



Faculty of Health, Science and Technology
Mathematics

Syllabus

Mathematics Preparatory A

Course Code:	MABX13
Course Title:	Mathematics Preparatory A <i>Matematik Bas A</i>
Credits:	7.5
Degree Level:	Preparatory
Progressive Specialisation:	()

Major Field of Study:

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2019-02-18, and is valid from the Autumn semester 2019 at Karlstad University.

Prerequisites

General admission requirements and upper secondary school level Mathematics 2, or equivalent

Learning Outcomes

Upon completion of the course, students should be able to:

- master calculation with real numbers with confidence,
- handle polynomials and rational expressions,
- perform basic vector calculations,
- use the laws of powers and logarithms,
- solve polynomial, power, exponential, and logarithmic equations and inequalities,
- solve linear equation systems,
- give an account of basic definitions and terms related to functions,
- apply some geometry theorems when solving problems, and
- apply the concepts and methods covered in the course when solving problems.

Content

The course covers the following:

- different sets of numbers,
- rules of arithmetic for real numbers, factoring, square root, equations, completing the square, equation systems, inequalities, polynomial and rational expressions, absolute numbers,
- geometric vectors,
- basic classical geometry theorems of uniformity, congruence, and angles,
- the concept of function,
- polynomial, power, exponential, and logarithmic functions,
- logarithms and logarithmic laws.

Reading List

See separate document.

Examination

Assessment is based on a written exam. The number of examinations is limited to three per academic year.

Grades

One of the grades Fail (U) or Pass (G) is awarded in the examination of the course (Dnr C2010/729).

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.