



LT2033 School Placement III with Subject Didactics 15.0 credits

Verksamhetsförlagd utbildning III med ämnesdidaktik

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

On 10/10/2020, the Dean of the ITM School has decided to establish this official course syllabus to apply from autumn term 2020 (registration number M-2020-1792).

Grading scale

VG, G, U

Education cycle

Second cycle

Main field of study

Technology and Learning

Additional regulations

The course may not be included in a higher education qualification together with the courses Mathematics, Technology and Science Education and Teacher Training Placement for

Upper Secondary School Teacher (UMK802), School Placement III with Subject Didactics (UMK703) or the equivalent.

Specific prerequisites

Entry to the course requires:

Admitted to the program for Engineering and Education, with the following or the equivalent courses completed:

- Perspective on mathematics, 6 credits (SF1661)
- Discrete Mathematics, 7.5 credits(SF1662)
- Mathematics Education and Pre-Service placement for Upper Secondary School, 7.5 credits (UMK212)
- Learning as professional assignment, 8.5 credits in (UCK210)
- Algebra and Geometry, 7.5 credits (SF1624 or SF1672)
- Calculus in One Variable , 7.5 credits (SF1625 or SF1673)
- Calculus in Several Variables, 7.5 credits (SF1626 or SF1674)
- Development and Learning in Science and Technology, 6 credits in (UMK310)
- Differential equations, 6 credits (SF1633, part 1 of SF1683 can be seen as the equivalent SF1633)
- VFU2: experiments and informal learning environments, 11 credits in (LT1035).

Specialised courses

MAKE - Specialisation in Mathematics and Chemistry

- Chemical Technology, 10 credits in (KE1150)
- Organic Chemistry, 6 credits in (KD1230)
- Chemical analysis, 8.5 credits in (KD1290)
- Numerical methods, 6 credits in (SF1514)

or

MAFY - Specialisation in Mathematics and Physics

- Classical Physics, 7.5 credits in (SK1104)
- Mechanics, 9 credits in (SG1112)
- Experimental Physics, 4 credits in (SK1105)

- Modern physics, 4 credits in (SH1014)
- Numerical methods, 6 credits in (SF1544)

or

TEMI - Specialisation in Mathematics and Technology with specialisation in energy and environment

- Mechanics, smaller course, 6 credits in (SG1102)
- Ecology and Environmental Effects, 7.5 credits in (MJ1508)
- Environmental system analysis for teachers, 6 credits in (AE1503)
- Energy systems, 7.5 credits in (MJ1145)
- Numerical methods, 6 credits in (SF1546)

or

TIKT - Specialisation in Mathematics and Technology with specialisation in information and communication technique

- Programming Technique with Matlab, 8 credits in (DD1312)
- Applied Computer Science and Ethics, 7.5 credits in (DD1325)
- Java programming for Python programmers, 1.5 credits in (DD1380)
- Division of Computer Systems and components, 9 credits in (IS1500)
- Numerical methods, 6 credits in (SF1514)

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 participant should be able to:

Part 1 and Part 3 or part 4:

- account for, discuss and problematise different ways to plan and organise teaching of respective subject
- discuss the application of different assessment forms to evaluate students' knowledge in mathematics and technology or natural science subjects, based on current research and proven experience.

Part 2:

- in communication with students adapt one's listening, talking and writing to different students' background, and evaluate these abilities
- in consultation with supervisor get an overview of how one, in a context adequate and functional language, in writing or orally, communicate with guardians in groups or individually about students' learning and development,
- independently and in different situations respond to students in an empathic and respectful way, in accordance with the fundamental values of the school and critically review and analyse one's own values and attitudes that can be of importance for the treatment of students, and relate these to the fundamental values of the school
- write and justify a longer subject plan with clear aims that are related to didactic theories and relevant national regulations in order to stimulate each student's learning and development in the best possible way, and carry out and together with others evaluate items in the planning with respect to the aims
- independently and responsibly lead and develop teaching, based on adequate subject knowledge, subject didactics and didactic knowledge
- independently, and by means of knowledge of grading and assessment, document, analyse and assess students' learning and constructively communicate the assessment to the students
- independently and based on didactic knowledge use digital tools and media in the educational activities
- use proven strategies to prevent and counteract discrimination or other insulting treatment of students, and promote equal opportunities and equality perspective, according to the fundamental values of the school
- based on one's own experiences and the intended learning outcomes of the course, describe, assess and give examples of own strengths and fields of development prior to future educational work.

Course contents

The course consists of the following parts:

Part 1: Mathematical didactics II 1,5 credits

Part 2: Placement 12 credits

And one of the following parts depending on combination of subjects:

Part 3: The didactics of the natural sciences 1.5 credits

Part 4: Didactics of technology 1.5 credits

Part 1, 3 and 4 include specialised studies of planning, organisation and evaluation of teaching and students' learning in respective subjects, based on current regulations and current didactic research. Language and communication in the classroom are treated. Security

and responsibility at laboratory teaching in school is touched. Furthermore, application of different assessment forms is treated, to evaluate students' knowledge in mathematics and technology or the scientific subjects.

Part 2: Placement

The student deepens his knowledge of the activities and organisation of the school, and participate in the daily teaching on relevant level. The course focuses on the teacher's professional role and the school as an educational environment. The studies imply that theory and practice will be integrated, based on experiences, relevant subject knowledge and systematic reflection. The course content is designed based on expected credits awarded and the activities in school.

Examination

- DEL1 - Mathematics education II, 1.5 credits, grading scale: VG, G, U
- DEL2 - School placement, 12.0 credits, grading scale: VG, G, U
- DEL3 - Science education, 1.5 credits, grading scale: VG, G, U
- DEL4 - Technology education, 1.5 credits, grading scale: VG, G, U

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.

Other requirements for final grade

Participation in compulsory tuition including placement

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.