

**COURSE DATA****Data Subject**

Code	33087
Name	Physical geography
Cycle	Grade
ECTS Credits	4.5
Academic year	2021 - 2022

Study (s)

Degree	Center	Acad. year	Period
1104 - Degree in Environmental Sciences	Faculty of Biological Sciences	2	Second term

Subject-matter

Degree	Subject-matter	Character
1104 - Degree in Environmental Sciences	125 - Physical geography	Obligatory

Coordination

Name	Department
ESTRELA NAVARRO, MARIA JOSE	195 - Geography

SUMMARY

Physical Geography subject is inserted into the module level called Environmental Sciences "scientific basis of the natural environment" that consists of 8 subjects and corresponding to a total of 4,5 credits. These matters are referred to the biological, physical and interaction. Taught during semesters 2, 3 and 4. Geography Matte Physics (4,5 credits) and Ecology (9 credits) are given at the end, in the 4th quater, when the student has completed the basic specific matters relating to the natural environment.

The puerpose of Physical Geography matters is to make a comprehensive and holistic presentation of the main environmental Earth systems (drainage basin, waterways, coastline, glaciers.....) as well as the effect of human activities and its environmental problems. The approach is systemic currently teaching both Environmental Sciences and Physical Geography. the systemic approach shows how factors operating in the environemnt and how the analysis process provides the key to understanding their operation nteract. The systemic approach from Physical Geography also allows integrating the study of processes with human action and environmental degradation at different temporal scales. Special emphasis on the Mediterranean environment sustem that students at this level are as referenced.



PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

El alumno debe de haber cursado las materias específicas básicas del modulo Bases científicas del medio natural.

OUTCOMES

1104 - Degree in Environmental Sciences

- Comprender y manejar diferentes escalas espaciales y temporales en la interpretación de los sistemas naturales.
- Conocer y comprender los principales sistemas naturales, sus características geomorfológicas y los procesos que las originan.
- Conocer los principales impactos humanos sobre los sistemas naturales.

LEARNING OUTCOMES

English version is not available

DESCRIPTION OF CONTENTS

1. SYSTEMS AND MODELS. SPATIAL AND TEMPORAL SCALES

1. Definition of systems and models.
2. Matter and energy.
3. Answers to the exchange of matter and energy.
4. Concept balance.
5. Scales in physical geography. Zonality, altitude, asymmetry

2. FLUVIAL SYSTEM

A. Fundamentals hydrological

1. Flow and sediment: genesis of runoff flow regime.
2. Processes in the channel : flow characteristics , erosion and transport.

B. Forms and fluvial deposits

- 1 Modalities of channels : controls how channel settings , fluvial geomorphology.



C. Climate Change

1. Environmental change . alluvial files
2. Anthropogenic Action channels , environmental degradation, river restoration .

3. COASTAL SIYSTEM

1. Introduction: definitions and classification power.
2. Dynamics of marine waters: waves, tides and currents.
3. Products littoral or coastal morphology dynamics.
 - a. Destructive phenomena and the resulting modeling
 - b. Constructive and resulting forms Phenomena
4. Risk in the littoral zone: coastal management.

4. ARID SYSTEM

1. Gradation aridity: semiarid, arid and hyperarid domains.
2. Dominant processes in arid and semi-arid.
3. Shapes relief and aridity.
4. Inherited and current forms.

5. GLACIAL SYSTEM

1. Glacial and periglacial Introduction to the system.
2. Flows, sediments and glacial forms system.
3. The periglacial environment. Processes and forms.
4. Global warming and melting glaciers

6. MEDITERRANEAN SYSTEM

1. Geographic profiling: a world of transition.
- 2 Recent environmental history: an intensification of human action?
3. Environmental crises Large Mediterranean. Messinian Crisis
- 4 Case Study: Mediterranean forest

7. LABORATORY

Two fields work. The first is the topographic map centered mainly on the analysis of the topography and surveying. The second is the treatment of aerial photography and photo interpretation, focusing on analysis of forms and changes in land use.

TOPIC 1 Analysis of the topographic map.:

- 1.1.scale, area, UTM.
- 1.2. representation of relief: analysis of landforms (mountains, hills, valleys, cliffs, talweg, etc..).
- 1.3. Measurements: profiles, watersheds, ...



TOPIC 2. Practices aerial photography.

2.1. Photointerpretation forms and land uses in areas of the river system and shoreline.

8. FIELDWORK

Two fieldwork. The first of this specific subject with the aim of working processes and forms studied in lectures, especially the semi-arid fluvial system. The second is done in coordination with the subject of Ecology to analyze fluvial morphology and anthropogenic processes in coastal and hillside areas.

First fieldwork. Topics discussed:

1. Fluvial system: analysis of forms and processes on runway.
2. Historical and recent anthropic action. Environmental impact.
3. Fluvial geomorphology. Riparian vegetation

Second fieldwork. Topics discussed:

1. Introducing environmental issues (wetlands and climate change, coastal erosion ...).
2. River Records and environmental changes during the Quaternary.
3. Environmental degradation. Forest fires and restoration

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	27,00	100
Laboratory practices	9,00	100
Computer classroom practice	7,00	100
Tutorials	2,00	100
Development of group work	7,00	0
Development of individual work	10,50	0
Study and independent work	28,00	0
Preparing lectures	6,00	0
Preparation of practical classes and problem	16,00	0
TOTAL	112,50	

TEACHING METHODOLOGY

1 Theory classes.



Explanation of the basic contents of each subject of the course. Didactic resources such as .ppt presentations, images of the different environments, graphs and diagrams are used. All the material used in the classroom is available to the student in the virtual classroom. The student will be referred to specific bibliography to complement the information provided in class. The proposed readings are compulsory, so they must have been done if the student wants to apply for the advance of the exam.

2. Practical classes.

Practical classes will be given in the cartography and photo-interpretation laboratory. They are oriented, firstly, to the study of the topographic map carrying out various exercises of topographic measurements and coordinates and, to the analysis of the relief, mainly focused on the recognition of both morphologies and elements of the fluvial system. Secondly, work is carried out on aerial photography and photo-interpretation, with special emphasis on work oriented towards diachronic analysis.

These laboratory practicals are compulsory and the student must have completed them in order to be able to apply for the advance of the exam.

3. Field work.

Two field trips with a total duration of 11 hours will be carried out. This activity is mainly aimed at putting the student in contact with reality. The field trips are carried out late in the course, when the student has a theoretical-practical base (cabinet) minimally consolidated so that he/she can try to recognise in the field the systems or theoretical models dealt with in the classroom.

EVALUATION

It is carried out on the basis of:

- Evaluation of the theoretical contents in a written test (65 %). A pass mark (5 out of 10) is essential for the practical part of the course to be taken into account.
- Evaluation of the contents of the practical part (35%) based on: a) the laboratory practical notebook (20%) and, b) a written test of the knowledge of the practical classes (15%).

The grade corresponding to the laboratory practical notebook (20%) can only be kept if it has been done in the previous year and if it is of interest to the student.

In order to apply for the advance of this subject, students must take into account that they must have completed the compulsory activities indicated in the subject's teaching guide.



REFERENCES

Basic

- Butzer, K. (1989): Arqueología una ecología del hombre. Ediciones Bellaterra, Barcelona, 345 pp.
- Charlton, R. (2007): Fundamentals of Fluvial Geomorphology. Routledge, introductions to environment series, Taylor & Francis Group.
- Dubois, PH. (2003): Ríos, lagos, lagunas y marismas. Ed. H. Blume. 184 pp.
- Environment Encyclopedia and Directory 2009. Europa Publications. Routledge introductions to environment series. Taylor & Francis Group.
- Ernst, W.G. ed (2000): Earth Systems: processes and issues. Cambridge: Cambridge University Press.
- Evans, D.J.A. (2003): Glacial Landsystems. Arnold, London 532 pp.
- García de Jalón, D y González del Tánago, M. (1988): Ríos y Riberas. Enciclopedia de la naturaleza de España. Editorial Debate/Círculo Barcelona 128 pp.
- Grove, A. T. and Rackham (2001): The nature of Mediterranean Europe. An Ecological History. Yale University Press 384 pp.
- Haslett, S. (2008): Coastal Systems. Routledge, introductions to environment series. Taylor & Francis Group.
- Holden, J. (2008): An Introduction to Physical Geography and the Environment. Pearson
- López Bermúdez, F.; Rubio Recio, J.M. y Cuadrat, J.M. (1992): Geografía Física. Ediciones Cátedra (Madrid).
- Schumm, S. (1977): The fluvial System, Wiley-Interscience, New York.
- Smithson, Addison, K. & Atkinson, K. (2008): Fundamentals of the Physical Environment. Routledge introductions to environment series. London and New York. (4^o Edición).
- Strahler, A.N. y Strahler, A. H. (1989) Tercera Edición: Geografía Física. John Wiley & Sons, Inc. Ediciones Omega (en España).
- Tarbuck, E., Lutgens, F. y Tasa, D. 2009. Earth. An Introduction to Physical Geology: International Edition. Oxford University Press, 657 pp.
- White, I.D.; Mottershead, D.N. & Harrison S.J. (1993): Environmental Systems. An introductory text. Second Edition. Chapman & Hall. London.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

Como norma general, la modalidad de docencia se adaptaría a la situación sanitaria del momento y a lo que las autoridades sanitarias y académicas acuerden en este sentido.



1. Contenidos

Se mantienen los contenidos inicialmente recogidos en la guía docente.

2. Volumen de trabajo y planificación temporal de la docencia

Se mantiene la planificación temporal docente tanto en días como en horario.

Se mantiene el peso de las diferentes actividades que suman las horas de dedicación en créditos ECTS marcadas en la guía docente original. Teniendo presente el aforo de las aulas a partir de las normas sanitarias, las clases teóricas y prácticas tiene carácter presencial-online.

En el supuesto de que la situación sanitaria cambie y no sea posible ningún acceso a las instalaciones de la Universidad, la docencia y actividades se desarrollarán en su totalidad de forma no presencial. En ese caso, las adaptaciones correspondientes serán comunicadas al estudiantado a través del aula Virtual.

Igualmente, si las salidas de trabajo de campo no pudieran llevarse a cabo, se sustituirán por otras actividades (seminarios, trabajos tutorizados, ...), a realizar a través de la plataforma BBC, con material complementario que se pondrá a disposición del alumno en el Aula Virtual.

3. Metodología docente

La modalidad de la docencia se adaptaría a la situación sanitaria del momento.

Las clases presenciales teórico-prácticas se podrán complementar con diferentes tipos de materiales y actividades en el aula Virtual. Las actividades que substituyan a las salidas de trabajo de campo podrán ser síncronas (videoconferencia) o asíncronas.

Las tutorías se llevarán a cabo de forma no presencial (a través del correo corporativo de la UV) o de forma presencial o videoconferencia, previa cita concertada con el profesor.

En el supuesto de que la situación sanitaria cambie y no sea posible ningún acceso a las instalaciones de la Universidad, la docencia y tutorías se desarrollarán en su totalidad de forma no presencial. En ese caso, las adaptaciones correspondientes serán comunicadas al estudiantado a través del Aula Virtual.

4. Evaluación

Se mantienen los criterios de evaluación fijados en la guía docente.

Si en las fechas marcadas para el examen final presencial en el calendario oficial las instalaciones de la Universidad estuvieran cerradas, el examen presencial será sustituido por una prueba de naturaleza similar que se realizará en modalidad virtual a través de las herramientas con soporte institucional de la Universitat de València. Podrá incluir una parte oral, ateniéndose a la normativa vigente.



Los porcentajes de cada prueba de evaluación permanecerán invariables, según lo establecido por esta guía.

5. Bibliografía

Se mantiene la bibliografía recomendada en la Guía Docente. Prácticamente toda la bibliografía recomendada es accesible online y aquella que no lo sea será sustituida por material colgado en el Aula Virtual. Igualmente, se incluirán los documentos que se utilizan en cada uno de los temas.

En cualquier caso, la profesora pondrá en el Aula Virtual material complementario accesible para cada tema.