UNIVERSIDADE DA CORUÑA

Teaching Guide				
Identifying Data				2020/21
Subject (*)	Using Technology for Architectural Research		**Code**	630567105
Study programme	Mestrado Universitario en Rehabilitación Arquitectónica (Plan 2016)			
Descriptors				
Cycle	**Period**	**Year**	**Type**	**Credits**
Official Master's Degree	1st four-month period	First	Optional	3
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Construcións e Estruturas Arquitectónicas, Civís e Aeronáuticas			
Coordinador	Fernandez Cobian, Esteban		**E-mail**	esteban.fcobian@udc.es
Lecturers	Fernandez Cobian, Esteban		**E-mail**	esteban.fcobian@udc.es
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General description	The aim of this subject is to introduce the student to the methodologies of technological research in Architecture. Spanish Faculties of Architecture have three areas that have this consideration: Building, Structures and Technical Services. Each of them uses specific resources that should be known. The subject consists of introductory sessions, about what architectural research consists of, and specific sessions, in which various researchers working in these areas will show their experiences, with special emphasis in methodologies and results obtained. Finally, the group will have visits to the University of A Coruña laboratories, available to its researchers in technological areas.			
Contingency plan	1. Modifications to the contents: none 2. Methodologies. Teaching methodologies that are maintained: all, adapted to non-attendance UDC tools. Teaching methodologies that are modified 3. Mechanisms for personalized attention to students: Teams, Moodle and all the other UDC tools. 4. Modifications in the evaluation: none 5. Modifications to the bibliography or webgraphy:none			

Study programme competences	
Code	**Study programme competences**
A7	E07 - Aptitude ou capacidade para a conservación da obra grosa e acabada, cuestión que comporta a inspección, a análise, o control de calidade, a definición das condicións de mantemento e a intervención nos sistemas construtivos de edificación, incluídos os elementos de compartimentación interior, as carpintarías e as solucións de envolvente.
A8	E08 - Aptitude ou capacidade para redactar informes técnicos e proxectos de rehabilitación do patrimonio edificado, incluídas actividades de asesoramento e consultoría.
B1	CB6 - Posuír e comprender coñecementos que proporcionen unha base ou oportunidade para ser orixinais no desenvolvemento e/ou a aplicación de ideas, a miúdo nun contexto de investigación.
B2	CB7 - Que os estudantes saiban aplicar os coñecementos adquiridos e a súa capacidade de resolución de problemas en contornos novos ou pouco coñecidos dentro de contextos máis amplos (ou multidisciplinares) relacionados coa súa área de estudo.
B3	CB8 - Que os estudantes sexan capaces de integrar coñecementos e enfrontarse á complexidade de formular xuízos a partir dunha información que, sendo incompleta ou limitada, inclúa reflexións sobre as responsabilidades sociais e éticas vinculadas á aplicación dos seus coñecementos e xuízos.
B4	CB9 - Que os estudantes saiban comunicar as súas conclusións e os coñecementos e as razóns últimas que as sustentan a públicos especializados e non especializados dun modo claro e sen ambigüidades.
B5	CB10 - Que os estudantes manexen as habilidades de aprendizaxe que lles permitan continuar estudando dun modo que haberá de ser en gran medida autodirixido ou autónomo.
C1	T01 - Capacidade de análise e síntese
C2	T02 - Capacidade de organización e planificación

C3	T03 - Comunicación oral e escrita
C4	T04 - Coñecementos de informática relativos ao ámbito de estudo
C5	T05 - Capacidade para a xestión da información
C6	T06 - Resolución de problemas
C7	T07 - Toma de decisións
C8	T08 - Aprendizaxe autónoma
C9	T09 - Creatividade
C14	T14 - Sensibilidade estética

Learning outcomes				
Learning outcomes		**Study programme competences**		
CM6 Critically assess the knowledge, technology and information available to solve the problems they must face, as well as discovering the limits of knowledge in the area of technology in architecture, to propose research that will advance it.		AJ7 AJ8	BJ1 BJ2 BJ3 BJ4 BJ5	CJ1 CJ6 CJ7 CJ8 CJ9
AP3 Conservation of heavy work: aptitude or ability to innovate in everything related to analysis, quality control, definition of maintenance conditions and repair of building structures and foundations.		AJ8	BJ1 BJ2 BJ3 BJ4 BJ5	
AP6 Conservation of heavy and finished work: aptitude or ability to innovate in everything related to analysis, quality control and definition of conditions, maintenance and intervention measures in interior partition systems, carpentry and other finished interior work , as well as in the closings, covers, etc.			BJ1 BJ2 BJ3 BJ4 BJ5	CJ1 CJ2 CJ3 CJ4 CJ5 CJ6 CJ7 CJ8 CJ9 CJ14

Contents	
Topic	**Sub-topic**
1. Technological research in Architecture	Initial approaches The doctoral thesis
2. Technological research in Architecture	Bibliographic resources Online resources
3. Research in Architectural Structures	General framework Recent research
4. Research in Building	General framework Recent research
5. Research in Technical Systems	General framework Recent research
6. General Research Support Services (SXAIN)	Visit to the different departments
7. Center for Technological Innovation in Building and Civil Engineering (CITEEC)	Visit to the different departments

Planning

Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A7 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4 C5 C6 C7	6	0	6
Case study	C6 C7 C8 C9 C14	15	0	15
Supervised projects	A7 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4 C5 C6 C7 C8 C9 C14	0	52	52
Personalized attention		2	0	2
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	**Description**
Guest lecture / keynote speech	This subject needs to transmit knowledge, define concepts and explore a reality - the scientific one - that is novel to university students with eminently technical and artistic training. In the magisterial sessions it is sought to fill this gap.
Case study	The matter would be raised only in a theoretical way if students were not familiarized with the documents that make up the doctoral thesis, with the methods to follow in the formalization of research projects, and above all, with specific research. The case study is intended to complement the theoretical knowledge already explained with practical cases.
Supervised projects	Approach by the student of an original research work, as a technological doctoral thesis project that could be developed at the UDC School of Architecture.

Personalized attention	
Methodologies	**Description**
Supervised projects Guest lecture / keynote speech	Guest lecture / keynote speech and Case studies. Efforts will be made to involve each student in the theoretical explanations, promoting participation. Supervised projects. The practical exercise will be supervised from the beginning, with previously established periodic corrections.

Assessment			
Methodologies	**Competencies**	**Description**	**Qualification**
Supervised projects	A7 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4 C5 C6 C7 C8 C9 C14	The adaptation of the research project to the usual scientific standards will be assessed, with special attention to the correctness of the dating system used.	90
Guest lecture / keynote speech	A7 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4 C5 C6 C7	Given the face-to-face nature of the MURA, in this matter an attendance of no less than 80% is required relative to the totality of the scheduled face-to-face sessions.	10

Assessment comments
The general requirement of attendance will not have effect for students who have recognized a part-time dedication according to the norm that regulates the regime of dedication to study and the permanence and progression of undergraduate and master's students at the UDC. The monitoring of the course and authorship of works will be verified with the fulfillment of obligatory tutorials.

Sources of information	
Basic	Eco, Umberto. 1977. Cómo se hace una tesis.

Complementary	Chinneck, John W. 2006. How to organize your thesis?Easterbrook, Steve. 2012. How thesis get written: some cool tips.ETH Zurich. 2020. Doctoral Thesis & Doctoral examination.Kung, H.T. 1987. Useful things to know about Ph.D. thesis research.Levine, Joseph. 2020. Writing and presenting your thesis or dissertation.The University of Queensland. 2019. Thesis writing tips.Chinneck, John W. 2006. How to organize your thesis?Easterbrook, Steve. 2012. How thesis get written: some cool tips.ETH Zurich. 2020. Doctoral Thesis & Doctoral examination.Kung, H.T. 1987. Useful things to know about Ph.D. thesis research.Levine, Joseph. 2020. Writing and presenting your thesis or dissertation.The University of Queensland. 2019. Thesis writing tips.

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments
This subject serves as a training complement to the ETSAC ?Architecture and Urbanism? doctorate program.

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.