



## Teaching Guide

| Teaching Guide      |   |        |   |         |
|---------------------|---|--------|---|---------|
| Identifying Data    |   |        | 2021/22   |         |
| Subject (*)         | Construction 7  | Code   | 630G02045   |         |
| Study programme     | Grao en Estudos de Arquitectura   |        |   |         |
| Descriptors         |   |        |   |         |
| Cycle               | Period  | Year   | Type  | Credits |
| Graduate            | 1st four-month period   | Fifth  | Obligatory  | 4.5     |
| Language            | Spanish   |        |   |         |
| Teaching method     | Hybrid  |        |   |         |
| Prerequisites       |   |        |   |         |
| Department          | Construcións Arquitectónicas<br>Construcións e Estruturas Arquitectónicas, Cívicas e Aeronáuticas<br>Enxeñaría Civil<br>Expresión Gráfica Arquitectónica<br>Matemáticas<br>Proxectos Arquitectónicos, Urbanismo e Composición   |        |   |         |
| Coordinador         | Quintáns Eiras, Carlos Luis   | E-mail | carlos.quintans@udc.es  |         |
| Lecturers           | Pita Abad, Carlos Alberto<br>Quintáns Eiras, Carlos Luis<br>Seoane González, José Carlos  | E-mail | c.pita@udc.es<br>carlos.quintans@udc.es<br>carlos.seoane@udc.es |         |
| Web                 |   |        |   |         |
| General description | <ul style="list-style-type: none"><li>-The relation between the different parts of the building as generators of its design.</li><li>-The terrain and its implications in the design.</li><li>-Relation between roof and facade.</li><li>-Relation between enclosure and structure.</li><li>-Systems and structure.</li><li>-Systems and enclosures.</li><li>-Water and building.</li><li>-The hollow.</li><li>-High buildings.</li><li>-Structures of large spans.</li><li>-Systematization and Construction</li></ul> |        |   |         |



|                         |  |
|-------------------------|--|
| <b>Contingency plan</b> | <p>Two contingency plans are designed, based on two possible scenarios.</p> <p><b>SCENARIO 1</b> A first scenario is considered in which, due to the capacity of the classrooms or because any other reasons, would not be feasible to teach the lecture classes in person, while the interactive -exercises- and workshop classes, because are in smaller groups of students, could continue to be taught In-person basis. In this scenario, the lecture sessions will be taught in on-line format, using the Microsoft Teams platform but that would not imply any changes in the curriculum of the course, nor in the mechanisms of personalized attention to the student, nor in the grading criteria of this course.</p> <p><b>SCENARIO 2</b> A second scenario is considered in which, due to a possible confinement, no teaching in-person would be possible at all. In this case, the changes to be implemented would be the following: 1. Course curriculum. No changes will be made. 2. Methodologies *Teaching methodologies will keep the same *Teaching methodologies to be modified: When teaching in-person will be no possible, alternative strategies will be adopted to facilitate and guarantee learning and the adequate development of the course. To this end, the following modifications to the teaching guide are proposed:</p> <ul style="list-style-type: none"> <li>-Lecture class: the lectures will be taught online using the Microsoft Teams platform. Within the Moodle platform, as in the case of teaching in-person, students will have access to the academic material related to the course, as well as to complementary and support documentation.</li> <li>-Workshop: it will be adapted to the online form, using the Microsoft Teams platform. As during in-person classes, assignments will be enabled in the Moodle platform for the partial and final exercises of the required course practices.</li> <li>-Readings: No changes. 3. Mechanisms of personalized attention to the students -Email: use adapted to the schedule of class and tutorials to ask questions and to request online meetings to solve problems. -Moodle: according to the needs of the students, resources such as forums, etc. can be enabled to formulate the necessary consultations. -Microsoft Teams: 1 weekly session in the time slot assigned to the course in the school's schedule. It may also serve as a communication channel for individual or group attention during the tutoring schedule of each teacher. 4. Modifications in the evaluation No modifications. * Observations on grading: The criteria that appear in the teaching guide are maintained, except for the references to the attendance, which will only be made in relation to the sessions in-person that have taken place up to the moment in which the in-person activity is suspended. In any case, for the grading of the course an optimum percentage of regular participation in the online activities will be considered, like that fixed for the in-person activity.</li> </ul> <p>5. Modifications of the bibliography or web-graphy: No changes will be made.</p> |
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| <b>Study programme competences</b> |   |
|------------------------------------|---|
| <b>Code</b>                        | <b>Study programme competences</b>  |
| A12                                | Ability to conceive, calculate, design, integrate in buildings and urban units and execute building structures (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   |
| A31                                | Knowledge of methods of measurement, assessment and expert's report   |
| A32                                | Knowledge of the project of health and safety at the construction site  |
| 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   |



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| 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.  |
| 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            |   |  |
| Knowledge of the physical factors that produce movements and tensions that trigger pathological processes in buildings.  | A12<br>A17<br>A25<br>A26<br>A27        | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B7<br>B9<br>B10<br>B11<br>B12 | C1<br>C3<br>C4<br>C5<br>C6<br>C7<br>C8 |
| Ability to analyze, identify, assess, and prioritize situations of a physical, psychological and environmental nature that must be resolved with the construction design | A12<br>A25<br>A26                      |   |  |
| Integrating design capacity to achieve the compatible coexistence of each one of the different construction systems  | A12<br>A17<br>A25<br>A26<br>A27<br>A63 | B9<br>B10<br>B11<br>B12   | C1<br>C3<br>C4<br>C5<br>C6<br>C7<br>C8 |



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|---|-----|--|--|
| Knowledge of the technical codes related to the specific type of building | A12 |  |  |
|   | A17 |  |  |
|   | A25 |  |  |
|   | A26 |  |  |
|   | A27 |  |  |
|   | A31 |  |  |
|   | A32 |  |  |

| Contents  |           |
|---|-----------|
| Topic   | Sub-topic |
| <ul style="list-style-type: none"> <li>-The relation between the different parts of the building as generators of the design.</li> <li>-The terrain, implications in the design.</li> <li>-Relations between roof and facade.</li> <li>-Relations between enclosure and structure.</li> <li>-Systems and structure.</li> <li>-Systems and enclosures or partitions.</li> <li>-Water and building.</li> <li>-The hollow.</li> <li>-High buildings.</li> <li>-Structures of large spans.</li> <li>-Systematization in construction</li> </ul> |           |

| Planning                       |  |                      |                               |             |
|--------------------------------|--|----------------------|-------------------------------|-------------|
| Methodologies / tests          | Competencies   | Ordinary class hours | Student's personal work hours | Total hours |
| Guest lecture / keynote speech | A12 A17 A25 A26<br>A27 A31 A32   | 15                   | 15                            | 30          |
| Workbook                       | A12 A17  | 0                    | 10                            | 10          |
| Workshop                       | A12 A17 A25 A26<br>A27 A31 A32 A63 B1<br>B2 B3 B4 B5 B6 B7<br>B9 B10 B11 B12 C1<br>C3 C4 C5 C6 C7 C8 | 0                    | 60                            | 60          |
| Supervised projects            | A12 A17 A25 A26<br>A27   | 0                    | 11.5                          | 11.5        |
| 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   |
| Guest lecture / keynote speech | Theoretical-practical explanation of the basic concepts that affect the coherence of the materials and systems used, of their adequacy and that affect the design, execution and maintenance of the constructions.          |
| Workbook                       | Readings. The students will read the books, articles and documentation indicated by the professors. To be able to have a record of the readings, students will have to present the requested exercise due in time and form. |



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| Workshop            | <p>The Workshop is a space for the student to work and exchange conceived to facilitate the confluence of the different areas related to Architecture, guaranteeing the optimization of teaching resources and rationalizing the student's work. The Workshop aims to establish mechanisms of coordination and transversality throughout the studies, avoiding duplication and reiteration in the requirements. The realization of exercises, as the basis of teaching, in which the student finds an immediate identification between the conception of the design and its materialization, applying the knowledge of the lectures and readings.</p> <p>Partial deliveries are mandatory. Individualized teaching in practical classes. The control of the exercises is done personally with corrections and by means of the presentation of students' work in front the class, to be able to generate also a debate around them. This course -C7- has 3 credits in the total of the Workshop for the 10th quarter.</p> |
| Supervised projects | The supervised works seek to verify the application of the knowledge acquired in the course and the acquired skills.   |

### Personalized attention

| Methodologies  | Description   |
|--|---|
| Guest lecture /<br>keynote speech<br>Supervised projects<br>Workshop | The workshop and the tutored work will have personalized attention from the professor for its development by the student in open sessions with the classmates. The master sessions and exercises will have personalized attention from the professor to explain concepts and to resolve questions in tutorials. |

### Assessment

| Methodologies                     | Competencies   | Description  | Qualification |
|-----------------------------------|--|--|---------------|
| Guest lecture /<br>keynote speech | A12 A17 A25 A26<br>A27 A31 A32   | An independent exercise will have to be developed to complete the supervised exercises   | 10            |
| Supervised projects               | A12 A17 A25 A26<br>A27   | Supervised exercise  | 20            |
| Workshop                          | A12 A17 A25 A26<br>A27 A31 A32 A63 B1<br>B2 B3 B4 B5 B6 B7<br>B9 B10 B11 B12 C1<br>C3 C4 C5 C6 C7 C8 | It is a critical exercise to evaluate the student's capacity for the construction detailing, with the necessary conditions of suitability, adequacy and coherence. | 70            |
| Others                            |  |  |               |

### Assessment comments



The Continuous Assessment method will be used, which assumes that class attendance will be controlled, and that part of the grade is indicated on the attitude and work of the student during the semester; but it must be completed also with theoretical-practical tests to verify that the student assimilated the conceptual and procedural contents of the course. Carrying out and individual presentation of the proposed exercises. Carrying out teamwork and its presentation and individual

and / or team defense. The written tests throughout the course, which will consist of questions related to both the theoretical part and the exercises carried out during the course. Practices developed in class and those carried out under continuous tutoring. Any other activity that is defined in the Teaching Guide of the course, the student's work will be graded in different percentage: theoretical knowledge will be counted like 30% of the final grade, while practical exercises will suppose the remaining 70%. In any case, the grade of the practical part of the course must be graded at least with a minimum of 5 out of 10 in order to be able to grade the course with a pass. The final grade of the student's work will be taking in account the delivers of the practical part of the course and a single final test, in which the theoretical and practical knowledge will be measured by the professor.

The evaluation criteria of the first and second opportunity are identical, they will have the same coefficients and the same minimum grade requirement as those indicated for the First Chance. The definition of the minimum requirements, schedule of deliveries, as well as the rest of the details, will be defined with more detail with the course schedule that is delivered at the beginning of the semester. The intermediate pass grades will be kept for the second opportunity, in which the students should complete those parts that were not graded with a pass, part of the course. Teaching to students that are part of mobility programs is adapted to the pedagogical conditions and special supervised exercises, as well as the different tests and exams.

**FIRST CHANCE:** To be able to pass the practical part of the course.

-Classroom Practice and Shared Workshop Practice- students must make all the scheduled deliveries on time throughout the course. The total non-presentation of the exercises will suppose the qualification of NO-ATTEND. It is mandatory to attend the in-person test. It is necessary to obtain at least a grade of 5 out of 10. A minimum attendance of 80% will be required to be able to attend the Classroom Practice part and the Shared Workshop Practice part of the course.

**SECOND CHANCE:** If the student does not pass the course at the first opportunity, he/she will present the same work required at the first opportunity on a scheduled date, making the corrections indicated by the professor and attending also the in-person test. All the parts will be assessed with the same coefficient for the final grade as has been defined for the first opportunity test.

## Sources of information

|              |  |
|--------------|--|
| <b>Basic</b> | ? Abalos y Herreros - TÉCNICA Y ARQUITECTURA EN LA CIUDAD CONTEMPORÁNEA . Ed. Nerea? Andrea Deplazes (2005) . CONSTRUIR LA ARQUITECTURA. Del material en bruto al edificio. Un manual. Ed. GG? Araujo, Ramón. LA ARQUITECTURA COMO TÉCNICA (1). ATC ediciones? Araujo, Ramón. CONSTRUIR EN ALTURA. Ed. Reverte? Araujo y Seco LA CASA EN SERIE (ETSAM). Escuela Tecnica Superior Arquitectura Madrid? Baixas, Juan Ignacio. FFORMA RESISTENTE. Ed. Arq. Santiago de Chile? Bruce Martin. LAS JUNTAS EN LOS EDIFICIOS. GG? Edward R. Ford. THE DETAILS OF MODERN ARCHITECTURE Vol 1/ 2 , MIT press? Kenhet Frampton. ESTUDIOS DE UNA CULTURA TECTÓNICA- Akal? M. Fengler . ESTRUCTURAS RESISTENTES Y ELEMENTOS DE FACHADA . Gustavo Gili? Studer, Daniel, ETH Zürich - BUK . Construction: Manual. ISBN-13: 978-3035622263? Paricio Ansuategui, I - (1984) 1.- LAS TECNICAS, 2.- LOS ELEMENTOS 3.- LA COMPOSICIÓN. . ITEC? Paricio, I. LAS CUBIERTAS CON CHAOA.- LAS CLARABOYAS, - LA PROTECCIÓN SOLAR. - LA FACHADA DE LADRILLO. ed Bisagra. ?Stike, James. DE LA CONSTRUCCIÓN A LOS PROYECTOS.Ed Reverte? Revista "TECTÓNICA" Nº 1 al 41 o bien en versión digital <a href="http://www.tectonica-online.com/">http://www.tectonica-online.com/</a> ?. <a href="https://atlas.archi/">https://atlas.archi/</a> ? Ministerio de la Vivienda. CODIGO TECNICO DE LA EDIFICACION |
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**Complementary**

## Recommendations

### Subjects that it is recommended to have taken before

Construction 6/630G01037

Facilities 2/630G01039

Projects 9/630G01041

### Subjects that are recommended to be taken simultaneously

Projects 10/630G01044



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| Subjects that continue the syllabus |
| Other comments                      |

&lt;p&gt; Sponse que o alumno ten os coñecementos das anteriores asignaturas de Construcción, para poder abordar a superación de esta asignatura.&lt;br /&gt;Según a documentación do Titulo de Arquitecto da ETSAC: ¿Os alumnos terán que cursar simultáneamente todas las asignaturas do Taller, polo que si e a primeira vez que se matriculan en asignaturas de un taller terán que facelo en todas las asignaturas do mesmo&quot; &quot;Os alumnos terán que cursar previa ou simultáneamente a un taller todas las asignaturas vinculadas a talleres anteriores que no &nbsp;superaran completamente&quot; &lt;/p&gt;

(\*)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.