

# Course Specifications

Valid in the academic year 2024-2025

# Mathematical Skills and Know-how (C004093)

Course size	(nominal values; actual values may depend on programme)					
Credits 3.0	Study time	Study time 85 h				
Course offerings and	teaching methods in academic	: year 2024-2025				
A (semester 2)	Dutch	Gent	le	lecture		
			seminar			
Lecturers in academic	c year 2024-2025					
Thas, Koen	s, Koen			lecturer-in-charge		
Offered in the following programmes in 2024-2025				crdts	offering	
Bachelor of Science in Computer Science				3	А	
Bachelor of Science in Mathematics				3	А	

#### **Teaching languages**

Dutch

#### Keywords

Plane Analytic Geometry; 3-dimensional Geometry; Trigonometry; Matrices, Determinants and Systems of Equations; conbinatorics, 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
- Combinatorical 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 supercial 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 examinator, 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