

29605 - Mathematics II

Syllabus Information

Academic Year: 2019/20

Subject: 29605 - Mathematics II

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 430 - Bachelor's Degree in Electrical Engineering

ECTS: 6.0

Year: 1

Semester: 430-First semester o Second semester

107-Second semester

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

Methodology:

- Lectures: 42 hours
- Computer laboratory: 12 hours
- Continuous assessments (written exams): 6 hours

4.2.Learning tasks

The course includes the following learning tasks:

6 ECTS (150 hours):

- Learning outcomes 2.4 ECTS (60 hours)
- Workload: 3.6 ECTS (90 hours)

4.3.Syllabus

This is a typical matrix-oriented module of Linear Algebra for Engineers.

Outline:

- Matrix Algebra: Matrices, determinants and linear systems of equations
- Vector spaces
- Linear transformations
- Euclidean space
- Orthogonal projections and Fourier approximation
- Eigenvalues, eigenvectors and diagonalization of matrices
- Laplace transforms
- Iterative methods for linear systems
- Differential geometry

4.4.Course planning and calendar

The class schedule is established by the School and published on its website.

4.5.Bibliography and recommended resources