

## COURSE SYLLABUS

### 1. COURSE DESCRIPTION

<b>Degree:</b>	GEOGRAPHY AND HISTORY
<b>Double Degree:</b>	
<b>Course:</b>	<b>GEOGRAPHICAL INFORMATION SCIENCES</b>
<b>Module:</b>	GEOGRAPHY
<b>Department:</b>	Geography, History and Philosophy
<b>Academic Year:</b>	2014-15
<b>Term:</b>	1
<b>Total Credits:</b>	6
<b>Year:</b>	3
<b>Type of Course:</b>	Compulsory
<b>Course Language:</b>	English

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

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### 2. COURSE COORDINATOR

<b>Course coordinator</b>	
<b>Name:</b>	<b>Dr. Fatima Navas</b>
<b>Faculty:</b>	Humanities
<b>Department:</b>	Geography, History and Philosophy
<b>Academic Area:</b>	Physical Geography
<b>Category:</b>	Senior Lecturer
<b>Office hours:</b>	Tuesday and Wednesday 12:00 14:00
<b>Office No.:</b>	Building 2, Second Floor, Office 18
<b>E-mail:</b>	fnavas@upo.es
<b>Tel.:</b>	954977859

## COURSE SYLLABUS

### 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, this is, all disciplines that can generate, process, represent and share geographic information. The development of the 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, the students will be introduced to these disciplines, among which are 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 potential future professional activity of the students.

#### 3.2. Contribution to the Training Plan

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

#### 3.3. Recommendations or Prerequisites

## COURSE SYLLABUS

### 4. SKILLS

#### 4.1 Degree Skills Developed during this Course

1. Oral Communications.
3. Scientific and rigorous data management.
6. Autonomous and creative thinking and working.
7. Information search and management in an autonomous and rigorous context.

#### 4.2. Module Skills Developed during this Course

19. Knowledge of working methods in Geography.
12. Interrelate the physical and the social environmental and human.
17. Understand spatial relationships.
22. Present with clarity findings of study in Geography.

#### 4.3. Course-specific Skills

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

## **COURSE SYLLABUS**

### **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**

Lectures (face-to-face sessions) and Practical (both field and lab based) for direct field recognition, ground truthing and empirical measurements.

Use of virtual teaching platform for content access, bibliographic resources and communication.

## COURSE SYLLABUS

### 7. ASSESSMENT

Continuous Assessment System through class attendance and participation or tests during the teaching period: 30%

Written exam of Theory and Practicals: 70%

### 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.