

25243 - Environmental remote sensing and GIS

Información del Plan Docente

Academic Year	2017/18
Faculty / School	201 - Escuela Politécnica Superior
Degree	277 - Degree in Environmental Sciences
ECTS	6.0
Year	
Semester	Four-month period
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

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

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning and teaching methodology developed in the course *Environmental remote sensing and GIS* is aimed to promote the attainment of its objectives. A wide range of teaching and learning activities is implemented, such as interactive lessons, practical exercises, individual or group activities, directed activities, and private study. 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 as well as other forms of course-specific complementary materials.

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5.2.Learning tasks

Lecture sessions: in these sessions, conceptual and methodological aspects of the program will be presented, alternating the exhibition of PowerPoint presentations, with the access to web pages in which there appear illustrative examples related to the boarded theme.

The students will have in the ADD of complementary material (articles, linkage of web pages, exercises, etc.) and will have to consult the same way the recommended bibliography.

Practical sessions: they will take place in the computer classroom. Beginning every session the necessary information will be facilitated to the student to carry out the tasks to be developed in the practice. In case the above mentioned practice has to join to the briefcase of learning, additional information about how it will have to appear.

Directed work: The work will refer to an environmental problem for whose analysis and/or resolution the students will have to use some of the tools that the SIG and the remote sensing incorporate.

Tutorships: They are implemented to help the students to carry out the works and exercises that they must solve individually and also as a help to solve doubts related with the theoretical and practical program of the course.

5.3.Syllabus

The course program is divided into a series of modules, which will include the following theory and practical sessions:

Module 1. Introduction to spatial remote sensing.

Module 2.. Basic Physics of remote sensing

Module 3. System of photo acquisition.

Module 4. Tools for image analysis.

5.4.Course planning and calendar

For further details concerning the timetable, classroom and other information of the course please refer to the: *Escuela Politécnica Superior de Huesca* web site (<http://eps.unizar.es/academico/horarios-ccaa>).

5.5.Bibliography and recommended resources

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- BB** Chuvieco Salinero, Emilio. Teledetección ambiental : la observación de la tierra desde el espacio / Emilio Chuvieco. 1a. ed. Barcelona : Ariel, 2002
- BB** Sistemas y análisis de la información geográfica : manual de autoaprendizaje con ArcGIS / Coordinador Antonio Moreno Jiménez; autores Rosa Cañada Torrecillas ... [et al.] . Madrid : Ra-Ma, 2006
- BC** Campbell, James B.. Introduction to remote sensing / James B. Campbell . 3rd ed London [etc.] : Taylor & Francis, 2002
- BC** Chuvieco Salinero, Emilio. Fundamentos de teledetección espacial / Emilio Chuvieco . - 3a. ed. rev., reimp. corr. Madrid : Rialp, D.L. 2000
- BC** Gibson, Paul J. Introductory remote sensing : digital image processing and applications / Paul J. Gibson and Clare H. Power . London : Routledge, 2000
- BC** Gibson, Paul. Introductory remote sensing, principles and concepts / Paul J. Gibson ; with contributions to the text by Clare H. Power and Website development by John Keating . [London] : Routledge, 2000
- BC** Lillesand, Thomas M.. Remote sensing and image interpretation / Thomas M. Lillesand, Ralph W. Kiefer, Jonathan W. Chipman . 6th ed. Hoboken, NJ : John Wiley, cop. 2008
- BC** Pinilla Ruiz, Carlos. Elementos de teledetección / Carlos Pinilla Ruiz . Madrid : RA-MA, D.L. 1995

The updated recommended bibliography can be consulted in:
<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=2198>