Universidad Zaragoza

Academic Year/course: 2021/22

39103 - Calculus

Syllabus Information

Academic Year: 2021/22
Subject: 39103 - Análisis matemático
Faculty / School: 100 - Facultad de Ciencias
Degree: 577 - Joint Program in Physics and Mathematics
ECTS: 6.0
Year: 1
Semester: First semester
Subject Type: Basic Education
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process that has been designed for this course is based on the following:

Theory sessions to explain the concepts and foundations of the course, its reason for being, and ways of reasoning and arguing in general and in specific situations. Practice these guidelines profusely by solving exercises.

The teacher will provide class notes and exercises in the Anillo Digital Docente of the Universidad de Zaragoza.

4.2. Learning tasks

This is a 6 ECTS course organized as follows:

- Theory sessions (4 ECTS): 40 hours
- Practice sessions (1.7 ECTS): 17 hours
- Assessments (0.3 ECTS): 3 hours

4.3. Syllabus

The syllabus offfered to the student to help achieve the expected results includes the following topics?

Natural numbers and induction principle. Integer and rational numbers.

Real numbers.

Complex numbers.

Elementary functions.

Sequences and limits. Cauchy sequences.

Limit of function. Continuity.

Derivation. Geometrical interpretation and basic rules.

Riemann integral.

Primitives. Integration methods.
Series. Convergence criterion.
Taylor series.

4.4. Course planning and calendar

Tutorials: continuously throughout the course, during tutorials and arranged.
Exams: written exams, in the convocation of January-February and September.
Continuous assessment through exercises proposed throughout the lesson period.

4.5. Bibliography and recommended resources

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=39103