

28320 - Hydrogeography

Syllabus Information

Academic year: 2023/24

Subject: 28320 - Hydrogeography

Faculty / School: 103 - Facultad de Filosofía y Letras

Degree: 419 - Degree in Geography and Land Management

ECTS: 6.0

Year: 3

Semester: First semester

Subject type: Compulsory

Module:

1. General information

Water is one of the basic components of the natural environment and a vital resource for mankind. The dynamics of water in the hydrosphere (hydrological cycle) and its presence in different types of reservoirs (river basins, aquifers...) are analyzed.

Also, the distribution of water on the planet and the contrast between areas with positive and negative water balances.

The essential objectives are that the student knows and uses correctly the concepts related to water and that he/she manages the elementary techniques related to hydrology.

These approaches and objectives are aligned with different Sustainable Development Goals (SDGs) of the agenda 2030 of the United Nations:

- Goal 1: End of poverty.
- Goal 2: Zero hunger
- Goal 3: Health and wellness
- Goal 7: Affordable and non-polluting energy
- Goal 8: Decent Work and Economic Growth
- Goal 11: Sustainable Cities and Communities
- Goal 17: Alliances to achieve goals

2. Learning results

Define and use with precision the concepts related to water and the hydrological cycle, as well as the elementary techniques of hydrological analysis.

List and explain the main processes of the hydrological cycle and discover how they determine the distribution of water on Earth.

Discover, identify and assess the essential features of the behavior of the main types of water bodies: watercourses, lakes, groundwater, oceans and seas. Analyze their spatio-temporal variations

Analyze the relationship between water and other elements of the natural environment

Manage and evaluate the main sources of hydrological data and water information

Detect and value the importance of water for human groups and their socio-economic activities

Explain and evaluate the nature of water as a limited natural resource

3. Syllabus

0. INTRODUCTION: HYDROGEOGRAPHY AS A SCIENCE

Definition and contents

Historical evolution of hydrology

1. THE WATER CYCLE.

- 1.1. Distribution of water on the earth's surface
- 1.2. The hydrological cycle
- 1.3. Assessment of the global and continental water balance

2. CONTINENTAL HYDROLOGY

- 2.1- River basins and courses
- 2.2- Groundwater

2.3- Glaciers

2.4- The lakes

2.5- Transition environments: lagoons, estuaries and deltas

3. GLOBAL CHANGE AND WATER

4. Academic activities

Theoretical sessions are interspersed with the corresponding practical sessions. The considerable number of practical sessions makes the student to be actively involved in the development of the course during the whole period of duration. A field trip is conducted.

Theoretical sessions. Presentation of the main concepts and contents of continental hydrology

PRACTICAL SESSIONS. Performance of different practical exercises with hydrological data and information

Field work. Visit to the Ebro Hydrographic Confederation and the SAIH Ebro.

Supervised practical work.

Personal study.

Assessment tests. Explained in the corresponding section

5. Assessment system

I Call for Proposals

a) Continuous assessment system

Test 1. Theoretical knowledge test

One test corresponding to topic 1 and one to topic 2.

Test 2. Knowledge questionnaire.

Several questions, both developmental and short answer, on the contents of the program.

Criteria: clarity of exposition, conceptual precision, synthesis capacity, level of assimilation of concepts and contents, ability to interrelate.

Test 3. Delivery of practical exercises folder

All the exercises from the practical and laboratory sessions will be compiled.

Criteria: correctness of the results, quality of the presentation of texts and graphs, clarity of exposition, precise use of scientific language.

Weighting final grade: Test (10%). Knowledge questionnaire (50%). Delivery of practical exercises folder (40%). The course is only passed if in both test 2 and test 3 the grade obtained exceeds 5 points out of 10.

b) Overall evaluation system

- Knowledge questionnaire (60% grade).

Questions about the contents of the program.

- Delivery of practical exercises folder (40%)

All the exercises from the practical and laboratory sessions will be compiled.

Evaluation criteria: Those indicated in the continuous evaluation system for these tests

Weighting: The subject is only passed if the grade obtained in each of the two tests is higher than 5 points out of 10 ().

II Call for Proposals

Overall assessment system

Tests, evaluation criteria and weighting are the same as those indicated in the global evaluation system of the call for applications I.