

28304 - General cartography

Información del Plan Docente

Academic Year	2018/19
Subject	28304 - General cartography
Faculty / School	103 - Facultad de Filosofía y Letras
Degree	419 - Degree in Geography and Land Management
ECTS	6.0
Year	1
Semester	First semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, practical exercises, individual and group tasks, guided tasks, field work, autonomous work and study.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

4.2.Learning tasks

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The course includes the following learning tasks:

- **Lectures.** Given the eminently practical character of this course there are few sessions that we might consider to be as lecture sessions. Usually, after a brief presentation of the conceptual and methodological aspects of the topic we introduce interactive, individual or group activities. There are frequent consultations of web pages related to the subject of study and commentaries of printed cartography. Diverse teaching and learning skills are put into practice to encourage the participation of students like class discussion, brainstorming, forums, etc. The students have in the Anillo Digital Docente (Moodle) a repository of the lecture notes used in class as well as other forms of course-specific complementary materials (web pages links, analogical and digital cartographic resources, etc.).
- **Practice sessions.** These sessions will take place in the assigned classroom or, punctually, in the computer classroom. At the beginning of every session, the necessary information will be facilitated to the student to carry out the tasks to be developed in the class. Among the activities that are programmed we can stand out: practical tasks related to the access and handling of cartographic resources on the Internet; commentaries of different types of maps; tasks related to the handling and analysis of the topographic map; scale problems; exercises of spatial orientation on the map and on the field (handling of compass and GPS); making and handling of Digital Elevation Models and development of derivative information (illumination, contours, slope, aspect, topographic profiles, 3-D visualization, etc.).
- **Field work.** In this session, diverse skills related to spatial orientation on the map and on the field will take place (use of the compass and GPS, map orientation).
- **Guided tasks.** They are implemented to help the students to carry out the assignments, tasks and exercises that they must solve individually, and also as a help to solve doubts related to the course contents.

4.3.Syllabus

The course will address the following topics:

Section I. Cartography.

- Topic 1. General concepts: introduction to the cartographic document.
- Topic 2. The historical process of the Cartography.

Section II. Introduction to Geodesy.

- Topic 3. Basic concepts of Geodesy.
- Topic 4. The cartographic projections.

Section III. The Topographic Cartography.

- Topic 5. The National Topographic Map.
- Topic 6. Methods of representation of the relief.
- Topic 7. Web Map Services (WMS): available resources in topographic cartography.

Section IV. Spatial relationships.

- Topic 8. The scale.
- Topic 9. Calculation of distances and areas.

Section V. Spatial Reference.

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- Topic 10. Determination of geographical and UTM coordinates.
- Topic 11. Orientation.
- Topic 12. Global Positioning Systems: essentials and applications in Geography.

Section VI. Analysis of topographic variables.

- Topic 13. Calculation and mapping of topographic variables: heights, slopes, topographic profiles.
- Topic 14. Digital Elevation Models: development of derivative information.

4.4.Course planning and calendar

The course *Cartografía general* is divided into 6 sections. The first and second sections are introductory and include the topics 1 to 4; they run during the first four weeks of the semester. The sections 3-5 include the topics 5 to 12; they are taught during the middle and final part of the semester. The block 6 covers the topics 13 and 14 and develops during the final three weeks of the course.

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Filosofía y Letras" website (<https://fyl.unizar.es/horario-de-clases#overlay-context=horario-de-clases>)

4.5.Bibliography and recommended resources

Basic bibliography:

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Recommended bibliography:

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- BÉGUIN, M. y PUMAIN, D. (1994): *La représentation des données géographiques: statistique et cartographie*, Armand Colin, Paris, 192 pp.
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- ORDÓÑEZ, C. y MARTÍNEZ-ALEGRÍA, R. (2002): *Sistemas de Información Geográfica*, Ra-Ma, Madrid, 227 pp.
- PEÑA, J. (2006): *Sistemas de Información Geográfica aplicados a la gestión del Territorio*, ECU, Alicante, 310 pp.
- PETERS, A. (1992): *La Nueva Cartografía*, Vicens Vives, Barcelona, 132 pp.
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