

Course guide

330351 - 330351 - Mineral Processing Plants

Last modified: 04/07/2023

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.
Degree: MASTER'S DEGREE IN MINING ENGINEERING (Syllabus 2013). (Optional subject).
Academic year: 2023 **ECTS Credits:** 5.0 **Languages:** Spanish, English

LECTURER

Coordinating lecturer: Hoffmann Sampaio, Carlos

Others:

REQUIREMENTS

has no requirements

TEACHING METHODOLOGY

The subject consists of 1 hour a week of lectures in the classroom, 1 hour a week also in the classroom in which more applied aspects and problem solving are developed, and 1 hour a week in the computer room.

LEARNING OBJECTIVES OF THE SUBJECT

Obtaining advanced knowledge in the technologies of Spanish and world mineral treatment plants. Knowledge of different equipment, processes and flow charts used in the mineral processing industry.

STUDY LOAD

Type	Hours	Percentage
Hours medium group	45,0	36.00
Self study	80,0	64.00

Total learning time: 125 h

CONTENTS

Mineral concentration equipment. Revision

Description:

Description of mineral concentration methods and processes: comminution and granulometric classification; Separation by density; Magnetic and electrostatic separation; Floatation; leaching; Other concentration processes.

Related activities:

Basic concepts master class.

Full-or-part-time: 33h 20m

Theory classes: 12h

Self study : 21h 20m



Description and comparison of mineral treatment plants.

Description:

Description of mineral concentration plants and comparison of the equipment used.

Related activities:

Master class of basic concepts.

Full-or-part-time: 91h 40m

Theory classes: 33h

Self study : 58h 40m

GRADING SYSTEM

EXAMINATION RULES.

Other generic prior skills and qualities applicable to any activity within the university academic field are required, such as: the spirit of sacrifice, neatness, the ability to synthesize, teamwork, respect for other colleagues and to the teacher, the record, etc.

BIBLIOGRAPHY

Basic:

- Mular, Andrew L; Halbe, Doug N; Barratt, Derek J. Mineral processing plant design, practice, and control : proceedings. Littleton: Society for Mining, metallurgy and exploration, cop. 2002. ISBN 9780873352239.
- Wills, B. A. Mineral processing technology : an introduction to the practical aspects of ore treatment and mineral recovery [on line]. 6th ed. Oxford: Butterworth-Heinemann, 1997 [Consultation: 19/07/2023]. Available on: <https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9780750644501/wills-mineral-processing-technology>. ISBN 0750628383.
- Kelly, Errol G; Spottiswood, David J. Introducción al procesamiento de minerales. México [etc.]: Limusa, 1990. ISBN 9681833376.
- King, R. P. Modeling and simulation of mineral processing systems [on line]. Boston [etc.]: Butterworth Heinemann, 2001 [Consultation: 19/07/2023]. Available on: <https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9780080511849/modeling-and-simulation-of-mineral-processing-systems>. ISBN 0750648848.
- Gupta, A; Yan, D. S. Mineral processing design and operation : an introduction [on line]. Amsterdam: Elsevier, 2016 [Consultation: 06/10/2023]. Available on: <https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9780444635891/mineral-processing-design-and-operations>. ISBN 9780444635921.
- Malhotra, Deepak. Recent advances in mineral processing plant design [on line]. Littleton: Society for Mining, Metallurgy, and Exploration, cop. 2009 [Consultation: 19/07/2023]. Available on: https://search-ebshost-com.recursos.biblioteca.upc.edu/login.aspx?direct=true&AuthType=ip,uid&db=nlebk&AN=439094&site=ehost-live&ebv=EB&ppid=pp_Cover. ISBN 9780873353168.