

## 27202 - Mathematics

### Syllabus Information

**Academic Year:** 2020/21

**Subject:** 27202 - Mathematics

**Faculty / School:** 100 - Facultad de Ciencias

**Degree:** 452 - Degree in Chemistry

**ECTS:** 12.0

**Year:** 1

**Semester:** Annual

**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 methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, problems solving sessions and practice sessions, autonomous work, study and assessment tasks.

Further information regarding the course will be provided on the first day of class.

#### 4.2.Learning tasks

The 12 ECTS course includes the following learning tasks:

- Formative Activities 1 (7,5 ECTS): Lectures, with the development of practical cases. 3 hours per week in the first semester and 2 hours per week in the second semester. 1 hour per week.
- Formative Activities 2 (3 ECTS): Problems solving sessions that help students to solve problems.
- Formative Activities 3 (1,5 ECTS): There will be several practical sessions using the computer to illustrate mathematical concepts and tools. 1 hour per week.
- Tutorized groups: at least one session.

#### 4.3.Syllabus

The course will address the following topics:

- Topic 1. Differential Calculus in one variable
- Topic 2. Linear systems of equations and Vector spaces
- Topic 3. Diagonalization of matrices
- Topic 4. Differential Calculus in several variables
- Topic 5. Interpolation and nonlinear equations
- Topic 6. Integral Calculus in one variable
- Topic 7. Multiple Integral
- Topic 8. Line and Surface Integral
- Topic 9. Differential equations

#### **4.4.Course planning and calendar**

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Facultad de Ciencias web (<https://ciencias.unizar.es/grado-en-quimica-0>).

#### **4.5.Bibliography and recommended resources**

[http://biblos.unizar.es/br/br\\_citas.php?codigo=27202&year=2019](http://biblos.unizar.es/br/br_citas.php?codigo=27202&year=2019)