SF1680 Seminar Course in Elementary Mathematics I 8.0 credits

Seminariekurs i grundläggande matematik I

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

Course syllabus for SF1680 valid from Autumn 2016

Grading scale

P, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Basic and specific requirements for engineering program.

Language of instruction

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

Intended learning outcomes

The student should after completing the course

- demonstrate a good understanding of mathematical theory by actively discussing and analyzing mathematical problems.
- demonstrate an understanding of a number of areas of abstract mathematics (such as analysis, algebra, geometry, or topology). The understanding is shown by active participation in discussions and solving problems.
- be able to describe the strength and weakness of mathematical theories.
- have a well-developed capacity for mathematical problem solving.

Course contents

The course content may vary from year to year. But each year we will select subjects that show a rich mathematical structure. The areas will also be selected in order to represent different mathematical methods and approaches; for example the axiomatic method, constructive methods, algebraic methods in geometry and topology.

Typically, the course will include a mix of algebra (eg, solution of polynomial equations or unsolvability of classic problems such as angle trisection), analysis (e.g. the question “for which functions do the fundamental theorem of calculus hold?”), topology (e.g. “what two-dimensional surfaces are possible?”) or geometry (e.g. non-Euclidean geometry).

The content of the course should be seen as the abstract ideas behind mathematics rather than the topics covered in the course.

Course literature

The literature is published on the course webpage no later than four weeks before the course starts.

Examination

- TEN1 - Exam, 8.0 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.

Other requirements for final grade

Home work assignments (TEN1; 8 hp).

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.