VNIVERSITAT DE VALÈNCIA

Course Guide
35003 Geomorphology II: Processes, Forms and Systems

COURSE DATA

Data Subject	
Code	35003
Name	Geomorphology II: Processes, Forms and Systems
Cycle	Grade
ECTS Credits	6.0
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
1318 - Degree in Geography and the Environment	Faculty of Geography and History	2	Second term

Subject-matter

Degree	Subject-matter	Character
1318 - Degree in Geography and the Environment	596 - Geomorphology	Obligatory

Coordination

Name	Department
CALVO CASES, ADOLFO	195 - Geography

SUMMARY

Geomorphology studies the landforms of the Earth (mountains, plains, rivers, glaciers, ...) and their genesis and evolution as a result of the performance of a set of processes or agents called 'erosion'. Just as other Earth Sciences, with which it shares many interpretativos- links, geomorphology is an analytical and synthetic discipline, in which the different elements of modeling are studied and considered in their interactions. Landforms are dynamic and interdependent with other environmental components that converge on the surface of the Earth's crust atmosphere and biosphere. But also with underlying this: lithosphere and asthenosphere. The interaction between processes and forms, and changing forms of land modeling are geomorphic features of the system, whose relief articulates the set of elements that shape the landscape, geographical and environmental systems.

The course "Geomorphology II: Processes, methods and systems," along with "Geomorphology I: The formation of relief" is intended to show the principles and theoretical foundations of geomorphology as a science, facilitate the understanding of how the geomorphological system and display fields Applicability of this science. It is, thus, consider the basic concepts and terminology, and the recognition and interpretation of the ways images and in the field, in order to gradually encourage students' work will be

encouraged.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

Any

OUTCOMES

1318 - Degree in Geography and the Environment

- Have capacity for analysis and synthesis.
- Have oral and written communication skills in one's own language and in a foreign language.
- Be able to work independently.
- Be able to work in interdisciplinary teams.
- Show motivation for quality, responsibility and intellectual honesty.
- Learn about physical geography.
- Learn about methodology and fieldwork.
- Be able to relate the natural environment and the social and human spheres.
- Analyse and value landscapes from a spatial-temporal perspective.
- Learn basic techniques for fieldwork in geography and particularly for reading and interpreting the landscape in geographic terms.

LEARNING OUTCOMES

Ability to observe the lay of the land, identifying their diversity and relating these to its genesis, and based on the relationship between processes and forms.

- Practice different techniques in the classroom and on the field you favor the autonomous student progress.- Integrate content with environmental geomorphological interpretation of the natural system.

- Relate the contents with other subjects of the degree.

DESCRIPTION OF CONTENTS

1. The geomorphological System

1.1. The interaction between internal and external processes. Denudation rates
1.2. Systems and geomorphological systems: systems in relation to
Area: functional (open, closed and isolated). geomorphic systems
forms as structures and processes (morphological systems, cascading and
-response process)
1.3. Interaction and feedback
1.4. Balance and sensitivity thresholds

2. Meteorization processes and forms.

2.1. Atmosphere interaction \ lithosphere
2.2. Mechanical meteorization processes: decompression, crystal growth
and temperature changes
2. 3. Chemical meteorization: dissolution, hydration, oxidation and reduction,
carbonation and hydrolysis
2.4. Interaction between physical and chemical processes and biological activity
2.5. Meteorization rates. Morphoclimatic areas
2.6. Products of weathering: solids and solutes. Regolith and soil
2.7. Control of landforms by the weathering of rocks
2.8. Main forms associated with the weathering of rocks

3. The slopes as systems of processes-forms

3.1. Components of the shape of the slopes: characteristic angles, profiles and
spatial variation in the forms
3.2. Surface components of forms: deposits, soils and coverage
vegetable
3.3. Transport processes and forces involved: Impact and rain splash,
arroyada diffuse and concentrated surface, subsurface and arroyada
landslide
3. 4. Interaction control processes and forms
3.5. Temporal changes in the forms: interaction processes \ forms in the
time. Erosion rates. Modelling of evolution

4.

Traductor

español

inglés

alemán

Detectar idioma

inglés

catalán

francés

El sistema fluvial: articulación, conexión, procesos y formas

The river system: articulation, connection, processes and forms

4.1. The drainage basin: the disposal of its networks and connecting channels and interaction slopes \ channels
4.2. Controls river systems: lithology, tectonics, grassroots level, regime floods, vegetation and land use
4.3. Processes in river channels: energy and sediment transport
4.4. Forms of waterways: interactions and thresholds
4. 5. Fluvial sedimentary environments: fans, alluvial plains, terraces and deltas

5. The coastal system

5.1. Energy coastal processes and factors
5.2. Erosive coasts
5.3. Costas accumulation
5.4. The interaction between rivers and the sea, estuaries, deltas and lagoons
5.5. Changes in sea level and the response on the coasts

6. Wind system

6.1. Wind and wind exposure. Environmental conditions necessary
6.2. Transport Processes: Forces involved and erosion rates
6.3. wind abrasion
6.4. Forms of wind deflation
6.5. Morphology of the aeolian deposits
6.6. Soil loss by wind processes in relation to activities
human

7. Glacier system

7.1. Glacier system components. Snow and ice accumulation.
7.2. Types of glaciers
7.3. Processes: Forces involved in glacial erosion
7.4. Forms of glacial erosion
7.5. The materials transported by glaciers
7.6. Forms of subglacial, supraglacial and marginal deposition and proglaciar
7.7. Forms associated with quaternary glaciation

8. Geomorphological mapping and morphometry

8.1. The geomorphological map: types, scale and resources
8.2. Reading and interpreting maps geomorphological
8.3. Principles for the preparation of geomorphological maps
8.4. Numerical analysis of the components of landforms
8.5. The use of digital elevation models and digital mapping in geomorphology
8.6. Geomorfométrico Analysis landforms

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Other activities	15,00	100
Classroom practices	15,00	100
Preparation of evaluation activities	30,00	0
Preparing lectures	30,00	0
Resolution of case studies	30,00	0
TOTAL	**150,00**	

TEACHING METHODOLOGY

It is recommended continued assistance to theoretical classes and practices in both classroom and field and performing work memories. In case of difficulty attendance it is necessary to indicate the early going.

1. Classroom activities

In the lectures the fundamentals of each topic of the course will explain, looking for students to understand all the concepts and can handle them in interpreting the forms of relief. All explanations will be supported in artwork and example. Active participation of students, both in raising doubts and discussion of the issues is needed.

The practical sessions in the classroom, synchronized with themes, intended to complete the theory with concrete exercises which will then be submitted for evaluation.

Field practical classes are essential to consolidate knowledge, which are considered mandatory. After each session, a report that will be evaluated will be developed.

2. Preparation of the theoretical and practical

Students have a basic bibliography of a selection for each subject will be recommended. It is very convenient a previous reading to the explanations in class and developing schemes, which combined with the notes taken during class should be the subject of study for exams.

Practices regarding many of the tasks undertaken in the classroom or on the field should be completed as self-employment for reporting.

3. Tutorials

Students have six hours a week for tutorials with the teacher and any relevant question is available also by email. During the course they will be set at least two hours of mandatory tutoring in order to guide students.

EVALUATION

A theoretical-practical exam will be done, at the end of the term, on the date indicated by the Faculty.

The final grade will consist of:

- Theoretical and practical exam (60%), it is essential to pass the examination for the consideration of the complementary activities.

- Reports of complementary activities and practical work (40%), delivered during the course on the scheduled dates and which score for the two calls.

REFERENCES

Basic

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