

## SUBJECT TEACHING GUIDE

### G637 - Mineral Processing

#### 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 4 Compulsory. Year 4
Faculty	School of Mines and Energy Engineering				
Discipline	Subject Area: Minerallurgical Technology Module: Training in Exploitation of Mines				
Course unit title and code	G637 - Mineral Processing				
Number of ECTS credits allocated	6	Term	Semester based (1)		
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	JAVIER SEDANO CIBRIAN				
E-mail	javier.sedano@unican.es				
Office	E.P. de Ingeniería de Minas y Energía. Planta: + 2. DESPACHO (232)				
Other lecturers	BEATRIZ MALAGON PICON				

### 3.1 LEARNING OUTCOMES

- After completing the module the students should be able to:
- Characterize ores for mineral processing purposes.
  - Select the appropriate unit operations to treat a specific ore.
  - Integrate all this knowledge to design an entire process.

#### 4. OBJECTIVES

To introduce the students to the fundamentals of mineral processing particularly with regard to the basic operations and the assessment of the results obtained from their implementation.

To offer to the students an adequate training so that they can make the correct equipment selection in order to design , dimension and control ore dressing processes.

#### 6. SUBJECT PROGRAM

##### CONTENTS

1	BLOCK I: INTRODUCTION, AUXILIARY OPERATIONS. - Mineralurgy, generalities. - Expression of the results of a concentration operation. - Characteristic formulas of pulps. - Preparation: fragmentation. - Fragmentation circuits. - Auxiliary operations.
2	PART 2. COMMINUTION AND PHYSICAL SEPARATION •Comminution •Crushing •Grinding •Classification
3	PART 3. PLANT DESIGN AND OPERATION • Scale-up of laboratory results • Basic circuits • Maintenance of mineral processing plants • Waste management

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Quiz	Written exam	No	Yes	20,00
Final examination	Written exam	Yes	Yes	60,00
Assignments	Work	No	Yes	20,00
TOTAL				100,00
Observations				
If the minimum grade is not reached in any of the parts, the final mark will be the minimum of 4.9 plus the weighted mean all the evaluation activities. The notes of the passed parts will be maintained until the extraordinary call.				
Observations for part-time students				
Part-time students will be evaluated according to the internal regulations of the University of Cantabria. In addition to requiring the passing of the Final Content Examination, given the characteristics of activities proposed for continuous assessment, the student with part-time enrollment will be subject to them as well as students with ordinary enrollment, although the Group Work may be Replaced by an Individual Work of related subject if requested by the student .				

**8. BIBLIOGRAPHY AND TEACHING MATERIALS**

## BASIC

Tecnología de Procesamiento de Minerales, Tratamiento de Menas y Recuperación de Minerales. Autor: B.A. Wills. Ed. Limusa, 1986.

Tecnología de los aparatos de fragmentación y de clasificación dimensional. Autor: E.C.Blanc. Colección Rocas y Minerales, 1977.

Circuitos de Trituración y Molienda de Minerales. Autor: A.J. Lynch. Editorial Rocas y Minerales, 1980.

El Beneficio de los Minerales (Manual de Mineralurgia). Autor: Pierre Blazy. Ed. Rocas y Minerales.

Apuntes de la asignatura dispuestos en el aula virtual y OpenCourseWare.