



UNIVERSIDADE LUSÍADA  
LISBOA

Course Unit Program  
Physical Geography

Academic Year 2023/2024

**1. Organic Unit**

Faculty of Architecture and Arts

**2. Course**

Architecture

**3. Cycle**

1st

**4. Course Unit**

Physical Geography (01332)

**5. Scientific Area**

**6. Curricular Year**

3rd

**7. Type of Curricular Unit / Semester**

1st Semester



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#### 8. Class type and workload (work time)

Theoretical classes:

Practical classes:

Theoretical-Practical Classes 30,00

Tutorial Guidance:

#### 9. ECTS Credits

2,00

#### 10. Scientific Area Coordinator

Prof<sup>a</sup> Doutora Arq<sup>ta</sup> MARIA DE JESUS MENDES CARVALHO

#### 11. Regent

#### 12. Assistants

#### 13. Teaching Language

Portuguese

#### 14. General Objectives

Promote the articulation between human intervention and the physical framework in which it takes place. Reflect on the new paradigms of human development and the corresponding responsibilities of architecture and urbanism in this new framework. Promote a clear understanding about the physical characterization of a place, through the knowledge of the geographic constraints of the place where human activity takes place regardless of the scale at which it is located (from macro to micro scale).

#### 15. Specific Objectives

It is intended that students will be able to:

Describe and to recognize the major Earth systems;

Use and control geomorphology for Architecture and Urbanism;

Understand the participation of climate in the problematic of energy efficiency of buildings;

Define terms and notions in the field of Physical Geography;

Collect, process and organize information for the preparation of papers in Physical Geography, individually or in groups.

#### 16. Skills to be acquired



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### 17. Teaching Methodology

The teaching-learning strategies will be diversified, responding to the specificities of both the students and the course contents. They will be privileged multimedia sessions, in conference, debate and individual/team work modes.

### 18. Course Unit Program

1. Planet Earth: the fundamental references
2. Geomorphology
  - 2.1 Fundamental concepts
  - 2.2. processes in the relief formation
    - Endogenous processes: volcanism and tectonics 2.2.2.
    - Exogenous processes: erosion and landslide
  - 2.3 Soil analysis
3. Elements of cartography and physiography
  - 3.1 Fundamental concepts
  - 3.2 Position, orientation, exposure and physical characterization of a place
  - 3.3 Representation on Topographic surfaces
    - 3.3.1 Elevation system/curves of level/MP tables
    - 3.3.2 Notable lines of representation in topography
4. Hydrogeography
  - 4.1 Hydrographic basins
  - 4.2 Watercourses
    - 4.2.1 Typology
    - 4.2.2 Classification
    - 4.2.3 Problems of urban hydrology
5. Climatology
  - 5.1 Fundamental concepts
  - 5.2 Illumination of the terrestrial sphere
  - 5.3 Solar radiation and temperature
  - 5.4 Atmospheric pressure and air circulation
  - 5.5 Notions of urban climate
  - 5.6 Bioclimatic comfort
6. Physical Geography and the Energy Efficiency of Buildings/participation and dependence of Physical Geography in the conceptual process in Architecture.
7. Physical characterization of the landscape



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## 19. Assessment Methods

Given that the continuous assessment process is very demanding for students, it is necessary to ensure adequate monitoring and valuing of their daily commitment. These will be central aspects in the student's assessment:

- Attendance
- Punctuality
- Contribution to enriching the lesson
- Quality of the work developed in the proposed exercises
- Methodological creativity demonstrated in solving new problems
- Mastery of the syllabus

## 20. Didactic Resources

To achieve the objectives and skills required of students with materialization in the syllabus of the subject will use the following teaching resources:

- Computers with internet access;
- Specialized bibliography available in the media library and UL library;
- Notebook discipline where they will present excerpts from fundamental texts for learning, statistical elements for the preparation of research papers.

## 21. Sustainability Objectives

Ensure equal access to quality technical professional and cultural education.

Substantially increase the number of young people and adults with relevant qualifications, including technical and professional skills, for employment, decent work and entrepreneurship.

Call for the good management of resources, bearing in mind that sustainability means ensuring the needs of the present without compromising those of the future.

## 22. Keywords

Geomorphology  
Climatology  
Bioclimatic comfort  
Topography  
Soil analysis



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### 23. Main Bibliography

Author(s): STRAHLER, Arthur N.  
Title: Modern physical geography  
Edition: 4<sup>a</sup> Year: 1992  
Local: New York  
Publisher: John Wiley & Sons

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Author(s): MAGALHÃES, Manuela R.; et. al.  
Title: Estrutura Ecológica da Paisagem - Conceitos e Delimitação  
Edition: 1<sup>a</sup> Year: 2007  
Local: Lisboa  
Publisher: Ed. ISAPRESS

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Author(s): GONZÁLEZ, Filipe  
Title: Geometrias da arquitectura de terra  
Edition: 1.<sup>a</sup> Year: 2006  
Local: Lisboa  
Publisher: Lusíada Editora

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### 24. Complementary Bibliography

Author(s): GILSANZ, Javier de Pedraza  
Title: Geomorfologia. Princípios, Métodos y Aplicaciones  
Edition: --- Year: 1996  
Local: Madrid  
Publisher: Rueda

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Author(s): OLGAY, Victor  
Title: Arquitectura y Clima  
Edition: 1.<sup>a</sup> Year: 1998  
Local: Barcelona  
Publisher: Gustavo Gili

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| Ficha técnica MIP / MIP Datasheet |                                                                    |
|-----------------------------------|--------------------------------------------------------------------|
| Título / Title                    | Course Unit Program 'GEOGRAFIA FÍSICA':<br>Academic Year 2023/2024 |
| Autor / Author                    | Profª Doutora Arqtª MARIA DE JESUS<br>MENDES CARVALHO              |
| Classificação / Classification    | -                                                                  |
| Descritores / Descriptors         | -                                                                  |
| Colaborador(es) / Colaborator(s)  | -                                                                  |
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