COURSE NAME

Name: **EXTRACTION AND TREATMENT OF FUELS**
Code: 101211
Curriculum: **DEGREE IN ENERGY ENGINEERING AND MINERAL RESOURCES AND UNIVERSITY MASTER'S DEGREE IN MINING ENGINEERING** Year: 4
Name of the module to which it belongs: SPECIFIC TO ENERGY RESOURCES, FUELS AND EXPLOSIVES
Subject: PROCESS AND ENERGY ENGINEERING
Nature: OBRIGATORY Duration: FIRST SEMESTER
ECTS Credits: 6 Classroom hours: 60
Face-to-face classroom percentage: 40% Non-contact hours: 90

FACULTY DETAILS

Name: HERNANDO FERNÁNDEZ, JOSÉ LUIS (Coordinador)
Department: MECHANICS
Area: MINING OPERATIONS
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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.
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.
CERE1A	Use of energy resources.
CERE4	Basic operations of processes.
CERE5	Refining, petrochemical and carbochemical processes

OBJECTIVES

The aim is for students to acquire the knowledge and skills that will enable them to understand current techniques for exploiting non-renewable fuels, as well as to tackle the design of certain projects related to the technology for treating, processing, distributing and storing these fuels. As far as possible, aspects related to environmental sustainability will be emphasised.

CONTENTS:

1. Theoretical contents

Topic 1. Coal, its derivatives and syngases.
Topic 2. Natural gas and its use.
Topic 3. The natural gas process. Fracking.
Topic 4. Oil and its use.
Topic 5. Oil processing. Petroleum refining and derivatives.
Topic 6. Biofuels. Cogeneration.

2. Practical contents.

Coal, natural gas and oil exploitation methods and systems. Drilling for research and hydrocarbon exploitation. Flow diagrams. Mass balances. Energy balances. Stoichiometry. Distillation and cracking calculations.