

26409 - Geomorphology

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	296 - Degree in Geology
ECTS	8.5
Course	2
Period	Annual
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

Assessment details

The student must demonstrate that has achieved the intended background through the following evaluation activities:

Evaluation Activities

Written test on the basic knowledge of Geomorphology acquired in lectures, seminars and practical sessions. The written tests will consist of a review of questions of long and short answer, multiple choice and True and False case resolution. In these tests there will be evaluated the theoretical contents acquired so much in the theoretical classes as in the seminars,

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as well as of diverse aspects seen in practices of office and field.

Elaboration, presentation and defense in seminars of a bibliographical work on some of the topics proposed by the teacher. Students will prepare individually or in pairs a bibliographical work with a summary in English on someone of the topics proposed by the teacher. The production of the work will be on a written memory of a maximum of 25 pages. The exhibition will be made public through a power point presentation lasting 15 minutes plus 5 minutes for discussion.

Preparation of maps and reports on practices of office and seminars. Students will complete exercises and geomorphological mapping developed by interpreting aerial photographs.

Attendance and participation of students in the field practices. During the fieldtrips the teacher, in view of the obligatory character of the same ones will check the assistance by means of a control of signatures. The assessment of student achievement at the fieldtrips will be held by several of questions in the written exams relative to the different seen aspects analyzed or visited in fieldtrips.

Continuous evaluation: Evaluation and Qualification Criteria

The valuation or qualification of the different activities of evaluation will be realized following the following criteria:

- Test or exam on the basic knowledge of Geomorphology acquired in the magisterial participative classes, the seminars and the practical meetings. This note will suppose 60 % of the final note of the subject.
- Elaboration, presentation and defense in seminars of a bibliographical work on some of the topics proposed by the teacher. It is obligatory to attend at least 75 % of the presentations. The evaluation of these jobs will be held by a rubric. The note of the work will be 50% oral, 30 % ppt presentation, 20 % of heading assessment of the remaining partners. This note will represent 20 % of the final grade for the course
- Preparation of maps and reports on practices and seminars. This note will represent 20 % of the final grade for the course.

Final exam

Final theoretical-practical examination for those who have not passed the subject through the continuous evaluation (100% of the final grade)

5.Activities and resources

5.1.General methodological presentation

With this subject there is claimed that students acquire the necessary theoretical and methodological basis for geomorphological analysis: Identify and map morphologies and surface processes, infer the processes and factors involved in their genesis and reconstruct landform evolution.

The subject's program includes the following activities:

-Theoretical sessions. Participative Master Classes. The theoretical sessions will be focused on the presentation of different landforms and processes.

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-Lab sessions. Resolution of problems and analysis of case studies. These practical sessions will start with brief methodological explanations aimed at introducing case studies, to be analyzed by the students using stereoscopes and aerial photographs under the supervision of the lecturer.

-Field practices. The field program will be developed in five journeys (a journey is equivalent to 0.8 ECTS). Different geomorphological landforms and processes will be examined in the field.

5.2.Learning activities

5.3.Program

I. Introduction to the Geomorphology

- Concept of geomorphology and History of geomorphology
- Basic concepts and theoretical principles

II. Structural geomorphology

- Structural geomorphology and structural landforms
- Geomorphology and plate tectonics
- Igneous and volcanic geomorphology
- Granitic Geomorphology
- Karst geomorphology

III. Geomorphic systems

- Weathering
- Hillslope processes and forms: Introduction, Alluvial fans, Pediments
- Fluvial geomorphology
- Coastal geomorphology

IV. Climatic geomorphology

- Glacial landforms and processes
- Periglacial landforms and processes
- Arid zones landforms and processes
- Tropical landforms and processes
- Geomorphology and Climatic change

III. Applied geomorphology

5.4.Planning and scheduling

The subject will consist of 45 theoretical lessons, 5 fieldtrips, 6 practical lessons and 9 seminars. During the second part of course students have to elaborate a bibliographic research about a subject proposed by the teacher.

The planned schedule is : It is according to approved schedule to be published in the bulletin board of the Department of Geosciences.

Presentation of exercises: Reports and exercises of practices cabinet will be delivered next week at the beginning of the session.

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5.5. Bibliography and recommended resources

- BB** Chorley, Richard J.. Geomorphology / Richard J. Chorley, Stanley A. Schumm, David E. Sugden . - 1st ed. London [etc.] : Methuen, 1984
- BB** Geomorfología de España / F. Díaz del Olmo... [et al.]; edición coordinada Mateo Gutiérrez Elorza Madrid : Rueda, D.L. 1994
- BB** Gutiérrez Elorza, Mateo. Geomorfología / Mateo Gutiérrez Elorza Madrid [etc.] : Pearson Educación, 2008
- BB** Gutiérrez Elorza, Mateo. Geomorfología climática / Mateo Gutiérrez Elorza Barcelona : Omega, 2001
- BB** Gutiérrez Santolalla, Francisco. Landforms of the earth : an illustrated guide / Francisco Gutiérrez, Mateo Gutiérrez . Switzerland : Springer, cop. 2016
- BB** Huggett, Richard John. Fundamentals of geomorphology / Richard John Huggett London : Routledge, 2003
- BB** Landscapes and landforms of Spain / Francisco Gutiérrez, Mateo Gutiérrez, editors Dordrecht [etc.] : Springer, [2014]
- BB** Selby, M.J.. Earth's changing surface : an introduction to geomorphology / M.J. Selby Oxford : Clarendon Press, 1985
- BB** Summerfield, Michael A.. Global geomorphology : an introduction to the study of landforms / Michael A. Summerfield . - 1st ed., 2nd repr. Essex : Longman Scientific and Technical, 1993
- BC** Ahnert, Frank. Introduction to Geomorphology / Frank Ahnert London : Arnold, cop. 1996
- BC** Arid zone geomorphology : process, from

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and change in drylands / edited by David S.G. Thomas . - 2nd ed Chichester : John Wiley & Sons, 2000

- BC** Benn, Douglas I.. Glaciers & glaciation / Douglas I. Benn and David J.A. Evans London : Arnold, 1998
- BC** Bird, Eric. Coastal Geomorphology: An Introduction / Eric Bird. - 2nd ed. Wiley, 2008
- BC** Ford, Derek. Karst hydrogeology and geomorphology / Derek Ford and Paul Williams. [Rev. ed.] Chichester, West Sussex, England : John Wiley & Sons, cop. 2007
- BC** French, Hugh M.. The periglacial environment / Hugh M. French . 2nd ed. London ; New York : Longman, 1996
- BC** French, Hugh. The Periglacial Environment / Hugh French. - 3rd. ed. Wiley, 2007
- BC** Geomorphology of desert environments / edited by Athol D. Abrahams and Anthony J. Parsons . - [1st ed.] London [etc.] : Chapman & Hall, 1994
- BC** Goudie, A.S.. The Human Impact on the Natural Environment / Andrew S. Goudie. - 6^a. ed. Wiley-Blackwell, 2005
- BC** Knighton, David. Fluvial Forms and Processes : A New Perspective London : Arnold, 1998
- BC** Lancaster, N.. Geomorphology of desert dunes / Nicholas Lancaster London ;|aNew York : Routledge, 1995
- BC** Livingstone, Ian. Aeolian Geomorphology: An Introduction / Ian Livingstone. - 1st. ed. Essex : Prentice Hall, 1996
- BC** Morisawa, Marie. Rivers: Form and Process / Marie Morisawa. London :

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Longman Higher Education, 1985

BC Ollier, Cliff. Tectonics and landforms / Cliff Ollier ; edited by K.M. Clayton . - [1st publ.] New York [etc.] : Longman, 1981

BC Ollier, Cliff. Volcanoes / Cliff Ollier. Blackwell, 1988

BC Selby, M. J.. Hillslope Materials and Processes / M. J. Shelby. 2nd. ed. Oxford : Oxford University Press, 1993

BC Strahler, Alan. Introducing physical geography / Alan Strahler, Arthur Strahler. . 5th ed. New York : Wiley, cop. 2011

BC Sweeting, Marjorie M.. Karst landforms / Marjorie M. Sweeting . - [1st publ.] London [etc.] : Macmillan, 1972

BC Thomas, Michael F.. Geomorphology in the tropics : a study of weathering and denudation in low latitudes / Michael F. Thomas Chichester [etc.] : John Wiley & Sons, cop.1994

BC Washburn, A.L.. Geocryology : a survey of periglacial processes and environments / A.L. Washburn . [2nd ed.] London : Edward Arnold, cop. 1979

BC Young, Anthony. Slopes / Anthony Young . [2nd impr.] London [etc.] : Longman, 1975