



LL201U Technology Education - Theory and Practical Examples /Commissioned Course/ 30.0 credits

Teknikundervisning i teori och praktik /Uppdragsutbildning/

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

Establishment

Course syllabus for LL201U valid from Autumn 2011

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology and Learning

Specific prerequisites

The course is intended for qualified teachers who teach in the 7th to 9th grade, and lack formal training in technology.

Language of instruction

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

Intended learning outcomes

After the course the student will:

- have knowledge about the technology subject in Swedish compulsory school: its role in the syllabus, traditions, relations to other subjects, and significance for further education,
- have fundamental knowledge of the most important fields of technology that are parts of the curriculum; for example the design process, engineering materials, and automatic control,
- be able to analyse how technology depends on and affects individuals, society, the sciences, and the environment,
- have an increased ability to explain important technological mechanisms and phenomena to pupils in compulsory school,
- have the necessary knowledge and skills for efficient and fair assessment in the technology subject.

Course contents

The course is intended for qualified teachers who teach in the 7th to 9th grade, and lack formal training in technology. Combined with additional courses, it leads to formal qualification to teach technology. The technology subject in compulsory school is clearly interdisciplinary. The curriculum includes parts from various fields of knowledge, such as crafts, engineering, and applied science. This width is clearly reflected in this course's contents.

The course is made up of four parts, of 7.5 credits (corresponding to five weeks full-time studies each).

Disposition

Teaching technology

The purpose of this part is to provide an understanding of the technology subject in Swedish schools and its role in the current curriculum as well as in historical ones. The main themes are the epistemology of technology, the history and traditions of technology education, the syllabus and how to interpret it, and assessment and grading.

Technological science with an educational perspective, part 1

The student learns about methods and tools used in the technological sciences, such as fundamental control theory, programming in a high-level language, and methods for modelling, experiments, and measurement. Great emphasis is placed on the use of this knowledge, or simplified versions of it, in the classroom.

Technological science with an educational perspective, part 2

The student becomes acquainted with common methods and processes in design and manufacturing, as well as elementary solid mechanics and engineering materials. Special attention is paid to the importance of gender, age, class and ethnicity with regards to technology and their influence on design and usability.

Humanity, society, environment, technology

The history of technology is studied from economical, social, ecological, and ethical perspectives. The field is introduced, after which the students study a particular period or phenomenon in depth.

Equipment

Computer with Internet access

Examination

- SEM1 - Seminar 1, 2.5 credits, grading scale: P, F
- INL1 - Assignment 1, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project 1, 7.5 credits, grading scale: A, B, C, D, E, FX, F
- INL2 - Assignment 2, 7.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Exam 1, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboration 1, 2.5 credits, grading scale: P, 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.

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.