COURSE NAME

Name: **RENOVABLE ENERGY: ENERGY SOURCES**
Code: 101215
Curriculum: **DEGREE IN ENERGY ENGINEERING AND MINERAL RESOURCES** Year: 3
Name of the module to which it belongs: SPECIFIC TO ENERGY RESOURCES, FUELS AND EXPLOSIVES
Subject: ALTERNATIVE ENERGIES
Nature: OBRIGATORY Duration: FIRST SEMESTER
ECTS Credits: 4.5 Classroom hours: 45
Face-to-face classroom percentage: 40% Non-contact hours: 67.5

FACULTY DETAILS

Name: RODERO SERRANO, ANTONIO ADOLFO (Coordinator)
Department: PHYSICS
area: APPLIED PHYSICS
Location of the office: Physics department. First floor
E-Mail: fa1rosea@uco.es Phone number: 957213025

SKILLS

CB1	Have and understand specific knowledge of the field of study of mining engineering.
CB2	Have and understand current and cutting-edge knowledge of the field of mining engineering.
CB3	Be able to apply the knowledge acquired in professional contexts and to elaborate and defend arguments in the field of knowledge of mining engineering.
CB4	Solve problems within the study area of Mining Engineering.
CB6	Transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.
CB7	Possess learning skills necessary to undertake further studies with a high degree of autonomy.
CU2	Know and refine the user level of ITs
CERE8	Alternative energies and efficient use of energy.
CERE10	Quality control of the materials used.

OBJECTIVES

Understand the physical principles of Renewable Energies.
Knowledge of the different alternative energy sources and their technology.
Basic calculation on Renewable Energy Installations.
Learn the Efficient Energy Management concepts.
Knowledge of the use and distribution of Renewable Energies in the Spanish Energy System.

CONTENTS:

1. Theoretical contents

Topic 1: Renewable Energy and the Spanish Electricity System.
Topic 2: Solar Thermal Energy.
Topic 3: Photovoltaic Solar Energy.

Topic 4: Wind Energy.
Topic 5: Solar Thermoelectric Energy.
Topic 6: Other Renewable Energies: Geothermal, Wind power.

2. Practical contents.

STUDY OF PRACTICAL CASES RELATED TO THE THEORY CONTENT OF THE COURSE.