

Basic Mathematics (E001142)

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

Credits 3.0

Study time 90 h

Course offerings and teaching methods in academic year 2025-2026

A (semester 1)

Dutch

Gent

lecture

seminar

Lecturers in academic year 2025-2026

De Schepper, Hennie

TW06

lecturer-in-charge

Offered in the following programmes in 2025-2026

	crdts	offering
Bachelor of Science in Engineering(main subject Biomedical Engineering)	3	A
Bachelor of Science in Engineering(main subject Chemical Engineering and Materials Science)	3	A
Bachelor of Science in Engineering(main subject Civil Engineering)	3	A
Bachelor of Science in Engineering(main subject Computer Science Engineering)	3	A
Bachelor of Science in Engineering(main subject Electrical Engineering)	3	A
Bachelor of Science in Engineering(main subject Electromechanical Engineering)	3	A
Bachelor of Science in Engineering(main subject Engineering Physics)	3	A
Bachelor of Science in Engineering (Joint Section)	3	A

Teaching languages

Dutch

Keywords

Matrix, system of equations, complex numbers, elementary functions, function behaviour, vectors, projection

Position of the course

The aims of this course are: (1) to rehearse and deepen the fundamental mathematics knowledge for starting academic engineering studies (2) to complete this knowledge with some additional basic concepts and methods (3) to establish a uniform starting level for all students.

Contents

- Matrices and systems
- Complex numbers
- Elementary functions, function behaviour, interpretation of graphs, integration techniques
- Vectors and projection in 2 and 3 dimensions

Initial competences

Secondary school education

Final competences

- 1 To have a thorough knowledge of the topics matrices, complex numbers, elementary functions and vectors.
- 2 Being able to perform basic calculations quickly and efficiently by hand.
- 3 Being able to make a correct reasoning and to write it down in a structured way.
- 4 Being able to formulate correctly and with mathematical precision.

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

Students are divided into groups and make exercises under supervision. It is strongly recommended to prepare the exercises before class, and to finish them afterwards.

Study material

Type: Syllabus

Name: Syllabus

Indicative price: € 10

Optional: no

Type: Other

Name: Additional material

Indicative price: Free or paid by faculty

Optional: no

Additional information: Available electronically via the electronic learning platform, free of charge

References

Course content-related study coaching

Intensive study coaching during the classroom problem solving sessions. Additionally, students will be encouraged to make use of the available tutoring services for extra help. Interactive support (forum on the electronic learning platform) is available.

Assessment moments

end-of-term and continuous assessment

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

Written assessment

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

Written assessment

Examination methods in case of permanent assessment

Written assessment

Possibilities of retake in case of permanent assessment

examination during the second examination period is not possible

Extra information on the examination methods

- Periodic evaluation at the end of the third week. Disclosure of marks and feedback by the end of the fourth week.
- Permanent evaluation: written closed-book examination.

Calculation of the examination mark

- Evaluation during semester 40%, examination 60%.
- When absent for a motivated reason at the evaluation during semester, the examination counts for 100% of the finals score. Each student, except the aforementioned ones, can ask (in the first-term examination period) to be dispensed from the examination, in which case the marks of the evaluation during semester will account for 100% of the final score.
- Resit examination period: final examination only (for 100%).