



IDENTIFYING DATA

GIS Technologies for Inventory of Cultural Assets

Subject	GIS Technologies for Inventory of Cultural Assets			
Code	002M143V03108			
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				
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

Contents

Topic

Introduction to GIS. Fundamentals and Applications.

- 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.

- Introduction to the software QGIS
- Analysis of real cases.
- Raster databases.
- Vectorial databases.
- The GIS web (IDS-GIS).

Development of a GIS project.

- Design of a GIS project and generation of databases.
- Geoprocessing of the data.
- Thematic cartography.

Models of information of the construction (BIM)

- 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
Seminars	0.5	1	1.5
Lecturing	4	5	9
Case studies	1	26	27
Mentored work	0	26	26
Report of practices, practicum and external practices	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.
Seminars	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.
Mentored work	Activities that include evaluation of the knowledge achieved (including questions with different alternative of answer).

Personalized assistance**Methodologies Description**

Mentored 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.
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Assessment

Description	Qualification	Training and Learning Results
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Report of practices, practicum and external practices	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

Other comments

The teaching of the subject will be always of face-to-face telematic way, well was synchronous or asynchronous, using the eMoodle (FaiTic) educational platform and participating in the educational activities through multiple videoconference (e-meeting, Remote Campus). To be able to receive the teaching of effective way it si recommended , previously to the start of the matter, to consult the manual of access to the platform and to follow the technical specifications in order to assist to the remote sessions. It is indispensable that each student access to the educational platform of the subject previously to the beginning of the same.

Contingency plan

Description

=== EXCEPTIONAL PLANNING ===

Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF THE METHODOLOGIES ===

- * Teaching methodologies maintained
- * Teaching methodologies modified
- * Non-attendance mechanisms for student attention (tutoring)
- * Modifications (if applicable) of the contents
- * Additional bibliography to facilitate self-learning
- * Other modifications

=== ADAPTATION OF THE TESTS ===

- * Tests already carried out
Test XX: [Previous Weight 00%] [Proposed Weight 00%]
...
 - * Pending tests that are maintained
Test XX: [Previous Weight 00%] [Proposed Weight 00%]
...
 - * Tests that are modified
[Previous test] => [New test]
 - * New tests
 - * Additional Information
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