

Academic Year/course: 2022/23

## 63222 - Disciplinary Content of Mathematics

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 63222 - Disciplinary Content of Mathematics

**Faculty / School:** 107 - Facultad de Educación

**Degree:** 584 -

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**ECTS:** 6.0

**Year:** 1

**Semester:** Second semester

**Subject Type:** Optional

**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 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, problem-solving sessions, laboratory sessions, supervision of projects, tutorials and autonomous work and study.

### 4.2. Learning tasks

This course is organized as follows:

- Lectures.
- Problem-solving sessions.
- Laboratory sessions.

- Supervision of projects.
- Tutorials.
- Autonomous work and study.

### **4.3. Syllabus**

This course will address the following topics:

Topic 1. Global vision of the development of mathematics since its origin to the present day: problems that originated the different branches, the solutions given in their time, their influence, evolution, and current setting.

Topic 2. Synthetic geometry, focusing in the classical greek school, and the development of projective geometry. Euclid's axiomatization, the plane with the line at infinity, inversion with respect to circles, point-line duality and study of the conics.

Topic 3. Study and analysis about the main concepts underlying the contents (algebraic, analytic...) in secondary education curriculum.

Topic 4. Mathematical software lab. Introduction to the tools of interactive geometry, computer algebra, and data treatment. Application in practical contexts related to the contents of the previous parts. These practical lessons will take place in parallel with the development of the previous contents.

### **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 week of class or please refer to the Faculty of Education website and Moodle.

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

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?id=11882>