

60423 - Basic notions about SIGs

Información del Plan Docente

Academic Year	2016/17
Academic center	103 - Facultad de Filosofía y Letras
Degree	352 - Master's in Geographical Information Technology for Territorial Development: Geographical Informations Systems and Teledetection
ECTS	2.0
Course	1
Period	Annual
Subject Type	Optional
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

5.Activities and resources

5.1.General methodological presentation

The learning and teaching methodology developed in the course is aimed to promote the attainment of its objectives. The course has a predominantly theoretical character, thus teaching and learning activities are developed using the masterclass approach. In addition, several practical activities are also programmed, always relating theoretical and conceptual aspects of GIS.

Extensive material will be available *via* the Moodle site of the course. This offers a variety of resources including a repository of the lecture notes used in class, a course syllabus as well as other forms of course-specific materials,

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including a discussion forum.

5.2.Learning activities

Lecture sessions: 15 hours

Practical activities: Interactive, individual or group activities: 5 hours

Assessment: 1 hour

5.3.Program

1. Context, definition and components of GIS

- social, scientific and technological development of GIS context.
- Definitions and the elements of GIS.

2. The nature of geographic information and its representation in GIS

- The nature of geographic information and its contents.
- Principles, concepts and elements of modeling of geographic information in GIS.
- Data models in GIS: vector and raster.

3. Collection and organization of data: database creation and maintenance of spatial and thematic data

- Information sources in the GIS.
- Capturing and editing spatial databases.
- Principles and techniques for creating thematic databases.
- Sources, meaning and treatment of errors.

4. Principal analysis functions of GIS

- Classification and types of functions.
- Analysis functions with vector data.
- Analysis functions with raster data.

5. Visualizing data in GIS

6. Considerations on the implementation of GIS into organizations

5.4.Planning and scheduling

The sessions (20 hours) are developed, during the first month of the academic year prior to those of the subject "Introduction to geographic information technologies" in which the management of specific computer programs for GIS is addressed.

For this course the student should not submit any work, being only subject to a written test.

5.5.Bibliography and recommended resources

- Bosque Sendra, Joaquín. Sistemas de información geográfica / Joaquín Bosque Sendra . - 2a. ed. corr. Madrid : Rialp, 1997
- Bernhardsen, Tor. Geographic information systems : an introduction / Tor Bernhardsen . - 3rd ed. New York : John Wiley & Sons, cop. 2002
- Comas, David. Fundamentos de los sistemas de información geográfica / David Comas y Ernest Ruiz Barcelona : Ariel, 1993

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- Geographic information system and science / Paul A. Longley [et. al] . - 2nd ed. Chichester : John Wiley & Sons, cop. 2005
- Encyclopedia of GIS / Shashi Shekar, Hui Xiong (Eds.) New York : Springer, cop. 2008
- Albrech, J.. Key Concepts & Techniques in GIS / J. Albrech. London : Sage Publication, 2007
- Quirós Hernández, M.. Tecnologías de la Información Geográfica (TIG). Cartografía, fotointerpretación, teledetección y SIG / M. Quirós Hernández Salamanca : Universidad de Salamanca, 2011
- Gutiérrez Puebla, Javier. SIG : Sistemas de Información Geográfica / Javier Gutiérrez Puebla, Michael Gould . 1a. reimp Madrid : Síntesis, 2000