UNIVERSIDADE DA CORUÑA

Teaching Guide				
Identifying Data				2022/23
Subject (*)	Construction 2		Code	630G02020
Study programme	Grao en Estudos de Arquitectura			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	1st four-month period	Second	Obligatory	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Construcións e Estruturas Arquitectónicas, Civís e Aeronáuticas			
Coordinador	Seoane Gonzalez, Jose Carlos	E-mail	seoane@udc.es	
Lecturers	Amor Cagiao, Jose Antonio Carreira Montes, José Ángel Seoane González, José Carlos	E-mail	j.amor@udc.es j.cmontes@udc.es carlos.seoane@udc.es	
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General description	In this course, after an Introduction to Construction, Architectural Processes and Materials and their relation to Architecture, the general characteristics of materials are studied; the conglomerates and binders with which they are manufactured, their characteristics, their prescription, and their uses; attention is paid to soils and their relation to buildings; to their foundations and their retaining elements; finally developing the bearing masonry walls, both in their technical aspects and in their architectural connotations. The development of the program includes a historical framework, typologies, regulations, conception, prescription and pathologies.			

Study programme competences	
Code	Study programme competences

Learning outcomes			
Learning outcomes	Study programme competences		
The student will know the generic behavior of materials under certain stresses; he will know how to manufacture and use conglomerates; he will know the soils and their retaining elements; he will know about the different foundations that transfer the loads of the buildings to the ground and will master the load-bearing masonry walls with all their characteristics. You will also learn how to design a single-family house, without designing it.			

Contents	
Topic	Sub-topic

INTRODUCTION TO CONSTRUCTION TOPIC 01. ARCHITECTURE, MATERIALS AND CONSTRUCTION. TOPIC 02. GENERAL CHARACTERISTICS OF MATERIALS TOPIC 03. CONGLOMERATES AND CONGLOMERATES TOPIC 04. SOILS TOPIC 05. FOUNDATION AND CONTAINMENT SYSTEMS SUBJECT TOPIC 06. MASONRY LOAD-BEARING WALLS TOPIC 07. CERAMIC FACTORIES TOPIC 08. CONCRETE BLOCK FACTORIES TOPIC 09. NATURAL STONE FACTORIES	INTRODUCTION TO CONSTRUCTION. TOPIC 01. ARCHITECTURE, MATERIALS, AND CONSTRUCTION Lesson 01. THE ARCHITECTURAL PROCESS Lesson 02. THE ARCHITECTURE OF MATERIALS TOPIC 02. GENERAL CHARACTERISTICS OF MATERIALS. Lesson 03. Construction materials Lesson 04. Organoleptic and physical characteristics of materials. Lesson 05. Mechanical characteristics of materials Lesson 06. Thermal characteristics of materials. CTE-DB-HE Lesson 07. Hygrothermal characteristics of materials. CTE-DB-HE Lesson 08. Chemical characteristics of materials. Lesson 09. Acoustic characteristics of materials. CTE-DB-HR TOPIC 03. BINDERS AND CONGLOMERATES Lesson 10. Binders and Conglomerates Lesson 11. Plasters Lesson 12. Limes Lesson 13. Types of cement Lesson 14. Mixing water. Aggregates. Additives. Additions Lesson 15. Pastes Lesson 16. Mortars. Lesson 17. Concretes TOPIC 04. SOILS Lesson 18. Soils. Geotechnical studies. CTE-DB-SE-C Lesson 19. Soils: conditioning and staking out of the building. TOPIC 05. FOUNDATION AND RETAINING SYSTEMS Lesson 20. Direct and deep foundations. Seats. Reinforcements Lesson 21. Containment Systems. TOPIC 06. MASONRY LOAD-BEARING WALLS Lesson 22. Masonry and load-bearing walls. Reinforced masonry. CTE-DB-SE-F. TOPIC 07. CERAMIC MASONRY Lesson 23. Ceramics and masonry work TOPIC 08. CONCRETE BLOCK MASONRY Lesson 24. Concrete blocks and masonry TOPIC 09. NATURAL STONE MASONRY Lesson 25. Natural Stones and masonry.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Guest lecture / keynote speech		0	56	56
Multiple-choice questions		0	2	2

Workshop		28	62	90
Objective test		1	0	1
Personalized attention		168	0	168
(*)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	The different lessons of the program are developed, during the theoretical classes. These lessons are all presented in PowerPoint and in each one, the student is informed of the time of exposition, the objectives to be achieved, the contents, and the basic and extension bibliography, if applicable. We are not looking for a memorized knowledge of the contents, but an intelligent knowledge of the subject. Knowledge, in which the vision of injuries related to the content allows the student to value the transcendence of the decisions taken.
Multiple-choice questions	In order to encourage continuous learning and to know the results of such learning, there will be five compulsory tests which, between them, will cover the different topics and their lessons.
Workshop	The realization of practices is one of the bases of teaching. In them, the student finds an immediate identification between the theoretical knowledge of the lectures and its constructive materialization. The realization of practice will be proposed by means of the constructive development of certain architectures. In the development of the practical classes, examples that serve as a model for the development of the practice will be exposed.
Objective test	Where the knowledge acquired from the theoretical and practical parts of the course will be demonstrated.

Personalized attention	
Methodologies	**Description**
Multiple-choice questions Guest lecture / keynote speech Workshop Objective test	The master classes will be attended, for clarification of concepts and doubts, through tutorials with a specific schedule and by e-mail and Moodle daily. The practical classes will have personalized attention for the development of the work and for the clarification of concepts and doubts, through tutorials with a specific schedule and by e-mail and Moodle daily. The presential objective test will have, before and after the test, personalized attention for clarification of concepts and doubts, through specific tutoring and by e-mail and Moodle.

Assessment			
Methodologies	**Competencies**	**Description**	**Qualification**
Multiple-choice questions		*There will be 5 multiple-choice tests, individually evaluated out of ten (10.0), in order to assess the knowledge of the theoretical program of the subject. 2 attempts are allowed in each test, with penalties (first attempt: penalty 0 points - pass 5.0; second attempt: penalty 1.5 points - pass 6.5). *It is required to pass all the multiple-choice tests independently (obtain a 5.0 out of 10.0 in each of them, if there are no penalties for repetition).	42
Workshop		*The practical exercise is graded out of ten (10) and a minimum grade of five (5.0) is required in both opportunities in order to pass it. Each practice grade will be agreed upon by all the practice teachers. * In the classes, it will be necessary, on the part of the students, the public exhibition of their practices.	50

Objective test		*It is graded out of ten (10.0) and a minimum grade of four (4.0) is required in both opportunities in order to pass it. Each grade will be agreed upon by all theory professors.	8

Assessment comments
The CONTINUOUS EVALUATION method is used in this course. Itwill not be possible to pass the course without attending at least 80% of thetheoretical classes (lectures) and practical classes (workshop). Proof ofnon-attendance, if any, will be presented once drafted and as soon as possible,not being admitted at the end of the course. In no case it will be possible topass the course without attending a minimum of 50% of the practical classes. Itwill not be possible to pass the course with a grade lower than five (5.0) ineach of the multiple-choice tests; with a grade lower than four (4.0) in theobjective test; and with a grade lower than five (5.0) in the practical course. Takinginto account the above, the final grade will be obtained by averaging the gradeof the practical test and the average grade of the remaining six grades. The passes of the first opportunity will bekept until the second opportunity. NO GRADES,NEITHER OF THEORY NOR OF PRACTICE, FROM PREVIOUS COURSES WILL BE KEPT.

Sources of information	
Basic	- José Amor Cajiao (2004). Materiales I. Editorial Noroeste - Theodor Hugues, Ludwig Steiger, Johann Weber (). Piedra natural. Tipos de piedra, detalles, ejemplos. GG - Klaus Greilich, Theodor Hugues, Christine Peter (). Bloques cerámicos. GG - AA. VV. (2009). Aplicaciones del CTE-SE-F. Monografías de los Colegios de Arquitectos. - (). CTE-DB-SE-F, DB-HE, DB-SE-C. - Fructuós Mañá Reixach (2007). A obra grosa . Santiago. COAG - Jose Amor Cajiao_Antonio Raya de Blas (2012). Los Materiales y la Arquitectura. Editorial Noroeste - Ignacio Aparicio (2000). La fachada de ladrillo. Barcelona. Bisagra - (). Tectónica 15 Cerámica (I). - AA. VV (1998). Manual de Geotecnia i patología, diagnosi i intervenció en fonaments. CAAT de Barcelona - Richard Weston (2003). Materiales, forma y arquitectura. Barcelona. Blume - Ignacio Paricio (1983 revisad post). La construcción de la arquitectura. Barcelona ITC - José Laffarga y Manuel Olivares (1995). Materiales de construcción . Sevilla. Editan - David Dernie (2003). Arquitectura en Piedra . Barcelona Blume - Jose Amor Cagiao (2004). Materiales II. Editorial Noroeste - Vivienda en Mallorca. Jørn Utzon - Iglesia de la Atlántida. Eladio Dieste. Uruguay - Iglesia Evangelista. Berlin. Rudolf Reiterman & Peter Snsseroth - Escuela de Idiomas. A. Albalat. A Coruña. España. - Museo de la Piedra. K. Kuma - Termas en Vals. Meter - Casa Moledo. Souto de Moura - Iglesia del Peregrinaje. R. Piano - Real Club de Golf. El Prat. C. Ferrater
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Construction 1/630G02010
Subjects that are recommended to be taken simultaneously
Architectural Analysis 2/630G02017
Subjects that continue the syllabus
Construction 3/630G02022
Other comments

(*)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.