



Faculty of Health, Science and Technology
Mathematics

Syllabus

Mathematics Preparatory B

Course Code:	MABX23
Course Title:	Mathematics Preparatory B <i>Matematik Bas B</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

Registered on Mathematics Preparatory A, 7.5 ECTS credits, or equivalent

Learning Outcomes

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

- use the concepts sine, cosine, and tangent to calculate the angles and lengths of right-angled triangles, and use the triangle theorems for arbitrary triangles,
- use the properties of the unit circle to define and derive trigonometric concepts and relationships,
- convert gradients and radians,
- handle trigonometric expressions and prove and use trigonometric formulas,
- use algebraic and graphic methods to solve trigonometric equations,
- describe the basic properties of trigonometric functions and suggest graphs for such functions, and
- apply the concepts and methods covered in the course when solving problems.

Content

The course covers the following:

- basic trigonometry for right-angled triangles,
- the unit circle and the triangle theorems for arbitrary triangles,
- trigonometric expressions and formulas,
- trigonometric equations,
- trigonometric functions and related graphs,
- the radian concept,
- applications and problem solving in trigonometry.

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.