

## SUBJECT TEACHING GUIDE

1121 - Management of a mining investment project

Master's Degree in mining engineering

Academic year 2023-2024

| 1. IDENTIFYING DATA              |   |                  |                    |                  |                  |
|----------------------------------|---|------------------|--------------------|------------------|------------------|
| Degree                           | Master's Degree in mining engineering                       |                  |                    | Type and Year    | Optional. Year 2 |
| Faculty                          | School of Mines and Energy Engineering                      |                  |                    |                  |                  |
| Discipline                       | BLOCK I, SPECIALTY EXPLOITATION OF MINES<br>Optional Module |                  |                    |                  |                  |
| Course unit title and code       | 1121 - Management of a mining investment project            |                  |                    |                  |                  |
| Number of ECTS credits allocated | 3   | 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 | DIEGO BARAGAÑO COTO   |  |  |  |  |
| E-mail           | diego.baragano@unican.es  |  |  |  |  |
| Office           | E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. SECRETARIA DPTO. (0081A) |  |  |  |  |
| Other lecturers  |   |  |  |  |  |

### 3.1 LEARNING OUTCOMES

- Be able to lead the management of mining investment projects in all their aspects.

### 4. OBJECTIVES

Plan and manage the mining production cycle and investments associated with it, as well as knowledge of the involvement of the mining irrigation investment programming.

## 6. COURSE ORGANIZATION

| CONTENTS |   |
|----------|---|
| 1        | CHAPTER I: TECHNICAL FACTORS IN PRODUCTION<br>I.1. Dilution and recovery. Types and sources of dilution. Mineral losses. Dilution and mining recovery as the various methods of exploitation.<br>I.2. Losses in ore processing. Losses in crushing and classification. Losses in concentration. I.3. Handling and transport. I.4. Valuation formulas. I.5. Production and sales volume. |
| 2        | CHAPTER II: ANALYSIS OF INVESTMENTS II.1. Investment analysis mutually exclusive. II.2. Analysis not mutually exclusive investments.  |
| 3        | CHAPTER III: TREATMENT OF inflation   |
| 4        | CHAPTER IV: Sensitivity Analysis  |
| 5        | CHAPTER V: SIZING OF MINING THROUGH THE RHYTHM OF PRODUCTION AND THE LAW OF COURT V.1. Curves tonnage-laws. V.2. Empirical formulas for determining the rate of production. V.3. Optimizing production rate. V.4. Optimizing production rate and the cutoff. V.5. Optimization under uncertainty. V.6. Economic optimization of production rates and cutting laws dynamic programming.  |
| 6        | CHAPTER VI: CASE STUDIES  |

## 7. ASSESSMENT METHODS AND CRITERIA

| Description  | Type         | Final Eval. | Reassessn | %      |
|--|--------------|-------------|-----------|--------|
| Individual work  | Work         | No          | Yes       | 15,00  |
| Group work   | Work         | No          | Yes       | 15,00  |
| The continuous evaluation will be taken into account after obtaining a grade of 4.5 in the written exam.<br>According to the new regulation, if a student does not obtain the minimum qualification required to pass a evaluation test, the overall grade of the s | Written exam | Yes         | Yes       | 70,00  |
| TOTAL  |              |             |           | 100,00 |
| Observations   |              |             |           |        |
| In order to pass this subject, the student will be required to get a final score of 5, considering the different activities.   |              |             |           |        |
| Observations for part-time students  |              |             |           |        |
| Part-time students will be evaluated according to the Regulations of the University of Cantabria. Part-time students will be offered to possibility to develop the individual and group works as individual essays .   |              |             |           |        |

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

### BASIC

Construction PROJECT MANAGEMENT, S. Keoki Sears, Glenn A. Searas, Richard H. Clough  
 Guia del PMBOK, 2004 Project Management Institute.  
 Organización y gestión de proyectos y obras. G. Martínez Montes, E. Pellicer Almiñana.

