



IDENTIFYING DATA

GIS Technologies for Inventory of Cultural Assets

Subject	GIS Technologies for Inventory of Cultural Assets			
Code	O02M143V03108			
Study programme	(*)Máster Universitario en Valoración, xestión e protección do patrimonio cultural			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish Galician			
Department	External Natural Resources and Environment Engineering			
Coordinator	Martínez Sánchez, Joaquín			
Lecturers	Lagüela López, Susana Martínez Sánchez, Joaquín Núñez Nieto, Xavier Solla Carracelas, María Mercedes			
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General description	(*)Esta materia ten como obxectivo capacitar ao alumno para a xestión de grandes cantidades de datos documentais en diversos formatos, para que cooperen no labor común de xestión do patrimonio cultural. O seu papel básico é dotar ao alumno dos coñecementos teóricos e metodolóxicos necesarios para o deseño de bases de datos así como para a xestión e redacción de metadatos.			

Competencies

Code	
A2	That students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.
B2	Acquire the necessary knowledge to handle the different tools of graphic, dimensional and geospatial documentation to be applied in the documentation and valuation of Cultural Heritage.
C5	Master and be able to apply instruments and procedures of various cartographic techniques to the real cultural heritage for its dimensional control and the elaboration of graphic documentation using CAD tools.
C6	Analyze, refine and interpret geographic information, as well as its storage in databases, based on technical requirements for the inventory and documentation of an intervention project.
D4	To be able to integrate the diverse information and data contributed by diverse technicians and tools in the writing of conclusions of action.
D8	Acquire advanced knowledge and demonstrate, in a context of scientific and technological research or highly specialized, a detailed and substantiated understanding of the theoretical and practical aspects and the methodology of work in one or more fields of study.

Learning outcomes

Expected results from this subject	Training and Learning Results
Manage big quantities of documentary data in diverse formats, so that they cooperate in the labor common of management of the cultural heritage	A2 B2 C5 C6 D4 D8

Capacity for the design of databases, cartography, as well as for the management and writing of metadataA2
 B2
 C5
 C6
 D4
 D8

Contents

Topic	
Introduction to GIS. Fundamentals and Applications.	<ul style="list-style-type: none"> - Concept of GIS. - Differences between GIS, database and CAD. - Types of models in GIS. - Geographic and spatial information.
GIS application to the management and conservation of the Heritage.	<ul style="list-style-type: none"> - Introduction to the software QGis - Analysis of real cases. - Raster databases. - Vectorial databases. - The GIS web (IDS-GIS).
Development of a GIS project.	<ul style="list-style-type: none"> - Design of a GIS project and generation of databases. - Geoprocessing of the data. - Thematic cartography.
Models of information of the construction (BIM)	<ul style="list-style-type: none"> - Introduction to the BIM - Models of information of historical constructions (H-BIM)

Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	0.5	1	1.5
Group tutoring	0.5	1	1.5
Lecturing	4	5	9
Case studies	1	26	27
Supervised work	0	26	26
Practices report	0	4	4
Essay	0	6	6

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Introductory activities	Session oriented to take contact and gather information on the students and their motivations. Presentation of the matter, contents and methods of assessment.
Group tutoring	Resolution of doubts through debate and discussion in the TIC environment and online sessions in a group
Lecturing	Activities of application of the knowledge acquired by the students to particular situations in an autonomous mode.
Case studies	Analysis of real cases dealing with the management of the cultural heritage.
Supervised work	Activities that include evaluation of the knowledge achieved (including questions with different alternative of answer).

Personalized attention

Methodologies Description

Supervised work The personalized attention will consist in the orientation of the level of learning required, the introduction to the materials, the resolution of doubts and the explanation of the dynamics about the development of the subject through the online platform.

Assessment

Description	Qualification	Training and Learning Results

Practices report	Proof in which a situation or problem is already presented or that may occur, based on the different factors involved, the analysis of the background, conditions, situation, etc. The evaluated learning outcomes refer to the capacity for the design of databases, cartography, as well as for the management and writing of metadata.	40	A2	B2	C5 C6	D4 D8
Essay	The student presents the result obtained in the preparation of a document on the thematic of the matter, in the preparation of seminars, investigations, memories, essays, summaries of readings, conferences. The results of learning evaluated are the capacity to manage big quantities of documentary data in diverse formats, so that they cooperate in the common work of management of the cultural heritage.	60	A2	B2	C5 C6	D4 D8

Other comments on the Evaluation

The student, according to the current regulations, has two calls for evaluation. The first one is held during the four-month teaching period. In the case that the teaching weeks of the subject are not enough for the delivery of all the works planned, the teaching platform will be enabled two additional weeks, at the end of the quarter, to facilitate such delivery, establishing in this case an alternative schedule for the delivery of tasks. The second evaluation is done in the month of July, for which the access to the teaching platform will be enabled again. In the call for July the evaluation criteria will be the same.

Sources of information

Basic Bibliography

Victor Olaya, **Sistemas de Información Geográfica**, Cuadernos internacionales de tecnología para el de, 2009

Complementary Bibliography

J. Gutiérrez Puebla, M. Gould, **SIG: Sistemas de Información Geográfica**, Editorial Síntesis,

M. Domínguez, M. Belda, **Topografía y sistemas de información geográfica**, Universidad Nacional de Educación a Distancia,

F.J. Moldes, **Tecnología de los Sistemas de Información Geogr**, RA-MA Editorial,

I. Otero Pastor, **Paisaje, Teledetección y SIG. Conceptos y aplicaciones.**, Fundación Conde del Valle de Salazar,

G.D. Buzai, **Sistemas de Información Geográfica (SIG) y Cartografía Temática. Métodos y técnicas para el trabajo en el aula**, Lugar Editorial,

Recommendations

Subjects that it is recommended to have taken before

(*)Introducción á topografía e producción cartográfica/O02M143V03111

2D and 3D Cartographic Documentation Techniques for Cultural Heritage/O02M143V03109

CAD Techniques to Present Heritage/O02M143V03107