

KURSPLAN

Pathway Mathematics, 7,5 högskolepoäng*Pathway Mathematics, 7,5 credits*

Kurskod:	PMAX13	Utbildningsnivå:	Grundnivå
Fastställd:	2025-06-24	Utbildningsområde:	Naturvetenskapliga området
Gäller fr.o.m.:	2025-07-01	Ämnesgrupp:	Matematik
		Fördjupning:	GXX Grundnivå, kursens fördjupning kan inte klassificeras

Lärandemål

Efter genomgången kurs ska studenten:

Innehåll

The course includes the following elements:

- Basic algebra including absolute values, inequalities and rational expressions.
- Sequences and series.
- Polynomials, power functions, rational functions and exponential functions.
- The factor theorem.
- Compound functions and inverse functions.
- Logarithms and logarithmic functions.
- Definition of the derivative.
- Derivatives and differentiation rules for the type of functions mentioned above.
- Applications using the derivative to analyze functions and to solve optimization problems.
- The Riemann sum and the concept of integrals.
- Integral calculus for the functions mentioned above.
- Trigonometric formulas and identities.
- Vectors.
- Introduction to complex numbers.
- Examples of basic numerical methods.
- Mathematical software for visualization, graphing and numerical calculations.

Pathway Mathematics 1 is a course for students who do not meet the level of required mathematics for university studies. The purpose of the course is to support the student's understanding of mathematics at a level needed for studies at university programmes, including content equivalent to the Swedish upper secondary school course Matematik 3c, as well as providing an understanding of important mathematical terminology and concepts in an academic, English-speaking environment. The horizontal aim is to develop and strengthen student skills for participating in higher education, life-long learning and global citizenship through group work, social engagement, peer learning, reflective learning and autonomous learning whilst developing agency, ability to reconcile tensions and dilemmas, intercultural communication skills, metacognitive skills, information literacy and critical thinking.

Undervisningsformer

Undervisningen bedrivs på engelska.

Behörighetskrav

High School Diploma and English Language skills corresponding to:: English IELTS 5.0 or the equivalent Mathematics 2a, 2b, 2c or the equivalent

Examination och betyg

Kursen bedöms med betygen Godkänd (G) eller Underkänd (U).

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Written exam	6,5 hp	G/U
Laboratory report	1 hp	G/U

Kurslitteratur

Observera att kurslitteraturen kan komma att ändras fram till åtta veckor före kursstart.