

## **Syllabus Information**

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**Academic Year:** 2020/21

**Subject:** 39103 -

**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**

### **1.1.Aims of the course**

### **1.2.Context and importance of this course in the degree**

### **1.3.Recommendations to take this course**

## **2.Learning goals**

### **2.1.Competences**

### **2.2.Learning goals**

### **2.3.Importance of learning goals**

## **3.Assessment (1st and 2nd call)**

### **3.1.Assessment tasks (description of tasks, marking system and assessment criteria)**

## **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 offered 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**