Mathematics G5 7.5 pre-education credits MX008M

Matematik G5

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2021-02-17

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Mathematics G5 7.5 pre-education credits MX008M

Matematik G5

Pre-university level, MX008M

Education level	Grade scale	Subject	Subject group (SCB)
Pre-university level	U G#	Matematik	Mathematics

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language

Selection

Course Aim

After completing the course, students should:

- Have a solid introduction to studies in mathematics on university level
- Have knowledge in elementary functions and basic mathematical logic
- Be able to demonstrate, articulate and use the binomial theorem and implement proof by induction.
- Use key concepts and methods in the calculus of one variable on extreme value calculations and graphing, proof of inequalities, limit calculations, analysis of functions and expressions, inverses, approximations of functions, etc.
- To prove the central theorems in the field of differential calculus in one variable.
- Be able to interpret the derivative as a rate and interpret the second derivative as acceleration and apply it to problems associated with speeds
- Be able to manage and prove key properties of elementary functions and their inverses.
- Demonstrate the ability to identify and solve problems using the methods taught in the course.

Contents

Logic , Mathematical Sets, The Binomial theorem, Induction, Limits, Continuous functions, Inverse functions, Logarithm functions, Differentiation, Implicit differentiation, Solution of equations, Introduction to Matlab and Gender.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
Lectures, problem solving.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.
Written examination.

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Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Overlap

The course MX008M is equal to M0045M

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Fup	Status	From period	Title
0002	Written exam	U G#	7.5	Mandatory	A21	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Head Faculty Programme Director Niklas Lehto 2021-02-17

Syllabus established

by HUL Niklas Letho 2020-02-14