Universida_{de}Vigo

Subject Guide 2020 / 2021

IDENTIE				
(*)Intro	dución á avaliación estructural de construci	ións patrimoniais		
Subject	(*)Introdución á			
00.0,000	avaliación			
	estructural de			
	construcións			
	patrimoniais			
Code	O02M143V03217			
Study	(*)Máster			
program	me Universitario en			
	Valoración, xestión			
	e protección do			
Descript		Chasse	Veer	Ouedmoster
Description		Choose	1ear	Quadmester
Taaahina	3 Chanich	Optional	151	2110
language	J Spanish S Galician			
Departm				
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General	This subject aims to train the student to unc	lerstand the requirements i	n terms of struc	tural safety of a building,
	documentation of the property through the addressed in module II of the master's degre structural health of a heritage construction.	technologies of geometric of ee, which serve as the basi	documentation a s for the diagnos	ind the materials sis of the level of
Compet	encies			
Code				
A2 Tha env	it students know how to apply the knowledge acc rironments within broader (or multidisciplinary) c	quired and their ability to so ontexts related to their are	olve problems in a of study.	new or unfamiliar
B2 Acq	uire the necessary knowledge to handle the diffe applied in the documentation and valuation of Cu	erent tools of graphic, dime ultural Heritage.	nsional and geo	spatial documentation to
B3 Acq and	juire the ability to bring to the practical application the protocols of documentation, diagnosis and e	on of the protection of culture valuation.	iral property the	theoretical knowledge
C2 Acq	uire the ability to design intervention protocols, ural property at risk of alteration.	establishing types, prioritie	s and intensities	s of action before a
C9 Acq Her	uire the ability to diagnose, on the basis of scien itage.	tific knowledge, the state c	of structural cons	servation of the Cultural
C10 Und safe	derstand the fundamentals of structural stability a ety of heritage constructions.	and the analysis procedure	s necessary to g	uarantee the structural
D5 Be a met mul	able to predict and control the evolution of comp thodologies adapted to the specific scientific / res Itidisciplinary, in which their activity is developed	lex situations through the o search, technological or pro I.	development of ofessional field, i	new and innovative work n general
D8 Acq spe wor	cquire advanced knowledge and demonstrate, in a context of scientific and technological research or highly becialized, a detailed and substantiated understanding of the theoretical and practical aspects and the methodology o ork in one or more fields of study.			earch or highly s and the methodology of
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Learning	g outcomes			
Expected	d results from this subject			Training and Learning Results

Acquisition of knowledge regarding structural security, analysis methods and regulations applicable to heritage buildings	A2 B2 B3 C2 C9	
	C10	
	D5	
	D8	
Know the tools that allow a diagnosis of the structural condition of heritage buildings	A2	
	B2	
	B3	
	C2	
	C9	
	C10	
	D5	
	D8	

Contents	
Торіс	
Introduction to structural mechanics	Forces
	Moments
	Static equilibrium
	Thrust
	Structural stability.
Structural typologies, constructive elements and mechanical modeling	Wooden structures
	Masonry structures
	Metallic structures
	Concrete structures
Introduction to structural analysis methods.	Classic methods
	Theory of limit analysis in masonry structures
	Computacionais methods: finite method method, discrete element
	method.
Structural pathology in heritage buildings.	Main structural pathologies.
	Methodologies and techniques for identification and characterization.
Standards of mandatory compliance in terms of structural safety.	Código Técnico de la Edificación

Planning			
	Class hours	Hours outside the classroom	Total hours
Introductory activities	0.5	0	0.5
Seminars	4	15	19
Case studies	0.5	15	15.5
Problem solving	0	18	18
Essay	0	20	20
Systematic observation	0	1	1
Oral exam	1	0	1
*The information in the planning table	is for guidanco only and doos no	t take into account the het	arogeneity of the students

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Methodologies

	Description
Introductory activities	Activities directed to take contact and gather information on the students, as well as to present the module. They will present the module outline form 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.
Seminars	Activities focused to the work on each one of the technologies that present in the matter, so that the students can understand the theoretical principles of each technician to the time that take contact with the tools software that will allow them put in technical said practice during a process of documentation. These seminars will realise by means of videoconference and totorial videosl, on the studies of case of employment of each technician.

Personalized assistance			
Methodologies Description			
Case studies	Resolution of doubts and personalised attention of the work performed by the students. Resources used: platform for virtual teaching Moodle, and videoconference and e-meeting		
Problem solving	Resolution of doubts and personalised attention through the videoconference and e-meeting.		

Assessment						
	Description	Qualification	٦ Lea	Trair arnir	ning a ng Re	nd sults
Essay	The student presents the result obtained in the elaboration of a document on the subject matter in the preparation of seminars, investigations, memories, essays, summaries of readings, conferences, etc. The learning outcomes are the student's training for the diagnosis of the structural condition of heritage assets, through the appropriate use of different identification tools and characterization of structural damage and pathologies, as well as using the applicable regulations.	40	A2	B2 B3	C2 C9 C10	D5 D8
Systematic observation	The performance of the student is being observed, as well as the practices and seminars through the telematic tools. The results of the learning are the qualification of the student for the structural diagnosis of the heritage.	20	A2	B2 B3	C2 C9 C10	D5 D8
Oral exam	The student will conduct a critical discussion on case study about characterization and diagnosis of a heritage construction. The student will argue their decisions regarding the most appropriate tools for identification and characterization of structural damage and pathologies, as well as the results obtained in said diagnosis.	40	A2	B2 B3	C2 C9 C10	D5 D8

Other comments on the Evaluation

The student, according to the valid rule, has two announcements of evaluation. The first carries out during the teaching period. In the case that the weeks of teaching of the matter are not sufficient for the delivery of all the planned works, will enable the platform of teaching two additional weeks, at the end of the semester, to facilitate works delivery, establishing in this case an alternative calendar of delivery of tasks. The second evaluation is in the month of July, for which will enable again the access to the educational platform.

Sources of information

Basic Bibliography

Complementary Bibliography

Heyman, Jackes, **The Stone skeleton : structural engineering of masonry architecture**, Cambridge University Press, Zanni, Enrique, **Patología de la madera : degradación y rehabilitación de estructuras de madera**, Brujas, Belén Riveiro, Mercedes Solla, **Non-Destructive Techniques for the Evaluation of Structures and Infrastructure**, CRC Press - Taylor and Francis,

Recommendations

Subjects that are recommended to be taken simultaneously

(*)Técnicas non destructivas para a avaliación do patrimonio cultural inmoble/O02M143V03218

Subjects that it is recommended to have taken before

2D and 3D Cartographic Documentation Techniques for Cultural Heritage/O02M143V03109 CAD Techniques to Present Heritage/O02M143V03107

Other comments

The teaching of the matter carries out using the educational platform Moodle and, of face-to-face way, participating in the educational activities through videoconference or through tools of remote connection (as it Adobe Connect). To be able to receive the teaching of effective way, recommends, previously to the start of the matter, consult the manual of access to the platform and follow the technical specifications to be able to assist to the remote sessions. This information is available in the common space of the Master. It is indispensable that the student access to the educational platform of the matter

previously to the start of the same.

In general, for the practices will employ free software or free versions (demo) of commercial software for operating system Windows 7.

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