Teaching Guide				
Identifying Data				2020/21
Subject (*)	Construction 1		Code	630G02010
Study programme	Grao en Estudos de Arquitectura			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	First	Obligatory	6
Language	SpanishEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Construcións e Estruturas Arquitectónicas, Civís e Aeronáuticas			
Coordinador	Souto Garcia, Valentin Balbino		E-mail	valentin.souto@udc.es
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Web	moodle.udc.es/course/view.php?id=29486			
General description	This course aims to provide the student with a frame of reference which let him locate and understand the knowledge in the subjects of construction of further courses. In other words, at the end of the course, the student should be able of: - Locate correctly the contents of subjects in the area of architectural constructions which will be taught throughout their studies in the University. -Recognize the materials, elements and construction systems, as well as its characteristics, grasp and general requirements -represent accurately the elements and building systems -Rating accuracy and clarity in the discipline of the construction -Mastering the vocabulary of the Construction. All of this inside the frame of the Spanish regulations.			

Contingency plan	PLAN DE CONTINGENCIA PARA EL CURSO 2020-2021 Titulación: Grado en Estudios de Arquitectura Asignatura: CONSTRUCCIÓN 1 - curso 1º - cuatrimestre 2º Código: 630G020102021. PLANTEAMIENTO Ante la incertidumbre existente en la fecha en la que se redacta este documento, incorporado a la guía docente de la asignatura para el curso 2020-2021, acerca de las condiciones en las que se podrá llevar a cabo la docencia y la evaluación en función de las circunstancias derivadas de la pandemia COVID-19, se consideran dos posibles situaciones: SITUACIÓN 1 Se prevé la posibilidad de que debido a la capacidad de las aulas u otro tipo de razones no sea factible la docencia presencial de las clases expositivas (sesiones magistrales), en tanto la docencia interactiva y de taller, al ser grupos de menor número de alumnos pueda seguir impartiéndose de forma presencial. En esta situación el único cambio previsto afecta al método docente empleado en las clases expositivas, que se realizarán por videoconferencias por medio de la plataforma Teams de Office365 disponible en la UDC. Las sesiones se llevarían a cabo en los mismos horarios de clases presenciales vigentes para el curso 2020-2021. Todos los alumnos de la asignatura, con independencia del grupo al que estén adscritos, podrían asistir a su elección a cualquiera de las sesiones de clase de mañana o de tarde Los asistentes a las videoconferencias podrán intervenir durante las sesiones para plantear sus solicitudes de aclaraciones, activando el micrófono o a través del chat. Los test de seguimiento del aprovechamiento del contenido de las clases por los alumnos se plantean para su realización a través de Moodle, incluso para el caso de que sea posible la docencia presencial, por lo que no sería necesario efectuar adaptaciones para la situación de docencia no presencial. No se plantean cambios en los contenidos de la materia, ni en los mecanismos de atención personalizada al alumno, ni en los criterios de evaluación. SITUACIÓN 2 Se prevé la posibilidad de que se produzca un confinamiento domiciliario del alumnado y del profesorado, y de que por ello no sea factible ningún tipo de docencia presencial. En tal caso, las adaptaciones previstas serán las siguientes: 1.- Contenidos No se prevén cambios. 2.- Métodos Docentes -Para docencia expositiva: ídem situación 1. - Para docencia interactiva: Se adoptan métodos alternativos a la docencia presencial, que consistirán en: . Utilización de la plataforma Moodle para proporcionar a los alumnos la documentación necesaria para avanzar en el programa formativo (recurso ya utilizado en situación convencional de docencia presencial) - Tutorización del desarrollo de los ejercicios prácticos por medio del foro virtual de Moodle, que permanece abierto durante todo el período lectivo, y de sesiones en la plataforma Teams incluida en Office365 que se llevarían a cabo en los mismos horarios de clases presenciales interactivas vigentes para el curso 2020-2021. 3. Mecanismos de atención personalizada al alumnado Atención por los profesores a las consultas del alumnado : Por medio de la plataforma Teams: En horario de tutorías Por medio de correo electrónico sin necesidad de sujeción a horario de tutorías. 4. Evaluación No se prevén cambios en la ponderación de los diferentes elementos de evaluación que intervienen para la determinación de la calificación global en las dos oportunidades del curso, toda vez que en la Guía Docente ya se ha tenido en cuenta la posibilidad de que se restrinja la docencia presencial. La única diferencia consistiría en que la prueba objetiva final se desarrollaría íntegramente en formato no presencial, con test realizado a través de Moodle y con ejercicios prácticos que se plantearán para dificultar el uso de ayudas no autorizadas y que se entregarán a través de Moodle. Para evitar posibles suplantaciones o colaboraciones no permisibles

durante la realización del examen, se mantendrá vigilancia permanente del trabajo del alumnado a través de la plataforma Teams por medio de las cámaras de los ordenadores y periódicamente se pedirá a los alumnos que muestren a la cámara el trabajo que estén realizando.

5.Posibles dificultades o carencia de medios del alumnado

En cualquiera de las dos situaciones contempladas en este plan de contingencia, los alumnos que padezcan dificultades para el seguimiento de la docencia no presencial, consistentes en carencia o deficiencias de equipamiento informático o en dificultades de conexión a internet, deberán ponerlas en conocimiento del profesorado tan pronto como se produzca la adopción de métodos no presenciales: El profesorado dará traslado de esas circunstancias a la dirección del centro y al vicerrectorado correspondiente a fin de éste adopte las medidas pertinentes. No serán admisibles planteamientos de las antedichas dificultades que los alumnos puedan formular inmediatamente antes del examen o prueba objetiva si no han sido puestas previamente en conocimiento del profesorado según lo indicado en el párrafo anterior.

6. Bibliografía o webgrafía

No se prevén modificaciones respecto del contenido de la Guía Docente.

Study programme competences / results	
Code	Study programme competences / results
A12	Ability to conceive, calculate, design, integrate in buildings and urban units and execute building structures (T)
A13	Ability to conceive, calculate, design, integrate in buildings and urban units and execute interior partition walls, carpentry, stairs and other finished work (T)
A14	Ability to conceive, calculate, design, integrate in buildings and urban units and execute exterior walls and cladding, roofing and other structural work (T)
A15	Ability to conceive, calculate, design, integrate in buildings and urban units and execute foundation solutions (T)
A17	Ability to apply technical and construction standards and regulations
A25	Adequate knowledge of conventional construction systems and pathology
A26	Adequate knowledge of the physical and chemical characteristics, production procedures, pathology and use of building materials
A27	Adequate knowledge of industrialized building systems
A39	Ability to remove architectural barriers (T)
A41	Ability to solve the passive environmental conditioning, including thermal and acoustic insulation, climate control, energy efficiency and natural lighting (T)
A63	Development, presentation and public review before a university jury of an original academic work individually elaborated and linked to any of the subjects previously studied
B1	Students have demonstrated knowledge and understanding in a field of study that is based on the general secondary education, and is usually at a level which, although it is supported by advanced textbooks, includes some aspects that imply knowledge of the forefront of their field of study
B2	Students can apply their knowledge to their work or vocation in a professional way and have competences that can be displayed by means of elaborating and sustaining arguments and solving problems in their field of study
B3	Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues
B4	Students can communicate information, ideas, problems and solutions to both specialist and non-specialist public
B5	Students have developed those learning skills necessary to undertake further studies with a high level of autonomy
B6	Knowing the history and theories of architecture and the arts, technologies and human sciences related to architecture
B7	Knowing the role of the fine arts as a factor that influences the quality of architectural design
B9	Understanding the problems of the structural design, construction and engineering associated with building design and technical solutions
B10	Knowing the physical problems, various technologies and function of buildings so as to provide them with internal conditions of comfort and protection against the climate factors in the context of sustainable development
B11	"Knowing the industries, organizations, regulations and procedures involved in translating design concepts into buildings and integrating plans into planning "
B12	Understanding the relationship between people and buildings and between these and their environment, and the need to relate buildings and the spaces between them according to the needs and human scale
C1	Adequate oral and written expression in the official languages.
C2	Mastering oral and written expression in a foreign language.
C3	Using ICT in working contexts and lifelong learning.
C4	Exercising an open, educated, critical, committed, democratic and caring citizenship, being able to analyse facts, diagnose problems, formulate and implement solutions based on knowledge and solutions for the common good
C5	Understanding the importance of entrepreneurial culture and the useful means for enterprising people.
C6	Critically evaluate the knowledge, technology and information available to solve the problems they must face
C7	Assuming as professionals and citizens the importance of learning throughout life
C8	Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society.

Learning outcomes	
Learning outcomes	Study programme competences / results

Become aware of the correlation between architectural design and construction solutions, the constraints imposed by the physical, chemical and mechanical properties of building materials and construction systems for the execution of works features. Acquiring the basic vocabulary of the construction which permits identification of members of the major building systems and structural foundations, vertical walls, roofs, vertical communications, partitions and window and door joinery elements. Knowing the basics of building structural systems with load-bearing walls and arcaded factory with metal and concrete elements in correspondence with constructive solutions to cover the vain systems: systems of wood and stone lintels, vaulted systems and horizontal slabs, floor slabs, plates. Industrialized slabs, nerves and joists. Know the elements of building systems of surface and deep foundations and retaining walls and understand the logic of its operation and implementation procedures. Know the basic building design conditions of vertical communications, stairs and ramps, the escape routes of the buildings and of the barriers to protect slopes. Knowing elementary level the construction and design of the vertical walls to fulfill thermal conditions, hygrothermal, acoustic, fire protection and stability and resistance to mechanical conditions. Knowing elementary constructive elements design conditions lighting and ventilation of buildings. Knowing elementary level the construction and design of slanted and flat for the fulfillment of the conditions of waterproof, thermal, hygrothermal, acoustic and fire protection overcast conditions. Knowing elementary level the construction and design of the elements of heavy or lightweight partitions.	A12 A13 A14 A15 A17 A25 A26 A27 A39 A41 A63	B1 B2 B3 B4 B5 B6 B7 B9 B10 B11 B12	C1 C2 C3 C4 C5 C6 C7 C8

Contents	
Topic	**Sub-topic**
Architecture and construction	1. Architecture and construction 2. Physical environment and materials
Building and structure	3. Introduction to structure 4. Compression 5. Traction 6. Flexion 7. Reinforced concrete as a structural material 8. Steel as a structural material 9. Foundations and retaining walls
Envelope	10. Anatomy of buildings 11. Vertical enclosures 12. Sloping roofs 13. Flat roofs
Climate and use control	14. Vertical communications 15. Internal partitions 16. Coatings 17. Installations

Planning

Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Workshop	B1 B2 B3 B4 B5 B6 B7 B9 B10 B11 B12 C1 C2 C3 C4 C5 C6 C7 C8	1.5	60	61.5
Student portfolio	B1 B2 B3 B4 B5 B6 B7 B9 B10 B11 B12 C1 C2 C3 C4 C5 C6 C7 C8	25.5	0	25.5
Objective test	A12 A13 A14 A15 A17 A25 A26 A27 A39 A41 A63	4	30	34
Guest lecture / keynote speech	A12 A13 A14 A15 A17 A25 A26 A27 A39 A41 A63 C1 C2 C3 C4 C5 C6 C7 C8	28	0	28
Personalized attention		1	0	1
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Workshop	Face non-performing individual exercises. The exercises will be presented and supervised by teachers in the classroom.
Student portfolio	Individual realization of a sketchbook to collect building systems studied in the course. The sketchbook will be performed in the classroom.
Objective test	Written exam in which the student must individually resolve issues related to topics covered in the course.
Guest lecture / keynote speech	Development and explanation of the topics of the course by the teacher. Realization of a booklet of notes taken by the students, in which they collect the explanations given by the teachers. The notebook will be presented on the day of the exam. It will be valued the effort to add additional information to the provided by professors.

Personalized attention	
Methodologies	Description
Student portfolio Workshop	Personal attention will be developed during the practical classes in which teachers advise students about their evolving work in progress.

Assessment			
Methodologies	Competencies / Results	Description	**Qualification**
Student portfolio	B1 B2 B3 B4 B5 B6 B7 B9 B10 B11 B12 C1 C2 C3 C4 C5 C6 C7 C8	Student portfolio assessment will be made only if presented bound, full and neat.	10
Objective test	A12 A13 A14 A15 A17 A25 A26 A27 A39 A41 A63	The score for each of the theoretical and practical exercises will be indicated in the statement of the Objective test.	40

Guest lecture / keynote speech	A12 A13 A14 A15 A17 A25 A26 A27 A39 A41 A63 C1 C2 C3 C4 C5 C6 C7 C8	The notes of the subject taken by the students in the expository classes will be evaluated. The effort made to complete the information will be taken into account through searches carried out by the students through the available sources: bibliography, webgraphy, commercial information, etc.The notes will be written in manuscript and the inclusion of the drawings and sketches made by the teachers in the lectures will be especially appreciated.	10
Workshop	B1 B2 B3 B4 B5 B6 B7 B9 B10 B11 B12 C1 C2 C3 C4 C5 C6 C7 C8	This calification could be distributed by the teacher in the form 35+5, 35% corresponding to the evaluation of current practices and 5% of the marks obtained in the follow-up checks carried out in the classroom.	40

Assessment comments
In order to carry out the global evaluation of the subject in any of the two opportunities, it will be necessary for students to: 1.They have attended at least 80% of the master sessions and the workshop, unless they justify the absences due to force majeure. 2. Present all the practices carried out in the workshop and each of them have a score equal to or greater than 40% of the maximum mark. In the event that a practice has a grade lower than 40% of the maximum, until the date of the objective test of each of the two opportunities, students may submit substitution exercises until they reach a grade equal to or greater than 40% of the maximum grade; in case of not doing so, the students will appear as ?Not presented? in the minute of the corresponding opportunity. 3.Submit the complete Portfolio and obtain a grade equal to or greater than 40% of the maximum grade. In the event that the portfolio grade is less than 40% of the maximum, the students will appear as ?Not presented? in the minutes of the corresponding opportunity 4. Give the notes taken in the expository classes and obtain a grade equal to or greater than 40% of the maximum grade. In case the grade of the notes is less than 40% of the maximum, the students will appear as ?Not presented? en the minutes of the corresponding opportunity. 5. Take the objective test on the date established in the examination calendary approved by the center. In the event that the grade of the fina objective test or any of its parts is less than 40% of the maximum, the overall grade that will appear in the minutes will be that.

Sources of information	
Basic	- Fernández Madrid, J., Esteban Fernández-Cobián (1984/2008). Construcción 1. Apuntes (2 vol.). A Coruña: Reprografía del Noroeste ----
Complementary	- Allen, E. (1997). Cómo funciona un edificio. Principios elementales. Barcelona: Gustavo Gili - Ching, F.D.K. (1997). Diccionario visual de arquitectura. Barcelona: Gustavo Gili - González Moreno-Navarro, J.L. et al. (1997). Claves del construir arquitectónico. Tomo 1. Principios. Barcelona: Gustavo Gili - Gordon, J.E. (1999). Estructuras o por qué las cosas no se caen. Madrid: Celeste - Paricio Ansuategui, I. (1996). La construcción de la arquitectura (Vol. 2. Los elementos). Barcelona: Bisagra - Schmitt, H. (1998). Tratado de construcción. Barcelona: Gustavo Gili - Souto García, V. (2016). 1450 preguntas sobre construcción arquitectónica. A Coruña: Reprografía del Noroeste - Regalado Tesoro, F. (2001). Breve introducción a las estructuras y sus mecanismos resistentes. Alicante: Cype Ingenieros S.A. - Torroja Miret, E. (1996). Razón y ser de los tipos estructurales. Madrid: CSIC

Recommendations
Subjects that it is recommended to have taken before
Introduction to Architecture/630G02005
Subjects that are recommended to be taken simultaneously
Physics for Architecture 1/630G02008
Subjects that continue the syllabus
Construction 2/630G02020
Other comments

The teaching of this subject, as well as testing and assessment tests will be adapted to the learning conditions of students performing mobility programs.

(*)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.