



Faculty of Technology and Science  
Mathematics

### Syllabus

#### Course Approval

The syllabus was approved by the Faculty Board of Technology and Science on 29 June 2011, and is valid from the Autumn semester of 2011 at Karlstad University.

**Course Code:** MABX03

**Preparatory Course in Mathematics, 1.5 ECTS Credits**  
**(Förberedande kurs i matematik, 1.5 Swedish credit points)**

**Degree Level:** Pre-Bachelor

**Progressive Specialisation:** ()

#### Language of Instruction

Swedish

#### Prerequisites

Upper secondary school Mathematics D

#### Major Field of Study

#### Learning Outcomes

The aim of the course is to consolidate and develop the mathematical skills acquired at upper secondary school C level as well as certain parts of the D level.

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

- perform algebraic calculations in a reliable way
- perform polynomial long division
- solve power equations, exponential equations 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
- compute sides and angles in triangles

#### Content and Form of Instruction

Review of algebraic techniques, numerical and algebraic computations, algebraic fractions, equations, inequalities, absolute values, roots, powers, logarithms, trigonometry, and the equation for a straight line.

#### Reading List

See separate document.

#### Examination

Examination is in the form of hand-in assignments.

#### Grades

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

#### 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 assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

#### Course Certificate

A course certificate will be provided upon request.

#### Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

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

Karlstads universitet 651 88 Karlstad, Sweden  
Tel +46-54-700 10 00 Fax +46-54-700 14 60  
information@kau.se www.kau.se