Course guide
330422 - DES - Surface Excavation Design

Last modified: 04/05/2023

Unit in charge: Manresa School of Engineering
Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering.

Degree: BACHELOR'S DEGREE IN MINING ENGINEERING (Syllabus 2016). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 7.5 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Oliva Moncunill, Josep

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. (ENG) Extracció de matèries primeres d'origen mineral.
2. (ENG) Disseny, planificació i direcció d'explotacions mineres.
3. (ENG) Disseny i execució d'obres superficials.

Transversal:
4. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
5. EFFECTIVE USE OF INFORMATI0N RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

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STUDY LOAD

Type	Hours	Percentage
Self study	112,5	60.00
Hours medium group	75,0	40.00

Total learning time: 187.5 h

CONTENTS

title english

Description:
content english

Full-or-part-time: 87h 30m
Theory classes: 17h 30m
Laboratory classes: 17h 30m
Self study : 52h 30m

title english

Description:
content english

Full-or-part-time: 50h
Theory classes: 10h
Laboratory classes: 10h
Self study : 30h

title english

Description:
content english

Full-or-part-time: 50h
Theory classes: 10h
Laboratory classes: 10h
Self study : 30h

ACTIVITIES

name english

Full-or-part-time: 45h
Laboratory classes: 15h
Self study: 30h

name english

Full-or-part-time: 34h
Theory classes: 4h
Self study: 30h

name english

Full-or-part-time: 34h
Practical classes: 4h
Self study: 30h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Darling, P., ed. SME mining engineering handbook [on line]. 3rd ed. Littleton, Col.: Society for Mining, Metallurgy and Exploration, 2011 [Consultation: 24/05/2022]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=655790. ISBN 9780873352642.
- Pla Ortiz de Urbina, Fernando. Fundamentos de laboreo de minas. Madrid: Escuela Técnica Superior de Ingenieros de Minas, 1994. ISBN 8485616059.
- Read, P.; Stacey, P. Guidelines for open pit slope design [on line]. Collingwood, Vic.: CSIRO Publishing, 2009 [Consultation: 17/01/2023]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=615213. ISBN 9780415874410.
- Dimitrakopoulos, R., ed. Advances in orebody modelling and strategic mine planning 1: old and new dimensions in a changing world. Carlton: Australasian Institute of Mining and Metallurgy, 2011. ISBN 9781921522208.
- Manual de arranque, carga y transporte en minería a cielo abierto. 2ª ed. Madrid: ITGE, 1995. ISBN 8478400818.
- Hustrulid, W. A.; Kuchta, M.; Martin, R. Open pit mine planning & design [on line]. 3rd ed. London: CRC Press, 2013 [Consultation: 24/05/2022]. Available on: https://www-taylorfrancis-com.recursos.biblioteca.upc.edu/books/mono/10.1201/b15068/open-pit-mine-planning-design-two-volume-set-cd-rom-pack. ISBN 9781466575127.
- Rudenno, Victor. The mining valuation handbook: mining and energy valuation for investors and management [on line]. 4th ed. New York: John Wiley & Sons, 2012 [Consultation: 31/05/2022]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=918592. ISBN 9780730377078.
- White, Brian; Ferguson Dunlop, John Stuart. Mine managers' handbook. Carlton, Vic.: Australasian Institute of Mining and Metallurgy, 2012. ISBN 9781921522765.
- Hartman, Howard L.. Introductory mining engineering. 2nd ed. Hoboken: John Wiley & Sons, 2002. ISBN 0471348511.
- Sillano, Maria Isabel; Pérez Rojas, Jorge. Diccionario de minería: inglés-español-inglés = Mining dictionary: English-Spanish-English [on line]. Santiago de Chile: RIL, 2010 [Consultation: 27/05/2022]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=3204151. ISBN 9789562847353.
- Rendu, Jean-Michel. An Introduction to cut-off grade estimation. 2nd ed. Littleton: Society for Mining, Metallurgy and Exploration, 2014. ISBN 9780873353939.
- Kennedy, Bruce A., ed. Surface mining. 2nd ed. Littleton, Colorado: Society for mining, Metallurgy, and Exploration, 1990. ISBN 0873351029.

Complementary:

- Sturgul, John R. Mine design: examples using simulation. Littleton, CO: Society for Mining, Metallurgy, and Exploration, 2000. ISBN 0873351819.
- Woldendorp, R.; Wark, J.; Spitz, K.; Trudinger, J. World of mining. Boca Raton: CRC Press, 2012. ISBN 9780415671897.
- Fritzsche, C. Hellmut. Tratado de laboreo de minas: con especial consideración de las minas de carbón. 2ª ed. Barcelona: Labor, 1965.
- Botin, J. A., ed. Sustainable management of mining operations [on line]. Littleton, Colo.: Society for Mining, Metallurgy, and Exploration, 2009 [Consultation: 30/05/2022]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=464611. ISBN 9780873352673.

- Bustillo Revuelta, Manuel, i altres. Manual de aplicaciones informáticas en minería. Madrid: Carlos López Jimeno, 2000. ISBN 8493129216.