

29801 - Mathematics II

Información del Plan Docente

Academic Year	2018/19
Subject	29801 - Mathematics II
Faculty / School	110 - Escuela de Ingeniería y Arquitectura 326 - Escuela Universitaria Politécnica de Teruel
Degree	440 - Bachelor's Degree in Electronic and Automatic Engineering 444 - Bachelor's Degree in Electronic and Automatic Engineering
ECTS	6.0
Year	1
Semester	Half-yearly
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. It is based on the participation and the active role of the student that favor the development of communication and decision-making skills. A wide range of teaching and learning tasks are implemented, such as lectures, theory sessions, guided assignments, laboratory sessions, autonomous work, and tutorials.

Students are expected to participate actively in the class throughout the semester.

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Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

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

4.2. Learning tasks

The course includes 6 ECTS organized according to:

- Lectures, theory sessions and problem solving: 42 hours.
- Computer lab sessions: 12 hours.
- Guided assignments: 6 hours.
- Autonomous work: 74 hours.
- Tutorials: 10 hours.
- Assessment: 6 hours.

Lectures, theory sessions and problem solving: the professor will explain the theoretical contents of the course and solve illustrative applied problems, encouraging the participation of students. These learning tasks run according to the academic schedule established by the center with 3 weekly hours on average. Although it is not a mandatory activity, regular attendance is highly recommended.

Computer lab sessions: sessions will take place every 2 weeks (6 sessions in total) and last 2 hours each. Students will use mathematical software to work symbolic and numerical aspects of the subject. The problems are designed to force the student to engage in critical, analytic, and interpretive thinking.

Guided assignments: Students will work together in groups and they will complete assignments, problems and exercises related to concepts seen in laboratory sessions and theory sessions.

Autonomous work: students are expected to spend about 74 hours to study theory, solve problems and prepare lab sessions.

Tutorials: the professor's office hours will be posted on Moodle and the degree website to assist students with questions and doubts. It is beneficial for the student to come with clear and specific questions.

4.3. Syllabus

The course will address the following topics:

- Matrix Algebra: Matrices, determinants and linear systems of equations
- Vector spaces

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- Euclidean spaces
- Linear transformations
- Diagonalization of matrices
- Iterative methods for linear systems
- Differential Geometry: an introduction of curves

4.4. Course planning and calendar

Schedule of classes is established by EINA and EUP de Teruel, and it will be published before starting the academic year.

Each Professor will provide a schedule for tutorial.

Other activities will be scheduled according to the number of students and will be announced in advance (<http://add.unizar.es>).

4.5. Bibliography and recommended resources