SUBJECT TEACHING GUIDE

G634 - Mining Engineering II

Degree in Mining Resources Engineering
First Degree in Mining Resources Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Mining Resources Engineering First Degree in Mining Resources Engineering			Type and Year	Compulsory. Year 3 Compulsory. Year 3
Faculty	School of Mines and Energy Engineering				
Discipline	Subject Area: Technology of Mine Exploitation Module: Training in Exploitation of Mines				
Course unit title and code	G634 - Mining Engineering II				
Number of ECTS credits allocated	6	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS
Name of lecturer	NOEMI BARRAL RAMON
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Other lecturers	LUIS VEJO FERNANDEZ

3.1 LEARNING OUTCOMES

- O- To know all the data and practical rules for a good technical management of an exploitation throughout the different phases of the mining project, as well as the most characteristic mining terminology.
- To know the techniques and methods of interior and exterior exploitation as well as the machinery to be used in each case , which allow a deposit to be exploited in the most economical way and with the greatest safety.
- Know the auxiliary work that must be taken into account fundamentally in interior exploitations, such as ventilation, drainage, transport, support, electrification, etc.

4. OBJECTIVES

The main objectives are listed next:
Acquisition of knowledge of data and practical rules for a good technical direction throughout the various phases of the mining project and the characteristic terminology.
Learning the techniques and methods for the development of open-pit and underground sites, as well as the equipment used in each case, improving both safety and incomes.
Knowing the auxiliary tasks underground sites, such as ventilation, drainage, transportation, maintenance, electricity, etc.

6. SUBJECT PROGRAM

CONTENTS	
1	DEFINITIONS AND GENERAL MATTERS. STAGES OF A MINING PROJECT. Definitions and general issues. Stages of a Mining Project.
2	MINING METHODS. Open-pit mining methods Underground mining methods
3	MINING MACHINERY AND TECHNOLOGY. Machinery for open-pit mining Machinery for underground mining Mining Technology: preparatory works (galleries, tunnels, shafts, chimneys, etc ...), mine ventilation, mine drainage, maintenance, transportation, extractive machinery.
4	ELECTRIFICATION OF MINES. Types of electric installations applied in mining. Legal requirements for underground mining. Electric specifications for the equipment. Requirements for electrical installations in open pit mining.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final exam	Written exam	Yes	Yes	60,00
Group Essay	Work	No	Yes	20,00
Tests	Written exam	No	Yes	20,00
TOTAL				100,00

Observations

The final exam will be divided into two blocks, and a minimum grade of 4.0 must be obtained in each of them, and 5 in the global computation of the same. Those students who do not obtain these minimum grades, will obtain as final grade the average of the different parts (considering the weights indicated for each of them), up to a maximum grade of 4.9. The parts passed during the course will be kept for the extraordinary exam.

Observations for part-time students

Students enrolled part-time will be evaluated in accordance with the regulations of the University of Cantabria. To this end, the student will be allowed to do the work individually, and to take the follow-up tests on the same day of the final exam.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Curso sobre explotaciones a Cielo abierto de la Fundación Gómez Pardo. Autores: Fernando Pla, Luciano Mencía, y Carlos López Jimeno.
Manual de arranque, carga y transporte en minería a Cielo abierto. Autor: Carlos López Jimeno.
Explotaciones a Cielo abierto. Autor: A. Novizky
Manual de ventilación de Minas. Autor: Vicente Luque
Curso de laboreo de Minas. Autor. Luis de la Cuadra Irizar.
Tratado de laboreo de Minas. Autor: Fritzche
Apuntes de la asignatura proporcionados al comienzo del curso. Autores: Noemí Barral Ramón y Luis Vejo Fernández.