



## Course guides

### 820329 - REEN - Energy Resources

Last modified: 19/06/2020

**Unit in charge:** Barcelona East School of Engineering  
**Teaching unit:** 710 - EEL - Department of Electronic Engineering.

**Degree:** BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Compulsory subject).

**Academic year:** 2020    **ECTS Credits:** 6.0    **Languages:** Catalan, Spanish

#### LECTURER

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**Coordinating lecturer:** GUILLERMO VELASCO QUESADA

**Others:**

Primer quadrimestre:  
ANGEL CUADRAS TOMAS - M23  
JAVIER GARCIA ALVAREZ - M21, M22  
GUILLERMO VELASCO QUESADA - M21, M22, M23

Segon quadrimestre:  
JAVIER GARCIA ALVAREZ - M11, M12  
GUILLERMO VELASCO QUESADA - M11, M12

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

CEENE-19. Explain energy resources, their characteristics and where they come from.  
CEENE-20. Assess and compare the energy capacitance and potential of the energy resources available.

**Transversal:**

04 COE N2. 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.

#### TEACHING METHODOLOGY

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#### LEARNING OBJECTIVES OF THE SUBJECT

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#### STUDY LOAD

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Type	Hours	Percentage
Hours small group	15,0	10.00
Hours large group	45,0	30.00
Self study	90,0	60.00

**Total learning time:** 150 h



## CONTENTS

### (ENG) Relacions entre energia i societat

**Full-or-part-time:** 6h

Theory classes: 2h

Self study : 4h

### (ENG) Conceptes bàsics d'energia.

**Full-or-part-time:** 6h

Theory classes: 2h

Self study : 4h

### (ENG) Formes d'energia, transformacions energètiques bàsiques i el seu rendiment.

**Full-or-part-time:** 12h

Theory classes: 4h

Self study : 8h

### (ENG) Recursos energètics renovables i no renovables.

**Full-or-part-time:** 22h

Theory classes: 4h

Laboratory classes: 10h

Self study : 8h

### (ENG) Recursos d'origen no renovable: Fòssil i nuclear.

**Full-or-part-time:** 36h

Theory classes: 12h

Self study : 24h

### (ENG) Recursos d'origen renovable: Solar, geotèrmic o gravitatori.

**Full-or-part-time:** 57h

Theory classes: 19h

Self study : 38h

### (ENG) Caracterització dels recursos energètics.

**Full-or-part-time:** 11h

Theory classes: 2h

Laboratory classes: 5h

Self study : 4h



## GRADING SYSTEM

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## BIBLIOGRAPHY

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### Complementary:

- Sørensen, Bent E. Renewable energy : physics, engineering, environmental impacts, economy & planning. 4th ed. Burlington, Massachusetts [etc.]: Elsevier Academic Press, 2011. ISBN 9780123750259.
- Lambert, Tom; Gilman, Paul; Lilienthal, Peter. "Micropower System Modeling with HOMER". Farret, Felix A. Integration of alternative sources of energy : and alternative energy resources [on line]. West Sussex: John Wiley & Sons, 2006. Cap. 15 Available on: <http://onlinelibrary.wiley.com/book/10.1002/0471755621>.

## RESOURCES

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### Audiovisual material:

- BP Statistical Review of World Energy <<http://www.bp.com>>
- World Energy Outlook <<http://www.worldenergyoutlook.org>>
- La Energía en España <<http://www.mityc.es/energia/es-ES/Paginas/index.aspx>>

### Other resources:

Statistical bulletins published by different national and international official bodies