



UNIVERSIDAD
DE GRANADA



CENTRO DE
LENGUAS
MODERNAS

INTENSIVE SPANISH LANGUAGE AND CULTURE COURSE (CILYC)

SCIENCE AND TECHNOLOGY - 22.5 HOURS

RENEWABLE ENERGIES

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GENERAL DESCRIPTION

This course aims to provide students with both theoretical and practical knowledge of specific technologies in the field of energy resources, with particular emphasis on renewable energy technologies. The course focuses on the application of alternative energy systems for electricity generation, with special attention to renewable energy sources.

CONTENTS

Theoretical Content:

- Topic 1. Alternative Energy Sources and Distributed Generation
- Topic 2. Solar Thermal Energy
- Topic 3. Solar Photovoltaic Energy
- Topic 4. Biomass

Practical content:

- Practical Session 1. Calculation and Design of a Solar Photovoltaic System.

METHODOLOGY

Face-to-Face Learning Activities

The course includes the following face-to-face learning activities:

- Theoretical Content
 - Lectures will begin with an introduction to the contents of each topic, supported by multimedia resources. Once the theoretical concepts have been presented, students will work on problem-solving exercises and practical case studies related to the topics covered.
- Laboratory Sessions
 - Laboratory sessions of one or two hours will be held according to the course schedule. During each session, students will carry out practical activities using simulation software (Scilab) or Microsoft Excel.
- Guided Academic Activities
 - Topic quizzes: A quiz will be completed for each topic covered in the course.
- Practical Assignments:
 - Students will complete a simulation project based on a specific case study related to the course content.

EVALUATION

Attendance at a minimum of 80% of classes is required in order to be eligible for assessment.

Continuous Assessment: 60%

- Attendance and/or participation in face-to-face and/or online activities: 20%.

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- Completion of assignments, case studies, and practical exercises: 40%.
 - Midterm and final examinations: 40%

BIBLIOGRAPHY

Key Bibliography:

- Espejo Marín, C. (2006). *Las energías renovables en la producción de electricidad en España*. Caja Rural Regional, Murcia.
- *Biomasa: producción eléctrica y cogeneración*. (2007). IDAE, Madrid.
- *Centrales de energías renovables: generación eléctrica con energías renovables* (2nd ed.). (2012). Pearson & UNED, Madrid.
- Villarrubia López, M. (2012). *Ingeniería de la energía eólica*. Marcombo, Barcelona.
- Pareja Aparicio, M. (2016). *Energía solar fotovoltaica: cálculo de una instalación aislada* (3rd ed.). Marcombo, Barcelona.
- Méndez Muñoz, J. M. (2007). *Energía solar fotovoltaica* (2nd ed.). Fundación Confemetal, Madrid.
- Izquierdo Toscano, J. M. (2008). *Energía eólica y territorio*. Universidad de Sevilla & Consejería de Obras Públicas y Transportes, Seville.
- Salameh, Z. (2014). *Renewable Energy System Design* (1st ed.). Academic Press, Waltham, MA.