

## Mathematics for Business I (F710373)

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

**Credits 6.0**

**Study time 180 h**

**Course offerings and teaching methods in academic year 2025-2026**

A (semester 1)	Dutch	Gent	seminar lecture
----------------	-------	------	--------------------

**Lecturers in academic year 2025-2026**

Vandenboer, Kristine	EB21	staff member
Carette, Philippe	EB21	lecturer-in-charge
Neyt, Yannick	EB21	co-lecturer

**Offered in the following programmes in 2025-2026**

	crdts	offering
<a href="#">Linking Course Master of Science in Business Administration</a>	6	A
<a href="#">Preparatory Course Master of Science in Business Administration</a>	6	A

**Teaching languages**

Dutch

**Keywords**

Mathematics, functions

**Position of the course**

To provide students with a basic education in mathematics that is often used in economic analysis.

The mathematical concepts and techniques are presented in a rigorous way, with emphasis on the logic and coherence of the various concepts.

The concepts are well illustrated with economic applications.

**Contents**

**Functions of one variable**

- General concepts: domain, image, injective function, inverse function, periodicity and symmetry.
- Special functions: polynomial functions, rational and irrational functions, exponential and logarithmic functions, trigonometric and cyclometric functions.
- Applications in business and economics: demand and supply, costs and revenues, market equilibrium, break-even point.
- Limits and continuity, asymptotes.
- Differentiation, de l'Hospital's rule, curve sketching, optimization.
- Applications in economics: marginal rate of change and elasticity.
- Integration: general techniques, method of substitution and partial integration.

**Initial competences**

- To have thorough knowledge of the fundamental mathematical principles taught in high school: real numbers, algebra and geometry.
- To be proficient in symbolic calculation and solving equations.

**Final competences**

- 1 To know and understand the foundations of differential and integral calculus of a single variable and their economic applications.
- 2 To analyze and solve problems in business economics using mathematical techniques of single variable calculus.
- 3 To be able to clarify quantitative results and solutions, both graphically and in words.

4 To assess the correctness of quantitative results and mathematical propositions.

#### **Conditions for credit contract**

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

#### **Conditions for exam contract**

Access to this course unit via an exam contract is unrestricted

#### **Teaching methods**

Seminar, Lecture

#### **Extra information on the teaching methods**

Interactive plenary lectures: Discussion of the theoretical concepts, with the option of using the chat box to ask questions.

Guided exercises in groups: practicing the concepts covered in the lectures.

#### **Study material**

Type: Handbook

Name: Wiskunde voor bedrijfskundigen 1

Indicative price: € 45

Optional: no

Language : Dutch

Author : Philippe Carette

Available through Student Association : Yes

Type: Syllabus

Name: Oefeningenbundel Wiskunde voor bedrijfskundigen I-B

Indicative price: € 5

Optional: no

Language : Dutch

Available through Student Association : No

#### **References**

#### **Course content-related study coaching**

- A refresher course in basic mathematical techniques can be followed in September.
- Teachers are available for additional oral explanations after class.
- Electronic discussion forum.
- Sample exam questions with detailed solutions.

#### **Assessment moments**

end-of-term 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**

#### **Possibilities of retake in case of permanent assessment**

not applicable

#### **Extra information on the examination methods**

Written exam.

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

periodic evaluation (100%)