

Mathematical Skills and Know-how (C004093)

Course size *(nominal values; actual values may depend on programme)*

Credits 3.0

Study time 85 h

Course offerings and teaching methods in academic year 2026-2027

A (semester 2)

Dutch

Gent

seminar
lecture

Lecturers in academic year 2026-2027

Thas, Koen

WE02

lecturer-in-charge

Offered in the following programmes in 2026-2027

[Bachelor of Science in Mathematics](#)

crdts

3

offering

A

Teaching languages

Dutch

Keywords

Planar analytic geometry; 3-dimensional geometry; trigonometry; matrices, determinants and systems of equations; combinatorics and probability; history of mathematics in high school.

Position of the course

This course makes a synthesis of pre-college Calculus. The aim is to practice the theory going beyond what pupils in high school should be able to do. The emphasis will be on connections -- not only between the various subjects, but also connections with the theory of the first Bachelor Mathematics/Informatics. A historical component will be implemented as well.

Contents

- Analytic plane geometry
- Analytic 3-dimensional geometry
- Trigonometry
- Matrices, determinants and systems of equations
- Combinatorial counting problems
- Probability
- History of mathematics in high school

Initial competences

Basic knowledge of mathematics (pre-college).

Final competences

- 1 The student is familiar with the theory of mathematics of ASO and is able to solve difficult and complex exercises.
- 2 The student is able to explain non superficial connections between subareas.
- 3 The student is able to clearly formulate and communicate statements and solutions of exercises, and implementations of projects.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Seminar, Lecture

Extra information on the teaching methods

The students solve the many exercises themselves; some of them will be presented by the students and discussed in small or larger groups.

Study material

Type: Other

Name: Scientific papers and books

Indicative price: Free or paid by faculty

Optional: no

Language : Other

Available on Ufora : Yes

Online Available : Yes

Available in the Library : Yes

Available through Student Association : No

Usability and Lifetime within the Course Unit : regularly

Usability and Lifetime within the Study Programme : regularly

Usability and Lifetime after the Study Programme : regularly

References

- Handbook series "Van Basis Tot Limiet", Die Keure
- Handbook series "Argument", de boeck

Course content-related study coaching

Training during exercise classes, electronic learning platform

Assessment moments

continuous assessment

Examination methods in case of periodic assessment during the first examination period**Examination methods in case of periodic assessment during the second examination period****Examination methods in case of permanent assessment**

Presentation, Written assessment, Assignment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Exercises on the blackboard and at home, discussion with the examiner, also about the underlying theory.

Writing projects (individually or in group).

The use of generative AI is not allowed.

Calculation of the examination mark

Oral and written exams with ratio 5/20 and 15/20.