

27000 - Linear algebra

Syllabus Information

Academic Year: 2019/20

Subject: 27000 - Linear algebra

Faculty / School: 100 -

Degree: 453 - Degree in Mathematics

ECTS: 13.5

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, problem-solving sessions, tutorials and autonomous work and study.

4.2.Learning tasks

This course is organized as follows:

- **Lectures.** Notes on the theoretical part of the lessons will appear in the *ADD* before they are given.
- **Problem-solving sessions.** Throughout the course the students are provided with four sets of exercises to be solved and orally exposed to one of the teachers during tutorials.
- **Tutorials.**
- **Autonomous work and study.**

4.3.Syllabus

This course will address the following topics:

- **Topic 1.** Vector Spaces
- **Topic 2.** Linear Mappings and Matrices
- **Topic 3.** Rank
- **Topic 4.** Integer Matrices and Polynomial Matrices
- **Topic 5.** Linear, Bilinear and Hermitian Forms
- **Topic 6.** Eigenvectors and Eigenvalues
- **Topic 7.** Theory of an Endomorphism
- **Topic 8.** Euclidean and Unitary Spaces
- **Topic 9.** Endomorphisms of Euclidean and Unitary Spaces
- **Topic 10.** Applications to Geometry

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 Faculty of Sciences website and Moodle.

4.5.Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=27000&year=2019