COURSE NAME

Name: **MINERALOGY**
Code: 101188
Curriculum: **DEGREE IN ENERGY ENGINEERING AND MINERAL RESOURCES** Year: 2
Name of the module to which it belongs: BASIC FORMATION
Subject: GEOLOGY
Nature: BÁSICA Duration: SECOND SEMESTER
ECTS Credits: 6 Classroom hours: 60
Face-to-face classroom percentage: 40% Non-contact hours: 90

FACULTY DETAILS

Name: RIVERA RODRÍGUEZ, RAFAEL (Coordinator)
Department: MECHANICS
Area: MINING OPERATION
Location of the office: Main building (Second floor)
E-Mail: rriverar@uco.es Phone number: 674318510

SKILLS

CB1	Have and understand specific knowledge of the field of study of mining engineering.
CB2	Have and understand current and cutting-edge knowledge of the field of mining engineering.
CEB5	Basic knowledge of geology and morphology of the terrain and its application in problems related to engineering. Climatology

OBJECTIVES

The aim is for the students to understand what a mineral is, their makeup, system, properties and uses as ores or industrial minerals, as well as the deposits in which they are found. They should understand the properties of minerals, their applications, and deposits.

CONTENTS:

1. Theoretical contents

Block I
Topic 1.- Crystallography and Mineralogy.
Topic 2.- The crystal. Ideal crystal.
Topic 3.- Crystallographic elements.
Topic 4.- Symmetry. Elements. Notation and symbols
Topic 5.- Crystal forms. Habits.
Topic 6.- Packing.
Topic 7.- Crystallogenesis. Nucleation.
Topic 8.- Crystal chemistry. Chemical bonds in minerals
Topic 9.- Crystal physics.
Topic 10.- Optical properties.
Block II
Topic 11.- Mineral system
Topic 12.- Native elements.
Topic 13.- Sulphides.

Topic 14.- Oxides and Hydroxides
Topic 15.- Halides.
Topic 16.- Carbonates.
Topic 17.- Sulphates and Wolframites
Topic 18.- Phosphates and Vanadates
Topic 19.- Silicates
Topic 20.- Industrial rocks.

2. Practical contents.

Block I
Study of crystal morphologies. Identifying crystals according to their system. Packaging and Projections.
Block II
Recognising mineral properties. Applying these properties to visually recognise the species being studied.