

COURSE NAME

Name: **Blasting and explosives**

Code: 101203

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

Year: 3

Name of the module to which it belongs: SPECIFIC TO MINING

Subject: Mining works

Nature: OBRIGATORY Duration: FIRST SEMESTER

ECTS Credits: 4.5

Classroom hours: 45

Face-to-face classroom percentage: 40%

Non-contact hours: 67.5

FACULTY DETAILS

Name: HERNANDO FERNÁNDEZ, JOSÉ LUIS (Coordinador)

Department: MECHANICS

Area: MINING OPERATIONS

Location of the office: Principal building, 1st floor

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SKILLS

- CB1 Have and understand specific knowledge of the field of study of mining engineering.
- CB3 Be able to apply the knowledge acquired in professional contexts and to elaborate and defend arguments in the field of knowledge of mining engineering.
- CB4 Solve problems within the study area of Mining Engineering.
- CEEM10 Handling, transportation and distribution of explosives.

OBJECTIVES

Knowledge of the characteristics and properties of industrial explosives and the accessories and equipment used in the field of blasting in civil engineering (mining and public works). Ability to design and implement blasting in mining and civil works. Ability to develop mining projects, plans, and internal safety arrangements involving the use, handling, and storage of explosives.

CONTENTS:

1. Theoretical contents

- Topic1: Drilling rock masses.
- Topic 2: Effects of an explosion in a rock mass. Seismic waves.
- Topic 3: Vibrations produced by blasting.
- Topic 4: The aerial blasting wave.
- Topic 5: Small- and medium-diameter blasting on pit benches. Contour blasting.
- Topic 6: Large-diameter blasting on pit benches. Other open-cast blasting.
- Topic 7: Underground blasting and underwater blasting.

2. Practical contents.

Solving problems and exercises. Practical visit