Linnæus University

Jnr: 2016/3618-3.1.2.2

Course syllabus

Faculty of Technology
Department of Mathematics

1MA401 Grundläggande matematik, 7,5 högskolepoäng
Basic Mathematics, 7.5 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
First Level

Progression
G1N

Date of Ratification
Approved 2014-10-03
Revised 2016-06-15 by Faculty of Technology.
The course syllabus is valid from autumn semester 2016

Prerequisites
General entry requirements and Mathematics D or Mathematics 4 (Field-specific entry requirements 9/A9).

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 these solutions, calculations, and reasonings in writing
- describe definitions, and formulate and prove theorems that are central to the course.

Content
Numbers, logic, set theory, algebraic expressions, equations and inequalities, elementary functions, divisors, prime numbers, division algorithm, recurrence relations, induction, permutations, combinations, binomial theorem, complex numbers, complex plane, de Moivre's formula, complex quadratic equations, factor theorem, binomial equations.

Type of Instruction
Lectures and seminars.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in

a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

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

Course Evaluation

A course evaluation will be carried out and compiled after the course is completed. The compilation will be presented to the current board as well as to the students and filed.

Credit Overlap

This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 1MA101 Basic Mathematics

Other

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

Houston K.//How to think like a Mathematician, Cambridge, latest edition, 200 pages.

Kevin Houston, "How to think like a Mathematician", Cambridge Uni. Press, 2009

Required reading

Sullivan M.*College Algebra*, international edition. Pearson, latest edition. 800 pages.

Houston K.//How to think like a Mathematician, Cambridge, latest edition, 200 pages.

Material from the department