Universida_{de}Vigo

Subject Guide 2023 / 2024

	IG DATA					
(*)Introduc						
Subject	(*)Introducción a topografía o					
	produción					
	cartográfica					
Code	002M143V03111					
Study	Máster					
programme	Universitario en					
p 9	Valoración, Gestión					
	y Protección del					
	Patrimonio Cultural					
Descriptors	ECTS Credits	Choose	Year	Quadmester		
	3	Mandatory	1st	1st		
Teaching	#EnglishFriendly					
language	Spanish					
	Galician					
Department						
Coordinator	Martínez Sánchez, Joaquín					
Lecturers	Martínez Sánchez, Joaquín					
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Web	http://moovi.uvigo.gal/course/view.php?id=106	i9				
General	The aim of this course is to qualify the student	to interpret cartographic	c documentatio	n and know apply		
description	different technologies of preparation of necess	ary cartography in the p	rojects of docur	nentation of the cultural		
	heritage real estate and his immediate surroundings.					
	English Friendly subject: International students may request from the teachers: a) resources and bibliographic					
	references in English, b) tutoring sessions in Er	iglish, c) exams and asse	essments in Eng	glish.		
Training ar	nd Learning Results					
Code						
A3 That st	udents are able to integrate knowledge and face	the complexity of making	ng judgments b	ased on information that,		
being i	ncomplete or limited, includes reflections on soc	ial and ethical responsib	ilities linked to	the application of their		
knowle	dge and judgments.					

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.
- D5 Be able to predict and control the evolution of complex situations through the development of new and innovative work methodologies adapted to the specific scientific / research, technological or professional field, in general multidisciplinary, in which their activity is developed.

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.

Expected results from this subject	
Expected results from this subject	Training and
	Learning Results
Know the different technologies that allow generating cartographic documents of heritage assets	A3
	B2
	C5
	C6
	D5
	D8

Be able to interpret, refine and analyze dimensional information as well as optimize its management

D8

Contents	
Торіс	
	Geoid and terrestrial ellipsoid.
Foundations of Cartography	Cartographic systems.
	System of Projection UTM.
	Models of cartographic data. Metadatos.
	Sources of cartographic data.
Foundations of Topography.	Instruments and topographical methods
	digital Models of the terrain and of surface.
	Curves of level
Systems GPS	Introduction to the systems GPS
	Foundations of the system GPS, errors, parameters that affect to the precision.
	Types of systems GPS and instruments. Obtaining and interpretation of the information.
Models 2D and 3D of objects	Clouds of points, models of surfaces, volumetric models, and other models of information.
The teledetection like source of information for	Foundations of space teledetection
the preparation of cartography	basic Concepts of Thematic cartography.
	Teledetection and Projects of cartographic documentation

Planning			
	Class hours	Hours outside the classroom	Total hours
Introductory activities	0.5	0.5	1
Lecturing	1.5	1.5	3
Case studies	4	6	10
Autonomous problem solving	0	25	25
Mentored work	0	30	30
Project	0	2	2
Essay	0	2	2
Systematic observation	0	2	2
*The information in the planning table is for	r guidance only and does no	t take into account the het	erogeneity of the students.

Methodologies	
	Description
Introductory activities	Activities directed to take contact and gather information on the students, as well as to present the subject. They will present index card of the matter, aims, calendar, criteria of evaluation, as well as forums of debate and news and other surroundings in which it will manage the learning.
Lecturing	Exhibition of the main theoretical contents of the matter with help of audiovisual means. The students will have the possibility to assist to said session in shape of videoconference.
Case studies Analysis of a problem or real case, in order to know it, interpret it, solve it, generate hyp diagnose it and go into alternative solution procedures, to see the application of theoret concepts in reality. They will be used as a complement to the theoretical classes for self	
Autonomous problem Activities in which they formulate problems and/or exercises related with the matter. T solving has to develop of autonomous form the analysis and resolution of the problems and/or	
Mentored work	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, etc

Personalized assistance

Methodologies Description

Mentored work The personalised 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 of the development of the matter in the platform of teledocencia.

Assessment

	Description	Qualification	i Le	Train earnin	ing an Ig Res	d ults
Project	The students present the results of the preparation of an individual project on the generation of data by means of the technicians of documentation developed in the subject. The results of learning evaluated are the capacity to generate documentary data in diverse formats, so that they cooperate in the work of management of the cultural heritage.	40	A3	B2	C5 C6	
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.	40	A3	B2	C5 C6	
Systematic observation	Evaluation of the active participation and based of the students in the activities of the process education-learning	20	A3	B2	C5 C6	D5 D8

Other comments on the Evaluation

According to the 2023 "Regulation on the evaluation, qualification and quality of teaching and the student learning process of the University of Vigo", there are two evaluation systems that students can choose: the preferred one, which will be applied by default, of "**continuous evaluation**" (diversified tests and activities that take place throughout the semester), and the so-called "**global evaluation**" (tests and/or delivery of work/exercises to be carried out on the official dates of evaluation established in the academic calendar), which must be expressly requested by the interested students, and communicated to the responsible teaching staff within a maximum period of 31 days from the beginning of each term.

The "global evaluation" tests for this subject will consist as follows: project (50%) and essay (50%).

Students have two evaluation calls/opportunities. The first is carried out during the teaching semester. The second (or 2nd opportunity) will take place in the month of July, for which access to the teaching platform will be enabled again.

Sources of information

Basic Bibliography

Complementary Bibliography

Wolf, Paul R. y Brinker, Russell C.,, **Topografía**, 11, Alfaomega,, 2014

Olaya, Victor, Sistemas de Información Geográfica (SIG) y Cartografía Temática. Métodos y técnicas para el trabajo en el aula, Cuadernos internacionales de tecnología para el de, 2009 Chuvieco Salinero, Emilio, Teledetección Ambiental, 6, Ariel, 2006

Recommendations

Subjects that continue the syllabus

2D and 3D Cartographic Documentation Techniques for Cultural Heritage/O02M143V03109 GIS Technologies for Inventory of Cultural Assets/O02M143V03108

Subjects that are recommended to be taken simultaneously

CAD Techniques to Present Heritage/O02M143V03107

Other comments

The teaching of the subject will be always face-to-face telematic way, well was synchronous or asynchronous, using the eMoodle (MooVi) educational platform and participating in the educational activities through multiple videoconference (Remote Campus).

To be able to receive the teaching of effective way it si recommended , previously to the start of the subject, 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.