

**1. General information****Course:** PHYSICAL GEOGRAPHY AND SUSTAINABILITY: THE EARTH SYSTEM**Type:** BASIC**Degree:** 404 - UNDERGRADUATE DEGREE GEOGRAPHY, TERRITORIAL DEVELOPMENT AND SUSTAINABILITY**Center:** 2 - FACULTY OF LETTERS**Year:** 1**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 66452**ECTS credits:** 6**Academic year:** 2022-23**Group(s):** 23**Duration:** First semester**Second language:****English Friendly:** Y**Bilingual:** N**Lecturer:** RAFAEL UBALDO GOSALVEZ REY - Group(s): 23

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**2. Pre-Requisites**

This course is introductory and therefore does not require any special previous knowledge. However, the student is required to be able to read with a good reading comprehension and write fluently, with clear grammatical constructions and no spelling mistakes; to be able to understand a short text in a foreign language (preferably English); to know the four basic mathematical rules, to use conversion factors and to handle changes in metric units, surface area, capacity and volume. It is recommended that the student always go on excursions on his/her own in order to get to know the territory and its people in a direct way and, finally, to indicate that it would be very interesting for the student to develop skills in the management and consultation of geographical information in the Internet.

**3. Justification in the curriculum, relation to other subjects and to the profession**

The course presents the basic contents of Physical Geography and places special emphasis on the connections between the different subsystems that make up the Earth, the interaction between human activity and the natural dynamics of geo-ecological systems, and the systematic analysis of the spatial patterns and interrelations between the different physical elements on the earth's surface.

On the other hand, the course intends to introduce the geographical reasoning, integrating the processes and natural systems to have a basic territorial analysis scheme at the beginning of the university formation of a graduate in Geography, Territorial Development and Sustainability. To this aim, procedural skills will be essential, with special emphasis on field and desk work, graphic and cartographic expression, as well as the preparation of specific material.

This course is integrated in the module of "Geographic Contents and Sustainability" within the subject of "Physical Geography". It is not a professionalizing subject, although it sets the basis for multiple future orientations in the profession of Geographer.

**4. Degree competences achieved in this course****Course competences**

Code	Description
CB01	Prove that they have acquired and understood knowledge in a subject area that derives from general secondary education and is appropriate to a level based on advanced course books, and includes updated and cutting-edge aspects of their field of knowledge.
CE02	Analyse and interpret natural, environmental and landscape elements in a systemic way, understanding their involvement in sustainable territorial development processes.
CE05	Know and interpret landscapes and natural and cultural heritage as keys to sustainable territorial development.
CT03	Use correct oral and written communication.
CT04	Know the ethical commitment and professional deontology.

**5. Objectives or Learning Outcomes****Course learning outcomes****Description**

Initiate field work as a basis for geographical analysis and for territorial development and sustainability.

Comprehensively analyze the components and dynamics of the Earth System at various scales.

Develop an ethical commitment to the planet and its environmental sustainability.

Master the basic concepts, essential bibliography and methods and techniques of Physical Geography.

**6. Units / Contents****Unit 1: INTRODUCTION TO PHYSICAL GEOGRAPHY**

**Unit 1.1** Definition, historical precedents, themes and disciplines and recent trends in Physical Geography

**Unit 1.2** The Earth as a dynamic system. General systems theory. Systems Dynamics: use of Vensim

**Unit 1.3**

**Unit 1.4**

**Unit 1.5**

**Unit 2:**

Unit 2.1

Unit 2.2

Unit 2.3

Unit 2.4

Unit 2.5

Unit 3:

Unit 3.1

Unit 3.2

Unit 3.3

Unit 4:

Unit 4.1

Unit 4.2

Unit 4.3

## 7. Activities, Units/Modules and Methodology

7. Activities, Units/Modules and Methodology							
Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	CB01 CE02 CE05	1	25	Y	N	Presentation of the fundamental theoretical content of each of the units, including video viewing.
Class Attendance (practical) [ON-SITE]	Problem solving and exercises	CE02 CT03	0.48	12	Y	N	Carrying out a series of practices related to the theoretical content of each topic. The result of these practices will be incorporated into the portfolio.
Field work [ON-SITE]	Case Studies	CE02 CE05 CT04	0.84	21	Y	Y	Throughout the course, several field works will be carried out to develop or see examples of the theoretical contents of the subject. Each fieldwork will involve the completion of a mandatory report of the output that will be incorporated into the portfolio.
Final test [ON-SITE]	Assessment tests	CB01 CE02 CE05 CE08 CT03 CT04	0.08	2	Y	Y	Written test with test and/or development questions on the theoretical and practical contents of the course topics.
Other off-site activity [OFF-SITE]	Reading and Analysis of Reviews and Articles	CE02 CE05 CT04	1.5	37.5	Y	Y	Throughout the course the teacher will deliver a series of articles or compulsory readings on the various contents and aspects of the subject's agenda that will be incorporated into the portfolio.
Study and Exam Preparation [OFF-SITE]	Assessment tests	CB01 CE02 CE05 CT03 CT04	2.1	52.5	Y	Y	Study of the subject for examination through self-study by consulting textbooks and the preparation of concept maps and glossaries of terms.
Total:			6	150			
Total credits of in-class work: 2.4				Total class time hours: 60			
Total credits of out of class work: 3.6				Total hours of out of class work: 90			

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

## 8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Final test	40.00%	40.00%	Written exam at the end of the teaching period coinciding with the official exam calendar of the Faculty of Letters.
Practicum and practical activities reports assessment	20.00%	30.00%	Preparation of a portfolio in which the memory of the field work, the directed readings and the specific practices proposed throughout the course are collected. This portfolio begins the portfolio of the subject "Physical Geography" whose evaluation criteria will be specified at the time.
Fieldwork assessment	25.00%	30.00%	
Assessment of active participation	15.00%	0.00%	
<b>Total:</b>	<b>100.00%</b>	<b>100.00%</b>	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

**Continuous assessment:**

-Final test by written exam. Exercise in which the student will have to answer correctly in writing questions about concepts, foundations and general characteristics of the topics that integrate the program of theoretical and practical contents.

- Portfolio. Work in which the different practices raised during the course must be compiled after having been commented and revised in class and/or tutorials to solve possible problems or errors in the resolution of the same. The practices will deal with individual analysis of specific readings (on different works and authors of Physical Geography) with the elaboration of syntheses and comments, as well as basic exercises in which the use of some of the most elementary techniques for the study of the different elements of the natural environment will be dealt with.

- Carrying out field work. Up to five field work outings of different duration have been programmed to serve as an initiation to the territorial recognition of the different elements of the natural environment studied. After the preparation in class and the development of it, the student must be able to elaborate a memory of the field work that summarizes the most important aspects treated during the day.

In order to calculate the final mark, a minimum grade of 5 in each of the established evaluation criteria is required (theoretical exam, carrying out the field work and preparing the subject portfolio).

**Non-continuous evaluation:**

For those students who, for work/personal reasons, are unable to attend class regularly or in the event of a return to confinement due to the approval of a new state of alarm by COVID19, the evaluation systems are maintained in relation to the theoretical examination and the delivery of the portfolio (replacing those face-to-face practices with others of self-learning) and the field work will be replaced by guided readings or virtual visits of the geographical spaces that were intended to be visited.

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Unit 1 (de 4): INTRODUCTION TO PHYSICAL GEOGRAPHY	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	9
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	2
Field work [PRESENCIAL][Case Studies]	5
Final test [PRESENCIAL][Assessment tests]	.5
Other off-site activity [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	37.5
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	16
Group 23:	
Initial date: 14-09-2022	End date: 13-10-2022
Unit 2 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	9
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	3
Field work [PRESENCIAL][Case Studies]	10
Final test [PRESENCIAL][Assessment tests]	.5
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	13
Group 23:	
Initial date: 19-10-2022	End date: 17-11-2022
Unit 3 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	4
Final test [PRESENCIAL][Assessment tests]	.5
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	14
Group 23:	
Initial date: 23-11-2022	End date: 01-12-2022
Unit 4 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	3
Field work [PRESENCIAL][Case Studies]	6
Final test [PRESENCIAL][Assessment tests]	.5
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	9.5
Group 23:	
Initial date: 07-12-2022	End date: 22-12-2022
Global activity	
Activities	hours
Other off-site activity [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	37.5
Field work [PRESENCIAL][Case Studies]	21
Class Attendance (theory) [PRESENCIAL][Lectures]	25
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	52.5
Final test [PRESENCIAL][Assessment tests]	2
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	12
Total horas: 150	

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Pozo Rodríguez, M.; González Yélamos, J. & Giner Robles, J.	Geología práctica. Introducción al reconocimiento de materiales y análisis de mapas	Pearson Prentice Hall	Madrid		2003	
A.N. Strahler & A.H. Strahler	Geografía Física	Omega	Barcelona		2005	
Martín Chivelet, J.	Cambios climáticos. Una aproximación al sistema Tierra	Ediciones Libertarias	Madrid		1999	
Gómez Mendoza, J.; Muñoz Jiménez, J. & Ortega Cantero, N.	El pensamiento geográfico. Estudio interpretativo y antología de textos (De Humboldt a las tendencias radicales)	Alianza Editorial	Madrid		1988	
United Nations	Sustainable Development GOALS ( <a href="https://www.un.org/sustainabledevelopment/">https://www.un.org/sustainabledevelopment/</a> )	UN	New York		2020	
Tarbut, E.J. & Lutgens, F.K.	Ciencias de la Tierra. Una introducción a la geología física.	Pearson Prentice Hall	Madrid		2005	
A. Strahler	Introducing physical Geography (6th Edition)	Wiley			2014	
Sala San Jaime, M. & Batalla Villanueva, R.	Teoría y métodos en Geografía Física	Sintesis	Madrid		1996	
Christopherson, R.W. & Birkeland, G.	Geosystems: An introduction to physical Geography (10th Edition)	Pearson			2017	
	Google Earth	Google Inc.			2022	
	<a href="https://www.google.com/intl/es/earth/">https://www.google.com/intl/es/earth/</a>					
Hess, D.	Physical Geography Laboratory Manual	Pearson			2017	
	<a href="https://www.pearson.com/store/p/physical-geography-laboratory-manual/P100001425060?viewAll=true">https://www.pearson.com/store/p/physical-geography-laboratory-manual/P100001425060?viewAll=true</a>					
	Centro Nacional de Información Geográfica				2022	
	<a href="http://centrodedescargas.cnig.es/CentroDescargas/index.jsp">http://centrodedescargas.cnig.es/CentroDescargas/index.jsp</a>					
	Instituto Geológico y Minero de España				2022	
	<a href="https://www.igme.es/">https://www.igme.es/</a>					
	Instituto Geográfico Nacional				2022	
	<a href="https://www.ign.es/web/ign/portal">https://www.ign.es/web/ign/portal</a>					
Lovelock, J.E.	Gaia: A New Look at Life on Earth (3rd ed.).	Oxford University Press			2000	