

Course guide

330414 - ET - Earth Engineering

Last modified: 25/04/2024

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).
BACHELOR'S DEGREE IN MINERAL RESOURCE ENGINEERING AND MINERAL RECYCLING (Syllabus 2021). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Parcerisa Duocastella, David

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. (ENG) Coneixement de geotècnia i mecànica de sòls i roques.

Transversal:

2. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
3. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
4. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
5. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Type	Hours	Percentage
Hours medium group	60,0	40.00
Self study	90,0	60.00

Total learning time: 150 h



CONTENTS

title english

Description:

content english

Full-or-part-time: 7h

Practical classes: 2h

Self study : 5h

title english

Description:

content english

Full-or-part-time: 45h

Practical classes: 10h

Laboratory classes: 10h

Self study : 25h

title english

Description:

content english

Full-or-part-time: 45h

Practical classes: 10h

Laboratory classes: 10h

Self study : 25h

title english

Description:

content english

Full-or-part-time: 23h

Practical classes: 2h

Laboratory classes: 6h

Self study : 15h

title english

Description:

content english

Full-or-part-time: 7h

Laboratory classes: 2h

Self study : 5h



title english

Description:

content english

Full-or-part-time: 23h

Practical classes: 6h

Laboratory classes: 2h

Self study : 15h

ACTIVITIES

name english

Full-or-part-time: 12h

Laboratory classes: 6h

Self study: 6h

name english

Full-or-part-time: 10h

Laboratory classes: 6h

Self study: 4h

name english

Full-or-part-time: 7h

Laboratory classes: 2h

Self study: 5h

name english

Full-or-part-time: 10h

Laboratory classes: 6h

Self study: 4h

name english

Full-or-part-time: 18h

Laboratory classes: 10h

Self study: 8h

name english

Full-or-part-time: 15h

Practical classes: 3h

Self study: 12h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Crespo Villalaz, C. Mecánica de suelos y cimentaciones. 6ª ed. México: Limusa, 2007. ISBN 9789681869632.
- UNE-ENV 1997-1:1999: Eurocódigo 7: Proyecto geotécnico [on line]. Madrid: AENOR, 1998- [Consultation: 14/06/2022]. Available on: https://portal-aenormas-aenor-com.recursos.biblioteca.upc.edu/aenor/Suscripciones/Personal/pagina_per_busgador.asp.
- Fang, HSai-Yang; Daniels, John L. Introductory geotechnical engineering: an environmental perspective. London: Taylor & Francis, 2006. ISBN 9780415304023.
- González de Vallejo, Luís I., dir. Manual de campo para la descripción y caracterización de macizos rocosos en afloramientos [on line]. 2ª ed. Madrid: Instituto Geológico y Minero de España, 2007 [Consultation: 29/07/2022]. Available on: https://search-ebscohost-com.recursos.biblioteca.upc.edu/login.aspx?direct=true&AuthType=ip,uid&db=nlebk&AN=865640&site=ehost-live&ebv=EB&ppid=pp_Cover. ISBN 8478407081.
- González de Vallejo, Luis I., i altres. Ingeniería geológica [on line]. Madrid: Prentice Hall, 2002 [Consultation: 02/06/2022]. Available on: https://www-ingebook-com.recursos.biblioteca.upc.edu/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=1237. ISBN 8420531049.
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- López Gimeno, Carlos, ed. Ingeniería del terreno: ingeoter. Madrid: U.D. Proyectos, E.T.S.I. Minas, U.P.M, 2002-2010. ISBN 8496140121.
- López Marinas, J. M.; Losmoschitz Mora-Figueroa, A. Geología aplicada a la ingeniería civil. 4ª ed. Madrid: Ed Ediciones, 2014. ISBN 9788494185908.
- Terzaghi, K.; Peck, R. B. Mecánica de suelos en la ingeniería práctica. 2ª ed. Barcelona: El Ateneo, 1958. ISBN 8470210203.

Complementary:

- Bell, F. G. Engineering properties of soils and rocks [on line]. 4th ed. London: Blackwell Science, 2000 [Consultation: 07/06/2024]. Available on: https://search-ebscohost-com.recursos.biblioteca.upc.edu/login.aspx?direct=true&AuthType=ip,uid&db=nlebk&AN=52699&site=ehost-live&ebv=EB&ppid=pp_COVER. ISBN 0750604891.
- Bieniawski, Z. T. Engineering rock mass classifications: a complete manual for engineers and geologists in mining, civil, and petroleum engineering. New York: Willey, 1989. ISBN 9780471601722.
- French, S. E. Introduction to soil mechanics and shallow foundations design. Englewood Cliffs, New Jersey: Prentice Hall, cop. 1989. ISBN 0134974549.
- Goodman, R. E. Karl Terzaghi: the engineer as artist. Reston: American Society of Civil Engineers, 1999. ISBN 0784403643.
- Lisle, R. J.; Leyshon, P. R. Stereographic projection techniques for geologists and civil engineers. 2nd ed. Cambridge: Cambridge University Press, 2004. ISBN 0521828902.
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- Terzaghi, K.; Peck, R. B.; Mesri, G. Soil mechanics in engineering practice. 3rd ed. New York: John Wiley & Sons, 1995. ISBN 0471086584.
- Verruijt, A. Soil mechanics [on line]. Delft: Delf University of Technology, 2012 [Consultation: 17/12/2020]. Available on: <https://ocw.tudelft.nl/wp-content/uploads/SoilMechBook.pdf>. ISBN 9065620583.