30701 - Mathematics 1

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	470 - Bachelor's Degree in Architecture Studies
ECTS	6.0
Course	1
Period	First semester
Subject Type	Basic Education
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

Most of central ideas and topics are given by lectures to the whole group of students. They break up into small groups of 15 to 20 students for problem classes and computer classes. The problem classes allow students to work out hand-outs under the close assistance and guideline of the teacher. In addition, there are computer sessions every two weeks which allow to emphasize numerical aspects of the subject.

For the proper monitoring of the subject the student must perform an ongoing study sice the first day of class. To support the student will have the assistence of Professor, both in the classroom and in the tutorial sesions.

5.2.Learning activities

Lectures, computer classes, problem classes, group work, personal work, tutorials, evaluation.

5.3.Program

Algebra

- Algebraique structures.

- Linear spaces. Properties.

- Linear aplications. Matricial representation.

- Diagonalization. Applications.

Affine and euclidean geometry

- Geometrical applications of linear Algebra. Basic concepts on affine geometry and its most important elements.

- Metric geometry. The golden proportion.

Calculus. Functions of one variable

- Real functions of real variable. Limits and continuity.

- Derivability. Applications.

- Aproximation.

- Integration. Geometrical applications.

- Numerical methods.

5.4.Planning and scheduling

Schedules and classrooms for lectures, problem classes and computer classes may be found at http://eina.unizar.es Scheduling of examinations is agreed by the School Board and are avalaible at http://eina.unizar.es Deadlines for intermediate examination and submission of group work will be announced in advance.

5.5.Bibliography and recomended resources

- Bibliography

David C. Lay, "Álgebra lineal y sus aplicaciones"

Pearson Addison Wesley (3ª Ed.), 2007.

Gilbert Strang, "Álgebra lineal y sus aplicaciones"

International Thomson, (4ª Ed.), 2007.

Salas, Hille y Etgen, "Calculus. Una y varias variables"

Reverté, (4 a Ed.), 2002