Degree in Energy Engineering and Mineral Resources
Subject Planning

COURSE NAME

Name: **MATHEMATICS III**

Code: 101190

Curriculum: **DEGREE IN ENERGY ENGINEERING AND MINERAL RESOURCES**   Year: 2

Subject: MATHEMATICS III

Nature: Basic   Duration: FIRST SEMESTER

ECTS Credits: 6   Classroom hours: 60

Face-to-face classroom percentage: 40%   Non-contact hours: 90

FACULTY DETAILS

Name: ROSALES TRISTANCHO, ABEL (Coordinator)

Department: MATHEMATICS

Area: APPLIED MATHEMATICS

Location of the office: EPS BÉLMEZ

E-Mail: arosales@uco.es   Phone number: -

Name: JOAQUÍN QUINTANA MURILLO

Department: MATHEMATICS

Area: APPLIED MATHEMATICS

Location of the office: EPS BELMEZ

E-Mail: jquintana@uco.es   Phone number: -

SKILLS

CB4	Solve problems within the study area of Mining Engineering.
CEC1	Ability to solve ordinary differential equations for their application in Engineering problems.
CEC2	Understanding of the concepts of randomness of physical, social and economic phenomena, as well as uncertainty.
CEC3	Knowledge of basic numerical calculation and applied to engineering.

OBJECTIVES

The goal is for students be able to recognize and solve the different types of equations and systems of differential equations and know what they are used for. An additional goal is for students to know how to calculate the sum of numerical series, as well as use Fourier and Taylor series for these purposes. Finally, the student will be able to solve probability calculation problems and recognize different probabilistic models.

CONTENTS:

1. Theoretical contents

Topic 1. Differential Equations

Topic 2. Numerical and Function Series.

Topic 3. Probability.

2. Practical contents.

Problem solving