Universidad Zaragoza

Academic Year/course: 2024/25

28324 - Physical Geography for Land Management II: Climate and Water

Syllabus Information

Academic year: 2024/25
Subject: 28324 - Physical Geography for Land Management II: Climate and Water
Faculty / School: 103 - Facultad de Filosofía y Letras
Degree: 419 - Degree in Geography and Land Management
ECTS: 6.0
Year: 3
Semester: Second semester
Subject type: Compulsory
Module:

1. General information

The subject provides knowledge about

- The main documentary sources of climate and the temporal analysis of their data

- Hydrological working methods (extreme processes and floodplain management)

- Methods and techniques for analysis, classification, characterization, evaluation, restoration and monitoring of water bodies and river systems.

Learning results contribute to the achievement of SDGs 3 (3.9 and 3.d), 6 (6.3, 6.4, 6.5 and 6.6), 13 (13.1 and 13.3), 14 (14.1, 14.2, 14.a and 14.c), 15 (15.1, 15.2, 15.3, 15.4 and 15.5), 16 and 17

2. Learning results

The student, in order to pass this subject, must demonstrate the following results....

- Knowledge and management of climate databases

- Perform quality control analysis of climate data

- Interpret the results of time series analysis

- Relate precipitation and other climate elements to different hydrological responses

- Apply methodologies for direct measurement and estimation of water flow rates

- Examine and develop principles and methods for delimitation, management and mapping of flood-prone areas - Compare systems for assessing the hydromorphological and ecological quality of water bodies

- Apply techniques of analysis and characterization in river channels

3. Syllabus

The program of the course consists of the following topics:

Part One

* Climate Change

* Databases

* Quality control

* Analysis of climatic series

Part Two

* Hydrologic response and flow measurement

* Floodplain management

* Hydromorphological analysis and ecological quality of rivers

4. Academic activities

The subject has an eminently practical orientation. The programmed activities include brief theoretical presentations by the teacher, which are combined with continuous practical work. The field work will be developed in two and a half sessions separated intime.

The program offered includes the following activities:

1. Theoretical classes

2. Seminars, problem solving and case studies in the classroom

3. Laboratory practices

4. Computerized practices

5. Field trips

6. Personal study.

7. Assessment tests.

5. Assessment system

I Call for Proposals

a) Continuous assessment system

The student performs continuous work throughout the subject. To pass the subject you must submit two individual papers , and one group paper. The individual work of the climatic part will be exhibited publicly, combining the results of different students. In order to pass the subject, the three papers must be passed, whose weighting is as follows: Individual work on climate: 50%

Group work on hydrological measurements and field work: 30%

Individual work on hydromorphological and ecological indicators: 20% b) Global evaluation test

Completion of an exercise on theoretical knowledge (40%) and another on practical knowledge (60%).

Both exercises must be passed in order to pass the subject.

II Call for Proposals

Overall assessment: identical to that of the first call.

6. Sustainable Development Goals

3 - Good Health & Well-Being
6 - Clean Water and Sanitation
13 - Climate Action