

330422 - DES - Surface Excavation Design

Coordinating unit: 330 - EPSEM - Manresa School of Engineering
 Teaching unit: 750 - EMIT - Department of Mining, Industrial and ICT Engineering
 Academic year: 2019
 Degree: BACHELOR'S DEGREE IN MINING ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
 ECTS credits: 7,5 Teaching languages: Catalan, Spanish

Teaching staff

Coordinator: Oliva Moncunill, Josep

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 INFORMATION 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.

Learning objectives of the subject

Study load

Total learning time: 187h 30m	Hours large group:	0h	0.00%
	Hours medium group:	75h	40.00%
	Guided activities:	0h	0.00%
	Self study:	112h 30m	60.00%

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Content

title english	Learning time: 87h 30m Theory classes: 17h 30m Laboratory classes: 17h 30m Self study : 52h 30m
Description: content english	
title english	Learning time: 50h Theory classes: 10h Laboratory classes: 10h Self study : 30h
Description: content english	
title english	Learning time: 50h Theory classes: 10h Laboratory classes: 10h Self study : 30h
Description: content english	

Planning of activities

name english	Hours: 45h Laboratory classes: 15h Self study: 30h
name english	Hours: 34h Theory classes: 4h Self study: 30h
name english	Hours: 34h Practical classes: 4h Self study: 30h

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Bibliography

Basic:

- Hustrulid, W. A.; Kuchta, M.; Martin, R. Open pit mine planning & design. 3rd ed. London: CRC Press, 2013. ISBN 9781466575127.
- 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.
- Manual de arranque, carga y transporte en minería a cielo abierto. 2ª ed. Madrid: ITGE, 1995. ISBN 8478400818.
- Darling, P., ed. SME mining engineering handbook. 3rd ed. Littleton, Col.: Society for Mining, Metallurgy and Exploration, 2011. ISBN 9780873352642.
- 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.
- 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. Collingwood, Vic.: CSIRO Publishing, 2009. ISBN 9780415874410.
- Rudenno, Victor. The mining valuation handbook: mining and energy valuation for investors and management. 4th ed. New York: John Wiley & Sons, 2012. 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: 02/05/2017]. Available on: <https://discovery.upc.edu/iii/encore/record/C__Rb1445240?lang=cat>. ISBN 9789562847353.

Complementary:

- Woldendorp, R.; Wark, J.; Spitz, K.; Trudinger, J. World of mining. Boca Raton: CRC Press, 2012. ISBN 9780415671897.
- Bustillo Revuelta, Manuel, i altres. Manual de aplicaciones informáticas en minería. Madrid: Carlos López Jimeno, 2000. ISBN 8493129216.
- Sturgul, John R. Mine design: examples using simulation. Littleton, CO: Society for Mining, Metallurgy, and Exploration, 2000. ISBN 0873351819.
- Botin, J. A., ed. Sustainable management of mining operations. Littleton, Colo.: Society for Mining, Metallurgy, and Exploration, 2009. ISBN 9780873352673.
- Fritzsche, C. Hellmut. Tratado de laboreo de minas: con especial consideración de las minas de carbón. 2ª ed. Barcelona: Labor, 1965.