



## Course guide

# 330338 - GRGE - Geological and Energy Resources Management

Last modified: 25/04/2024

**Unit in charge:** Manresa School of Engineering  
**Teaching unit:** 751 - DECA - Department of Civil and Environmental Engineering.  
**Degree:** MASTER'S DEGREE IN MINING ENGINEERING (Syllabus 2013). (Compulsory subject).  
**Academic year:** 2024    **ECTS Credits:** 5.0    **Languages:** Spanish

### LECTURER

**Coordinating lecturer:** Olivella Pastalle, Sebastian

**Others:** Rodriguez Dono, Alfonso

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

#### Specific:

- (ENG) Planificar i gestionar recursos energètics, inclosos generació, transport, distribució i utilització.
- (ENG) Coneixement adequat de modelització i avaluació de recursos geològics, incloses les aigües subterrànies, minerals i termals.

#### Transversal:

- ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.
- TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

### TEACHING METHODOLOGY

### LEARNING OBJECTIVES OF THE SUBJECT

### STUDY LOAD

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

**Total learning time:** 125 h



## CONTENTS

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### title english

**Description:**

content english

**Full-or-part-time:** 16h

Practical classes: 6h

Self study : 10h

### title english

**Description:**

content english

**Full-or-part-time:** 16h

Practical classes: 6h

Self study : 10h

### title english

**Description:**

content english

**Full-or-part-time:** 10h

Practical classes: 4h

Self study : 6h

### title english

**Description:**

content english

**Full-or-part-time:** 10h

Practical classes: 4h

Self study : 6h

### title english

**Description:**

content english

**Full-or-part-time:** 8h

Practical classes: 3h

Self study : 5h



**title english**

**Description:**

content english

**Full-or-part-time:** 10h

Practical classes: 4h

Self study : 6h

**title english**

**Description:**

content english

**Full-or-part-time:** 16h

Practical classes: 6h

Self study : 10h

**title english**

**Description:**

content english

**Full-or-part-time:** 13h

Practical classes: 5h

Self study : 8h

## ACTIVITIES

**(ENG) 1. SORTIDES I VISITES A CASOS REALS**

**Full-or-part-time:** 2h

Practical classes: 2h

**(ENG) 2. RESOLUCIÓ D'EXERCICIS DE CASOS REALS**

**Full-or-part-time:** 1h

Practical classes: 1h

**(ENG) 3. REALITZACIÓ D'UN TREBALL EN GRUP**

**Full-or-part-time:** 21h

Practical classes: 2h

Self study: 19h

#### (ENG) 4. PROVA INDIVIDUAL ESCRITA

Full-or-part-time: 2h  
Practical classes: 2h

## GRADING SYSTEM

## BIBLIOGRAPHY

### Basic:

- Alan Moreno, Sergio; Espí, José Antonio. Introducción al uso de las herramientas de gestión ambiental aplicadas a los recursos naturales no renovables [on line]. Madrid: Red Desir, 2008 [Consultation: 21/12/2020]. Available on: [https://portal.camins.upc.edu/materials\\_guia/250504/2014/Libro%20Herramientas.%20ALFA-DESIR%20-%20copia.pdf](https://portal.camins.upc.edu/materials_guia/250504/2014/Libro%20Herramientas.%20ALFA-DESIR%20-%20copia.pdf). ISBN 9788496398115.
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- Bear, Jacob; Bachmat, Yehuda. Introduction to modeling of transport phenomena in porous media [on line]. Dordrecht: Kluwer Academic Publishers, 1991 [Consultation: 17/01/2023]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=6496722>. ISBN 079231106X.
- Bird, R. Byron; Stewart, Warren E.; Lightfoot, Edwin N. Transport phenomena. 2nd ed. New York: Wiley & Sons, 2002. ISBN 0471410772.
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- Bear, Jacob. Dynamics of fluids in porous media [on line]. New York: Dover, 1988 [Consultation: 06/06/2024]. Available on: <https://search-ebshost-com.recursos.biblioteca.upc.edu/login.aspx?direct=true&AuthType=ip,uid&db=nlebk&AN=1152791&site=ehost-live&ebv=EK&ppid=Page--1>. ISBN 0486656756.

### Complementary:

- Riba i Romeva, Carles. Recursos energéticos y crisis: el fin de 200 años irrepetibles [on line]. Barcelona: Octaedro, 2012 [Consultation: 17/12/2020]. Available on: <http://hdl.handle.net/2099.3/36468>. ISBN 9788499213705.
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- Rodríguez Dono, Alfonso; Espí, José Antonio. Análisis de riesgos en proyectos de almacenamiento geológico de CO<sub>2</sub>: selección de emplazamientos adecuados, costes y análisis de los riesgos asociados a este tipo de proyectos. Saarbrücken: Editorial Académica Española, 2011. ISBN 9783847355229.
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- Khaligh, Alireza; Onar, Omer C. Energy harvesting: solar, wind, and ocean energy conversion systems. Boca Raton: CRC Press, 2010. ISBN 9781439815083.

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- Alonso, E. E., i altres. "Modelling the response of Lechago earth and rockfill dam". Géotechnique [on line]. May 2011, vol. 61, no. 5, p. 387-407 [Consultation: 21/12/2020]. Available on: <https://doi.org/10.1680/geot.SIP11.P.013>.

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