

## 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 2024-2025**

A (semester 2)

Dutch

Gent

lecture

seminar

**Lecturers in academic year 2024-2025**

Thas, Koen

WE01

lecturer-in-charge

**Offered in the following programmes in 2024-2025**

[Bachelor of Science in Computer Science](#)

**crdts**

3

**offering**

A

[Bachelor of Science in Mathematics](#)

3

A

**Teaching languages**

Dutch

**Keywords**

Plane Analytic Geometry; 3-dimensional Geometry; Trigonometry; Matrices, Determinants and Systems of Equations; combinatorics, probability.

**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 highschool should be able to do. The emphasis will be on connections, not only between the several subjects, but also connections with the theory of the first Bachelor Mathematics/Informatics.

**Contents**

- Analytic plane geometry
- Analytic 3-dimensional geometry
- Trigonometry
- Matrices, determinants and systems of equations
- Combinatorial counting problems
- Probability

**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.

**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**

end-of-term assessment

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

Oral assessment

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

Oral assessment

**Examination methods in case of permanent assessment****Possibilities of retake in case of permanent assessment**

not applicable

**Extra information on the examination methods**

Oral examination: exercises on the blackboard, discussion with the examiner, also about the underlying theory

Written examination (open book): provide model solutions of exercises

**Calculation of the examination mark**

Oral and written exams with ratio 1/4 and 3/4