herself
- have developed a clear ethical attitude in relation to how scientific methodology is used

Topic(s):

- Introduction to the theory of science
- Characteristics of good research
- Research ethics
- Research as a means of systematic progress
- Quantitative and qualitative research designs
- Characteristics of good research topics and how to create one
- Literature studies
- Choice of methods, including planning and how to carry out and analyze experiments/studies
- Use of research databases for problem solving
- Data analysis and statistics

Teaching Methods:
Essay
Lectures
E-learning
Project work
Tutoring

Teaching Methods (additional text):
The course will be offered both as an ordinary campus course and as a course that is offered in a flexible way to off-campus students. Lecture notes, e-lectures and other types of e-learning material will be offered through an Fronter. Communication between the teachers and the students, and among the students, will be facilitated by the Fronter.

The course will be made accessible for both campus and remote students. Every student is free to choose the pedagogic arrangement form that is best fitted for her/his own requirement. The lectures in the course will be given on campus and are open for both categories of students. All the lectures will also be available on Internet through GUC's learning management system (ClassFronter).

Form(s) of Assessment:
Written exam, 3 hours

Grading Scale:
Alphabetical Scale, A(best) – F (fail)

External/internal examiner:
External and internal examiner.

Re-sit examination:
Ordinary re-sit examnination.

Tillatte hjelpemidler:

Examination support:
English dictionary.

Coursework Requirements:
Essay

Participation in project work

Academic responsibility:
Faculty of Computer Science and Media Technology

Course responsibility:
Førstelektor Frode Volden

Teaching Materials:
Books:

- Leedy, P D, and Ormrod, J E: "Practical Research, -Planning and design, 9th ed."Pearsopn Educational Int. ISBN-10: 0131365665

- Additional handouts and material made available on Fronter.

Publish:
Yes