COURSE DATA

DATA SUBJECT

Code: 33786
Name: Geomorphology I: The Formation of the Terrain
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1318 - Degree in Geography and the Environment	Facultat de Geografia i Història	2	First quarter

SUBJECT-MATTER

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

COORDINATION

CAMARASA BELMONTE ANA

ESTRELA NAVARRO MARIA JOSE

SUMMARY

The Earth's relief is formed by the interaction among different spheres, that is, lithosphere, atmosphere, hydrosphere and biosphere. The object of study of Geomorphology I is the analysis of the landforms of the Earth, its genesis and evolution.

On the subject I Geomorphology: the formation of the relief, the most important themes studied are: lithological and tectonic fundamentals of the Earth relief; large and small-scale tectonic and structural landforms and relationship between structure and drainage patterns.

The subjects Geomorphology I: The formation of the relief, and Geomorphology II: Processes, forms and systems, also intended that students acquire the basic theoretical principles of geomorphology, to understand the work of geomorphic systems based on the study of interactions that occur within the natural system.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

The student must have studied the subject Introduction to Physical Geography.

COMPETENCES / LEARNING OUTCOMES

1318 - Degree in Geography and the Environment

Analyse and value landscapes from a spatial-temporal perspective.

Be able to relate the natural environment and the social and human spheres.

Be able to work independently.

Be able to work in interdisciplinary teams.

Have capacity for analysis and synthesis.

Have oral and written communication skills in one's own language and in a foreign language.

Learn about methodology and fieldwork.

Learn about physical geography.

Learn basic techniques for fieldwork in geography and particularly for reading and interpreting the landscape in geographic terms.

Show motivation for quality, responsibility and intellectual honesty.

DESCRIPTION OF CONTENTS

1. Geomorphology as part of the earth and environmental sciences

1.1. What does geomorphology study?
1.2. Approaches in the study of geomorphology.
1.3. Spatial and temporal scales in Structural Geomorphology.

2. Tectonic activity on the planet

2.1. Earth's internal structure
2.2. Plate tectonics and associated processes
2.3. The orogenies
2.4. Oceans and continents

3. Major structural assemblages

3.1. Structural forms at plate margins
3.2. Structural landforms in plate interiors
3.3. Shapes associated with igneous activity

4. Earth crust materials

4.1. Minerals and Rocks
4.2. The rock cycle
4.3. Rock types

5. Types of relief: Regional and local structures

5.1. Acclinal and monoclinal reliefs
5.2. Folded relief
5.3. Fractured relief
5.4. Structures and drainage network

6. Rock properties and modelling

6.1. Modelling in intrusive igneous rocks
6.2. Volcanic relief
6.3. Modelling of unconsolidated rocks
6.4. Karstic relief: limestones, dolomites and gypsums

7. Processes and local scales in landform formation

7.1. Regional and local morphostructures
7.2. Plio-Quaternary neotectonics and morphogenesis
7.3. Organisation and evolution of the fluvial network

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	30,00
Other activities	15,00
Laboratory	15,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	15,00
Individual or group project	0,00
Independent study and work	30,00
Preparation of lessons	0,00
Preparation for assessment activities	15,00
Resolution of case studies	30,00
Total hours	**90,00**

TEACHING METHODOLOGY

THEORETHICAL CLASSES:

The explanations of the theoretical classes are supported with a dossier of figures and graphs, some of which will be posted on the Virtual Classroom of the University of Valencia. Active student participation is highly recommended so continued assistance to theoretical and practical classes and field trips will be assessed.

PRACTICAL CLASSES:

Practical classes will be held in the Geomorphology Laboratory and in the Cartotheque. Two main blocks of practical contents are contemplated:

1. The first block will be taught in the Geomorphology Laboratory. It consists of the recognition of rocks and minerals and their physical properties. For teaching coherence, this practical block will include the theoretical part on materials of the Lithosphere.

2. The second block is of cartographic type and will be taught in the Cartotheque. It contemplates the analysis, commentary of the geological map and realization of geological cuts, as well as the photointerpretation of the forms of the structural relief.

Attendance is compulsory, as well as the delivery of practical exercises. The dates of delivery of the work related to these practices will be detailed throughout the course.

COMPLEMENTARY ACTIVITIES:

A series of activities and field trips will be proposed to complement and consolidate the knowledge developed in the theoretical part. These activities may be evaluated by attendance, delivery of reports and/or questionnaires.

EVALUATION

aa The evaluation of the subject will be carried out from:

- Theoric exam (65 %). It will be essential to obtain a score of 4 out of 10 so that the notes of the practices and complementary activities can be considered.

- Evaluation/Practical exam (20 %).

- Complementary activities (15 %).

- The practices and all the complementary activities carried out during the course, besides the final exam, will be considered continuous evaluation. As such, they will be \"NOT RECOVERABLE\". Therefore, the qualification obtained will be counted both in the first and in the second call.

REFERENCES

- De Dios Centeno, J., Fraile, M.J., Otero, M.A. y Pividal, A.J. 1994. Geomorfología práctica: ejercicios de fotointerpretación y planificación geoambiental. Madrid: Rueda.
- Gutiérrez Elorza, M. 2008. Geomorfología. Pearson. 898 pp.
- García Fernández. J. 2006. Geomorfología estructural. Barcelona: Ariel Geografía y Universidad de Alicante.
- Hugget, R.J. 2003. Fundamentals of Geomorphology. Fundamentals of Physical Geography Series. London: Routledge.
- De Pedraza Gilsanz, J. 1996. Geomorfología. Principios, métodos y aplicaciones. Madrid: Rueda.
- Guerra-Merchán, A. 1994. Mapas y cortes geológicos. Interpretación y resolución de problemas geológicos. Colección CEP. Malaga: Ciencia y Técnica.
- Martínez Álvarez, J.A. 1991. Mapas geológicos: explicación e interpretación. Madrid: Paraninfo.
- Strahler, A. 1987. Geología Física. Barcelona: Omega.
- Rice, J. 1983. Fundamentos de Geomorfología. Madrid: Paraninfo.
- Tejada, G. 1994. Vocabulario geomorfológico. Madrid: Akal.
- Peulvast, J.P. et Vanney, J.R. 2002. Géomorphologie structurale. Terre, corps planetaires solides. T. I: Relief et structure. Paris: Collection Géosciences.