Universitat Autònoma de Barcelona

2023/2024

Calculus

Code: 106802
ECTS Credits: 6

Degree	Type	Year	Semester
2504602 Nanoscience and Nanotechnology	FB	1	1

Contact

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Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject.
Please note that this information is provisional until 30 November 2023.

Teachers

Joan Torregrosa Arus

Jose Maria Gallegos Saliner

Prerequisites

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Objectives and Contextualisation

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Learning Outcomes

- CM07 (Competence) Solve real-world problems that occur in the field of science and technology using mathematical tools and methods.
- KM08 (Knowledge) Identify the elementary mathematical models and tools used in calculus, linear algebra and differential equations.
- SM09 (Skill) Express oneself clearly using basic mathematical language.
- SM09 (Skill) Express oneself clearly using basic mathematical language.
- SM10 (Skill) Solve simple problems related to matrix calculus, linear equations and first order differential equations.
- SM12 (Skill) Use graphical and numerical methods to explore, describe and interpret data.
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Content

Traducció des de Google.

1. Notion of ordinary differential equation, separate variables.
2. Review of basic concepts of differential and integral calculus in one variable.
3. Taylor's formula in one variable.
4. Numerical series, power series and improper integrals.
5. Differential calculation in several variables.
6. Integral calculation in several variables.

Methodology

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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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Exercises classes	10	0.4	CM07, KM08, SM09, SM10, SM12, CM07
Practice classes	6	0.24	CM07, KM08, SM09, SM10, SM12, CM07
Theory classes	36	1.44	CM07, KM08, SM09, SM10, SM12, CM07
Type: Supervised			
Delivery of practices	6	0.24	CM07, KM08, SM09, SM10, SM12, CM07
Type: Autonomous			
Theory study and problem solving	84	3.36	CM07, KM08, SM09, SM10, SM12, CM07

Assessment

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Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes

Delivery of practices	20%	1	0.04	CM07, KM08, SM09, SM10
Final exam	80%	3	0.12	CM07, KM08, SM09, SM10, SM12
Mid term exam	40%	2	0.08	CM07, KM08, SM09, SM10, SM12
Mid term exam	40%	2	0.08	CM07, KM08, SM09, SM10, SM12

Bibliography

Veure guia en català.

Software

Veure guia en català.