



UNIVERSIDAD  
DE GRANADA



CENTRO DE  
LENGUAS  
MODERNAS

HISPANIC STUDIES COURSE (CEH)

SCIENCE AND TECHNOLOGY

RENEWABLE ENERGIES

## RENEWABLE ENERGIES

### GENERAL DESCRIPTION

The aim is to provide theoretical and practical knowledge of specific technological content in the energy resources sector in general and, in particular, renewable technologies. This subject is aimed at the application of different alternative energy systems for the generation of electrical energy, specifically with renewable energies.

### CONTENTS

#### THEORETICAL AGENDA:

- Topic 1. Alternative energies and distributed generation
- Topic 2. Solar thermal energy
- Topic 3. Photovoltaic solar energy
- Topic 4. Biomass

#### PRACTICAL AGENDA:

- Practice 1: Calculation and design of a photovoltaic solar installation.

### METHODOLOGY

#### In-person training activities:

- Theoretical content:
- The face-to-face theoretical classes will be developed with the initial explanation of the contents of each topic of the subject, using multimedia tools. Once the theoretical contents have been explained, problems and practical cases related to said contents will be developed.

#### Laboratory practices:

- Sessions of one or two hours will be held on the dates indicated in the subject schedule. During each session, the experimental development of the practice will be carried out using Simulation Software (Scilab) or Excel.

#### Directed academic activities:

- Questionnaire on the topics of the subject: A questionnaire will be carried out on each topic of the subject.

#### Practical jobs:

- A simulation work will be carried out on a particular case related to the contents



## METHODOLOGY

---

developed in the subject.

## EVALUATION

---

To have the right to be evaluated, attendance at 80% of the classes is mandatory.

CONTINUOUS EVALUATION: 60%

- Attendance and/or participation in in-person and/or virtual activities: 20%
- Completion of assignments, cases or exercises: 40%

PARTIAL AND FINAL EXAMS: 40%

## BIBLIOGRAPHY

---

- Las energías renovables en la producción de electricidad en España. Edición: -. Autor: Espejo Marín, Cayetano. Editorial: Murcia : Caja Rural Regional, 2006
- Biomasa; producción eléctrica y cogeneración. Edición: -. Autor: -. Editorial: Madrid IDAE [2007]
- Centrales de energías renovables: generación eléctrica con energías renovables. Edición: 2ª ed. Autor: Editorial: Madrid [etc.] : Pearson : UNED, 2012
- Ingeniería de la energía eólica. Edición: -. Autor: Villarrubia López, Miguel. Editorial: Barcelona : Marcombo; 2012
- Energía solar fotovoltaica: cálculo de una instalación aislada [i.e. aislada]. Edición: 3ª ed. Autor: Pareja Aparicio, Miguel. Editorial: Barcelona : Marcombo, 2016
- Energía solar fotovoltaica. Edición: 2ª ed. Autor: Méndez Muñiz, Javier María. Editorial: Madrid: Fundación Confemetal, 2007
- Energía eólica y territorio. Edición: -. Autor: Izquierdo Toscano, José Manuel 1975-. Editorial: Sevilla Universidad de Sevilla Consejería de Obras Públicas y Transportes [2008]
- Renewable energy system design [Recurso electrónico]. Edición: 1st ed. Autor: Salameh, Ziyad. Editorial: Waltham, MA : Academic Press, 2014.