



SF1611 Introductory Course in Mathematics I 1.5 credits

Introduktionskurs i 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 SF1611 valid from Autumn 2014

Grading scale

P, F

Education cycle

First cycle

Main field of study

Mathematics, 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 should be able to

- use common mathematical notation,
- perform polynomial division and apply the factor theorem,
- manipulate inequalities and make calculations with the absolute value of real numbers,
- explain basic concepts in set theory and number theory,
- decide the correctness of simple proofs by induction or contradiction,

in order to be prepared for higher studies in technology in general and for the basic courses in mathematics at KTH in particular.

Course contents

- Common mathematical notation, for instance, implication and equivalence arrows, quantifiers, Greece letters and the summation and multiplication sign.
- Polynomial division and the factor theorem.
- The triangle inequality.
- Manipulation of inequalities: addition, multiplication, absolute value, monotonous maps.
- Set theory: set constructors, union, intersection, difference, product, number intervals.
- Natural numbers, integers, rational, real and complex numbers.
- Prime factorization.
- Proofs by induction and contradiction.

Specific prerequisites

Advanced mathematics from upper secondary school (courses A-D).

Course literature

A compendium will be distributed at the beginning of the course.

Examination

- ANN1 - Introduction, 1.5 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.

Other requirements for final grade

Written exam, possibly together with continuous examination.

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.