HN2021 Theory and Methodology of Science with Applications (Ergonomics) 7.5 credits

Vetenskaplig teori och metod med tillämpningar (ergonomi)

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

The course plan was establishment from VT 2023 according to school head decision: C-2022-2149. Decision date: 2022-10-06.

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology and Health

Specific prerequisites

180 university credits (hp) in engineering or natural sciences, and documented proficiency in English corresponding to English B/English 6.

Language of instruction

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

Intended learning outcomes

The students shall after their studies be able to:

- understand differences and relationships between different scientific perspectives and methods and have well-grounded reflections about this
- understand how scientific knowledge is generated and related to theory of science
- understand and be able to apply qualitative and quantitative methodology approaches
- apply knowledge of how to design a study, as well as propose suitable methods and techniques for collection, analysis and interpretation of data for various types of studies
- apply commonly used methods within research and development in the field of ergonomics and work environment engineering
- understand differences between research and development work
- be able to report studies according to standards within the field of ergonomics and work environment engineering
- critically review and evaluate research reports and other studies within the fields of ergonomics and work environment engineering.

Course contents

- - Scientific theory and research ethics
- - Overview of common methods and techniques for collecting, analyzing and interpreting data in the fields of ergonomics and work environment engineering
- - Epidemiology and statistical methods
- - Qualitative methods
- - Interactive research
- - Academic writing for essays and reports
- - Workshops, laboratories and seminars for practice and reflection on the implementation of studies

Examination

- SEM4 - Assignment and seminar for quantitative methods, 2.0 credits, grading scale: P, F
- SEM5 - Assignment and seminar for quantitative methods, 2.0 credits, grading scale: P, F
- TEN2 - Written examination, 3.5 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.

Transitional regulations

Students follow the content of the syllabus for which they were enrolled, i.e. those who were enrolled with an older syllabus are examined according to older course content and course modules.

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.