

25214 - Meteorology and climatology

Información del Plan Docente

Academic Year	2017/18
Faculty / School	201 - Escuela Politécnica Superior
Degree	277 - Degree in Environmental Sciences 571 - Degree in Environmental Sciences
ECTS	6.0
Year	2
Semester	First Four-month period
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process used in this subject is based on the following methodology:

- Autonomous work of the student, especially regarding the study and comprehension of the theoretical concepts.
- Working into groups, including three or four students, to develop practical aspects of the subject.

25214 - Meteorology and climatology

5.2.Learning tasks

The learning process designed for this subject is based on the following activities:

- Theoretical sessions, including exposure of the theory and problems resolution.
- Laboratory sessions, that include the presentation of the report elaborated from the results obtained.
- Making of a work related with some environmental aspects of the subject.

5.3.Syllabus

THEORY

Unit 1: Introduction

Unit 2: The Atmosphere

Unit 3: Energy balance in the atmosphere

Unit 4: Thermodynamics of the atmosphere

Unit 5: Atmospheric Phenomena

Unit 6: Atmospheric Dynamics

Unit 7: The Climate

Unit 8: Climatic Classification

Unit 9: Climate Change

PROGRAM OF LABORATORY PRACTICALS

Exercise 1.- Incident Radiation in a photovoltaic panel

- a). Voltage Dependence generated by the angle of incidence.
- b). Voltage dependence generated by distance.

25214 - Meteorology and climatology

Exercise 2.- Determining air density and its relative humidity

- a) Determining air density.
- b) Determining dew point temperature
- c) Determining relative humidity of air.

Exercise 3.- Determining adiabatic air coefficient.

- a) Measuring the MASS period of the oscillator.
- b). Calculating the adiabatic coefficient of air

Exercise 4.- Transmission of weather report

- a) Decoding and graphic transcription of weather report. Encoding
- b) Cifrado y transcripción gráfica de partes meteorológicos. Encoding and graphic transcription weather reports.

5.4.Course planning and calendar

The estimated amount of work that the student must dedicate to this subject is about 150 h (6 ECTS), during 15 weeks, including holidays.

5.5.Bibliography and recommended resources

- | | |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BB | Aguirre de Cárcer, Íñigo. Apuntes de meteorología y climatología para el medioambiente / Íñigo Aguirre de Cárcer y Pilar Carral . Madrid : Ediciones de la Universidad Autónoma de Madrid, D.L. 2008 |
| BB | Barry, Roger G.. Atmósfera, tiempo y clima / Roger G. Barry, Richard J. Chorley . 7ª ed Barcelona : Omega, D.L. 1999 |
| BB | Sendiña Nadal, Irene. Fundamentos de meteorología / Irene Sendiña Nadal, Vicente Pérez Muñuzuri . Santiago de Compostela : Universidade de Santiago de Compostela, Servizo de Publicacións e Intercambio Científico, 2006 |
| BB | Vallée, Jean-Louis. Guía técnica de meteorología / Jean-Louis Vallée ; |

25214 - Meteorology and climatology

Traducción y adaptación a la Península Ibérica por Bernat Codina Sánchez y Augusto Burgueño Rivero Barcelona : Omega , D.L.2005

BB Zúñiga López, Ignacio. Meteorología y climatología / Ignacio Zúñiga López, Emilia Crespo del Arco Madrid : Universidad Nacional de Educación a Distancia, 2009

BC Ledesma Jimeno, Manuel. Climatología y meteorología agrícola / M. Ledesma Jimeno Madrid : Paraninfo, D.L. 2000

BC Ledesma, Manuel. Principios de meteorología y climatología / Manuel Ledesma Jimeno . 1ª ed. Madrid : Paraninfo, 2011

The updated recommended bibliography can be consulted in:
<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=10974>