KH0001 Introductory Course in Mathematics 1.5 fup

Introduktionskurs i matematik

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

Establishment

Course syllabus for KH0001 valid from Autumn 2015

Grading scale

P, F

Education cycle

Pre-university level

Specific prerequisites

General entry requirements Specific entry requirements 8. **Specific entry requirements:** Mathematics D, physics B and chemistry A. Passed or 3 in each of the subjects is required.

Language of instruction

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

Intended learning outcomes

On completion of the course, the student should

- be able to simplify algebraic expressions
- be able to determine the variables from formulae
- be able to solve 2nd order polynomial equations
- be able to derive and use conjugates- and the squaring rules and also factor by means of these
- be able to solve polynomial equations higher than second order by means of factorisation
- be able to use trigonometry in arbitrary triangles
- be able to use the distance formula in the plane
- master first and second order, exponential, logarithmic and trigonometric functions
- be able to solve systems of linear equation graphically and algebraically
- be familiar with the function concept
- be able to solve differences of the first grade
- be able to use exponential and logarithm laws
- be able to solve exponential and logarithmic equations
- be able to solve simple trigonometric equations and be able to prove trigonometric formulae
- be able to use radians
- master the definition of the derivative and be able to differentiate elementary functions and composite functions
- master the derivation rules for product and quotient
- be able to study a function by means of derivatives
- be able to determine prime components of the elementary functions and of simple composite functions
- be able to calculate a definite integral and apply this on area calculation

Course contents

Calculating, algebra, powers, logarithms and various equations and differences, handle formulae, elementary functions, their graphs and trigonometry.

Course literature

“Inför högskolan; matematikrepetition”, Wallin m fl,Liber

Examination

- RED1 - Report, 1.5 fup, 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.

Other requirements for final grade

Passed presentation (RED1; 1.5 credits)

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.