

## **Mathematics A, 7,5 HE credits**

*Matematik A, 7,5 hp*

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Established: 2023-10-31

Established by: Department of Engineering Science

Applies from: V24

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### **Learning outcomes**

After completing the course the student should be able to:

- use key mathematical concepts, methods, and logical structures to solve algebraic equations and inequalities.
- apply knowledge of elementary functions and their properties.
- apply knowledge of limits and continuity for functions of one variable.
- apply differential and integral calculus to analyze local and global properties of functions with one variable.
- use computer tools for visualization and numerical computations in the subject areas of the course.

### **Entry requirements**

General entry requirements

**You also need:** Physics 2, Chemistry 1, Mathematics 3c or Mathematics D

### **The forms of assessment of student performance**

Individual written exam. Written group assignment.

### **Course contents**

The course gives an overview of on the one hand basic algebra, and, on the other hand, basic single variable calculus including fundamental concepts, such as algebraic equations and inequalities, elementary functions, real functions in one variable, properties of functions, limits, continuity, the definition of derivative as a limit, differentiation rules, partial derivatives of functions of several variables, differentials, extreme values, primitive functions, integrals and integration methods, and applications. Use of computer tools.

### **Other regulations**

Course grading: F/Fx/E/D/C/B/A - Insufficient, Insufficient- more work required before the credit can be awarded, Sufficient, Satisfactory, Good, Very Good, Excellent

Course language: The teaching is conducted in English.



General rules pertaining to examination at University West are available at [www.hv.se](http://www.hv.se).

If the student has a decision/recommendation on special support due to disability, the examiner has the right to examine the student in a customized examination form.

### **Cycle**

First cycle

### **Progressive specialization**

G1N - first cycle, has only upper-secondary level entry requirements