



LT1081 Teaching and learning in technology and engineering

6.0 credits

De tekniska ämnenas didaktik

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

Establishment

The official course syllabus is valid from the autumn semester 2025, according to the decision by the Faculty Board: M-20240018\, Date of decision: 2024-10-14.

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

At least 7.5 credits in educational sciences.

Language of instruction

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

Intended learning outcomes

After passing the course, the student should be able to

1. interpret and discuss course and subject syllabi in technical subjects
2. discuss differences and similarities in cognitive approach between scientific subjects and the technology subject
3. discuss the prerequisites of different learning environments for teaching technical subjects based on policy documents and subject didactic research
4. interpret and discuss course and subject syllabi in upper secondary schools beyond technology that have a technical content and deal with, for example, programming, construction or social planning
5. discuss learners' development of knowledge in the subject technology based on the knowledge progression that is described in regulatory documents
6. plan a teaching component in technology with elements of investigatory working methods and/or technical development for a given group of pupils
7. give an account of and justify how different technical aids can support the learning of adolescents in technology
8. account for, analyse and problematise specific contents with a focus on sustainable development in the technology tuition

Course contents

The course deals with learning and teaching in chemistry and physics in upper secondary schools based on current policy documents and relevant subject didactic research. The course also covers the nature and special character of the school subjects and the development and learning of adolescents. The way teaching can be organised by means of laboratory elements and supported by technical aids such as information and communication technology (ICT), is treated in relation to didactic research on learners' learning, and proven experience.

Examination

- SEM1 - Seminars about teaching and learning in technology and engineering, 2.0 credits, grading scale: P, F
- TEN1 - Written exam, 4.0 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.

Based on the recommendation from the KTH office of support to students with disabilities, the examiner has the right to agree on adapted forms of examination for students with a documented, permanent disability.

For re-examinations, the examiner has the right to allow other forms of examination for individual students.

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.