

COURSE SYLLABUS

Academic year 2013-2014

1. COURSE DESCRIPTION

Degree:	GEOGRAPHY AND HISTORY
Double Degree:	
Course:	GEOGRAPHICAL INFORMATION SCIENCES
Module:	GEOGRAPHY
Department:	Geography, History and Philosophy
Term:	1
Total Credits:	6
Year:	3
Type of Course:	Compulsory
Course Language:	English

Teaching model:	C1	
a. General/background:		50%
b. Theory-into-practice/developmental knowledge-building		50%
c. Guided Academic Activities:		

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2. COURSE COORDINATOR

Name:	Dr. Fatima Navas
Faculty:	Humanities
Department:	Geography, History and Philosophy
Academic Area:	Physical Geography
Position:	Senior Lecturer
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3. ACADEMIC CONTEXT

3.1. Course Description and Objectives

The field of geographic information science (GI-Science) explores the theory and concepts underpinning geospatial technologies, in other words, all the disciplines which can generate, process, represent and share geographic information. The development of GI-Science is transforming and enriching some of the techniques and tools of traditional research and innovation in the field of geography and opening up new job opportunities.

This course focuses on the multi-disciplinary science concerned with the development and application of geographical information technologies. In this course, students will be introduced to these disciplines, including Remote Sensing, Global Positioning Systems, Geographic Information Systems and Spatial Data Infrastructures. Knowledge of these sciences, therefore, is of fundamental importance in regard to the basic concepts of geography, the practical results of geographical research, and the potential future professional activity of the students.

3.2. Contribution to the Degree Programme

This course offers an introduction to the Geographical Information Sciences both from a theoretical and a practical point of view, which prepares students for better learning of the use of the resources used throughout their education and throughout their professional life.

3.3. Recommendations or Prerequisites

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4. COMPETENCES

4.1 Degree Competences Developed during this Course

1. Development of linguistic competence in Spanish and in English.
3. Scientific and rigorous data management.
6. Autonomous and creative thinking and work practices.
7. Information search, retrieval and management in an autonomous and rigorous context.

4.2. Module Competences Developed during this Course

19. Knowledge of working methods in Geography.
12. Interrelate the physical and the social environments
17. Understanding spatial relationships.
22. Presenting findings of geographical study with clarity.

4.3. Course-specific Competences

20. Use of Geographic information as a tool for territorial and spatial planning.
23. Introduce the main research methods in Geography.

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5. COURSE CONTENT (COURSE TOPICS)

1. - Introduction to geospatial information sources (photo interpretation, remote sensing, global positioning systems).
2. - Introduction to Geographic Information Systems (GIS) and other tools for spatial representation, spatial analysis and modeling in Geography.
3. - Introduction to the state of the art in GI-Science: Spatial Data Infrastructures (SDI).

6. METHODOLOGY AND RESOURCES

This course is taught through classroom-based lectures and seminars and practical field-work and laboratory sessions which involve hands-on experience with the necessary tools and develop students' abilities in field recognition, **ground truthing???** and the use of empirical data.

In addition there is a virtual teaching platform which provides bibliographic resources, access to content and a means of communication between teachers and students.

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7. ASSESSMENT

Class attendance and participation: 20%

Theory exam and Practicals (essays and field and laboratory work): 80%

8. BIBLIOGRAPHY

AGUILERA, M.J., et al. (2003). *Fuentes, tratamiento y representación de la información geográfica*. Universidad Nacional de Educación a Distancia, Madrid, 421 p.

ARCILA, M. (2003). *Sistemas de información geográfica y medio ambiente: principios básicos*. Universidad de Cádiz, 129 p.

CHUVIECO, E. (1996). *Fundamentos de teledetección espacial*. Ed. Rialp, Madrid, 568 p.

CHUVIECO, E. (2002). *Teledetección Ambiental. La observación de la Tierra desde el Espacio*. Ed. Ariel Ciencia, Barcelona, 586 p.

FERNÁNDEZ, F. (2000). *Introducción a la fotointerpretación*. Ed. Ariel, Barcelona, 253 p.

GOMEZ, B. y JONES, J. P. (2010). *Research methods in geography: a critical Introduction*. Ed. Wiley-Blackwell, Oxford, 459 p.