



Faculty of Health, Science and Technology  
Mathematics

# Syllabus

## Preparatory Course in Mathematics

<b>Course Code:</b>	MABX03
<b>Course Title:</b>	Preparatory Course in Mathematics <i>Förberedande kurs i matematik</i>
<b>Credits:</b>	1.5
<b>Degree Level:</b>	Preparatory
<b>Progressive Specialisation:</b>	( )

**Major Field of Study:**

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2022-02-01, and is valid from the Autumn semester 2022 at Karlstad University.

### Prerequisites

Upper secondary level Mathematics 3c, or equivalent

### Learning Outcomes

The main aim of the course is to consolidate and develop the mathematical skills acquired at upper secondary school that are particularly relevant for university-level study.

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

- handle and simplify algebraic expressions in a reliable way,
- perform polynomial division,
- solve power, exponential, and logarithmic equations,
- solve equations and inequalities containing absolute values,
- use the unit circle to define trigonometric concepts and prove trigonometric relations, use formulas to transpose trigonometric expressions, solve trigonometric equations, and draw graphs for trigonometric functions, and
- compute sides and angles in triangles using different methods.

**Content**

Algebraic expressions, numerical and algebraic computations, rational functions, equations, inequalities, absolute values, roots, powers, logarithms, and trigonometry.

**Reading List**

See separate document.

**Examination**

Assessment is based on an individual written hand-in assignment.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

**Grades**

One of the grades U (Fail) or G (Pass) is awarded in the examination of the course. (RB C2011/237)

**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.