Universidad Zaragoza

Year : 2020/21

29805 - Mathematics III

Syllabus Information

Academic Year: 2020/21
Subject: 29805 - Mathematics III
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: 440 - 440-First semester o Second semester
444-Second semester
107-Second semester
444 - 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

The methodology of the course is based on:

- Lectures.
- Problem solving.
- Computer lab sessions using mathematical software.

4.2.Learning tasks

This course is organized as follows:

CAMPUS RIO EBRO

In order for students to get the learning outcome, the following learning activities are offered:

1. Lectures and problem-solving
One of the main resources in order for students to get the corresponding learning outcome are lectures and problem-solving sessions.

2. Computer lab sessions
Students spend parts of their time doing a wide range of computer lab work in small groups.

3. Tutorials

4. Final exams

The activities described here may be modified to adapt to the necessary health security measures throughout the course.

CAMPUS DE TERUEL
In order for students to get the learning outcome, the following learning activities are offered:
1. Lectures and problem solving
One of the main resources in order for students to get the corresponding learning outcomes are lectures and problem-solving sessions.
2. Computer lab sessions
Students spend parts of their time doing a wide range of computer lab work in small groups.
3. Problem-solving for each topic of the syllabus
Students, divided into small groups, will solve a set of problems for each topic in the program. Feedback on assessment will be provided.
4. Continual assessments (written exams)
5. Tutorials
6. Final exams

4.3.Syllabus

This course will address the following topics:

- Differential equations of first order.
- Linear differential equations.
- Numerical methods for initial value problems and boundary value problems.
- Laplace's equation.
- Fourier series.
- The wave equation.
- The heat equation.
- Finite difference method for intial value problems and boundary value problems.

4.4.Course planning and calendar

Schedule of sessions 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 tutorials.
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