

## 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 2025-2026**

A (semester 2)	Dutch	Gent	lecture seminar
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**Lecturers in academic year 2025-2026**

Thas, Koen	WE02	lecturer-in-charge
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**Offered in the following programmes in 2025-2026**

<a href="#">Bachelor of Science in Mathematics</a>	<b>crdts</b>	<b>offering</b>
	3	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.

**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 in group.

### **Calculation of the examination mark**

Oral and written exams with ratio 3/20 and 17/20.