

## Physical Environment

Code: 101594  
ECTS Credits: 6

Degree	Type	Year	Semester
2501002 Geography and Spatial Planning	OT	3	0
2501002 Geography and Spatial Planning	OT	4	0

## Contact

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## Use of Languages

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

## Prerequisites

It is advisable to have knowledge of Biogeography, Geology/Geomorphology, Climatology, Hidrology and GIS.

## Objectives and Contextualisation

Students may will apply concepts and practices from Physical Geography subjects: Geology, Geomorphology, Climatology, Biogeography, & Hidrology concerning in a specify study area.

When and who are necessary the environmental studies in human activities. Impact studies, risk assessment, biodiversity evaluation, available natural resources... And which methodologies we must use in each case.

## Competences

- Geography and Spatial Planning
- Acting and intervening in the territory and its management, displaying the practical and experimental nature of geographical formations.
- Analysing and interpreting landscapes.
- Applying fieldwork methods and techniques in order to acquire a direct knowledge of the territory.
- Identifying the spatial relationships on different territorial levels through the relationships between nature and society through time dimension.
- Mastering the different forms of management and acquisition of geographic information as interpretation tools of territory, and maps and Earth observation imagery in particular.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.

## Learning Outcomes

1. Carrying out oral presentations using an appropriate academic vocabulary and style.

2. Classifying the different acquisition methods of geographical information as tools for landscape interpretation.
3. Combining fieldwork methods and techniques in order to acquire a direct knowledge of the physical environment.
4. Describing and interpreting changes to the landscape.
5. Effectively communicating and applying the argumentative and textual processes to formal and scientific texts.
6. Interpreting the changes to the landscape through spatial relationships in various territorial levels from the relations between nature and society.
7. Interpreting the territorial and landscape dynamics.
8. Producing an individual work that specifies the work plan and timing of activities.
9. Solving problems autonomously.

## **Content**

Introduction

Field trip preparation

Field trip

Theory and practice 1: Litology

Theory and practice 2: Litology

Theory and practice 3: Hidrogeology

Theory and practice 4: Hidrology

Theory and practice 5: Geomorphology

Theory and practice 6: Landforms map

Theory and practice 7: Hidrodynamics/Geomorphology

Theory and practice 8: Climatology

Theory and practice 9: Climatology

Theory and practice 10: Climatology

Theory and practice 11: Climatology

Theory and practice 12: Ecology

Theory and practice 13: Edaphology

Theory and practice 14: Soil erosion

Field work for soil samples

Laboratory analysis

### 1. Geology

Lithology properties

Human activities and rocks physical & chemical behaviour

Geological resources

Hidrogeology

Natural hazards: mass movement

1. Geomorphology and Hidrology

Synthetic & parametric cartography

Quantitative parameters: slope, orientation, curvature, using digital elevation models.

Surface hidrology: flow gauging and basic chemical parameters.

Natural and accelerate erosion

1. Climate

Climate study at high scales: meso & microclimates

Mean statistics in a little basin studies

Data processing of the mean parameters: temperature, precipitation, evapotranspiration, wind, radiation.

Showing and plotting data.

1. Biogeography and Soils

Vegetation maps and derivate products

Landscape evolution and management of ecology

Risk assessment: wild fires

Physical, chemical & biological soil properties

Soil taxonomy and land/soil evaluation maps

## Methodology

This is a 6 ECTS course, where theoretical concepts only represents 40% of the time. Field work 25%, laboratory practices 35% (soils & geomorphology lab, and GIS lab). The most of student works they have realise according GIS methodologies and presentations.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Directed	17	0.68	2, 3, 4, 8, 5, 1, 6, 7, 9
Directed	33	1.32	2, 3, 4, 8, 5, 1, 6, 7, 9
Type: Supervised			
Supervised	5	0.2	2, 3, 4, 8, 5, 1, 6, 7, 9
Supervised	20	0.8	2, 3, 4, 8, 5, 1, 6, 7, 9
Type: Autonomous			

Autonomous	70	2.8	2, 3, 4, 8, 5, 1, 6, 7, 9
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## Assessment

The 14 practices represent 80% of the note and field and laboratory work the remaining 20%. Have not exams.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Lab and field work	20%	1	0.04	2, 3, 4, 8, 5, 1, 6, 7, 9
Practices	40%	2	0.08	2, 8, 5, 1, 6, 7, 9
Practices 2	40%	2	0.08	2, 3, 4, 8, 5, 1, 6, 7, 9

## Bibliography

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