



Course syllabus

Faculty of Technology

Department of Mathematics

1MA131 Grundläggande matematik för ingenjörer, 7,5
högskolepoäng

Basic Mathematics for engineers, 7.5 credits

Main field of study

Mathematics

Subject Group

Mathematics

Level of classification

First Level

Progression

G1N

Date of Ratification

Approved 2013-12-16

Revised 2017-06-15 by Faculty of Technology. Literature is revised.

The course syllabus is valid from autumn semester 2017

Prerequisites

General entry requirements and Mathematics 3c or Mathematics D (Field-specific entry requirements 8/A8).

Objectives

After completing the course, the student should be able to solve problems, perform calculations, and conduct lines of reasoning within the part of mathematics that is covered by the course, and to communicate those solutions, calculations, and reasonings in writing.

Content

Numbers, algebraic expressions, equations and inequalities, elementary functions, sums, sequences, induction, binomial theorem, complex numbers, complex plane, de Moivre's formula, complex quadratic equations, factor theorem, binomial equations, definition of limit, rules for limits, standard limits, continuity and geometric series.

Type of Instruction

Lectures and seminars.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

The student's knowledge is assessed in the form of a written exam.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Required Reading and Additional Study Material

Ekstig K, Hellström L., Sollervall H. *Matematik Startbok*, Studentlitteratur, latest edition. 150 (172) pages.

Carl Stitz, Jeff Zeager. (2013) Precalculus. Available: <http://www.stitz-zeager.com/szprecalculus07042013.pdf>, 600 (1079)

Material from the department, app 100 pages