

Functions of a Real Variable II

Code: 107841
ECTS Credits: 6

2025/2026

Degree	Type	Year
Mathematics	FB	1

Contact

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

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Objectives and Contextualisation

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Learning Outcomes

1. CM01 (Competence) Write elementary proofs in the field of algebra and analysis in an orderly and precise manner.
2. CM02 (Competence) Develop autonomous strategies for solving basic mathematical problems.
3. KM01 (Knowledge) Identify the basics of linear algebra and single-variable analysis.
4. KM02 (Knowledge) Identify the rules of differentiation and integration of functions, as well as the basic results of the differential calculus in one real variable.
5. KM03 (Knowledge) Relate the visual properties of a function graph in a real variable to its analytical properties.

6. SM01 (Skill) Apply the rules of algebra and single-variable analysis to the classification of applications according to various criteria (rank, determinant, Jordan forms, existence of maxima and minima, asymptotes).
7. SM02 (Skill) Apply the basics of linear algebra and analysis to a variable to solve mathematical problems.
8. SM03 (Skill) Relate the concepts of linear algebra to those of single-variable analysis (linearity of differential and integral operators or continuity of matrix operations, etc.).

Content

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Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Avaluation	10	0.4	
In-person sessions	50	2	CM01, CM02, KM01, KM02, KM03, SM01, SM02, SM03, CM01
Type: Supervised			
Tutoring	10	0.4	
Type: Autonomous			
Personal work	70	2.8	CM01, CM02, KM01, KM02, KM03, SM01, SM02, SM03, CM01

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Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
First exam	35	3	0.12	CM02, KM02, KM03
June exam	45	4	0.16	CM01, CM02, KM01, KM02, KM03, SM01, SM02, SM03
Seminars	20	3	0.12	CM01, CM02, KM01, KM02, KM03, SM01, SM02, SM03

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Bibliography

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Software

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Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	1	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	2	Catalan	second semester	morning-mixed
(SEM) Seminars	1	Catalan	second semester	morning-mixed
(SEM) Seminars	2	Catalan	second semester	morning-mixed
(SEM) Seminars	3	Catalan	second semester	morning-mixed
(SEM) Seminars	4	Catalan	second semester	morning-mixed
(TE) Theory	1	Catalan	second semester	morning-mixed
(TE) Theory	2	Catalan	second semester	morning-mixed