



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Vetenskapsteori för ingenjörer

Scientific Theory for Engineers

EDAG10, 5 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED C/D

Date of Decision: 2023-04-18

General Information

Main field: Technology.

Compulsory for: C3

Language of instruction: The course will be given in Swedish

Aim

Learning outcomes

Knowledge and understanding

For a passing grade the student must

The course should provide a reasonably advanced understanding of what knowledge is, as well as how it can be obtained and valued and used in practice. After completing the course, the student must be familiar with and compare

- some basic epistemological concepts and approaches
- some basic scientific paradigms and methods

Competences and skills

For a passing grade the student must

After completing the course, students should be able to

- Search for and use evidence-based knowledge
- Formulate relevant research questions
- Plan an approach to seeking answers to research questions
- Formulate generalizable knowledge based on a completed research study
- Review a research report

Judgement and approach

For a passing grade the student must

- Assess and reason about the value of different kinds of knowledge
- Determine what kind of knowledge is needed for different decisions by engineers

Contents

The course provides an overview of what science is in a broader perspective, which includes not only explanatory sciences (such as natural sciences) but also other forms of knowledge building such as analytical (formal) sciences and creative (design) sciences. The course provides tools and training in valuing different forms of knowledge, identifying common basic assumptions and knowledge gaps, and systematically seeking and communicating new knowledge.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: To pass, preparation and active participation (80% attendance) at the seminars and a completed project are required. The final grade for the course is based on a combined assessment of the project's parts.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0123. **Name:** Project.

Credits: 4. **Grading scale:** TH. **Assessment:** To pass a completed project is required. **Contents:** Project

Code: 0223. **Name:** Seminars.

Credits: 1. **Grading scale:** UG. **Assessment:** To pass, preparation and active participation in seminars are required.

Admission

Admission requirements:

- At least 110 credits completed in the civil engineering program up to and including study period 2

The number of participants is limited to: No

Reading list

- Kristina Säfsten och Maria Gustavsson: Forskningsmetodik, För ingenjörer och andra problemlösare. Studentlitteratur AB, 2019, ISBN: 9789144067421.

Contact and other information

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