

Academic Year/course: 2022/23

## 28619 - Building III

### Syllabus Information

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**Academic Year:** 2022/23

**Subject:** 28619 - Building III

**Faculty / School:** 175 - Escuela Universitaria Politécnica de La Almunia

**Degree:** 422 - Bachelor's Degree in Building Engineering

**ECTS:** 6.0

**Year:** 2

**Semester:** Second semester

**Subject Type:** Compulsory

**Module:**

## 1. General information

### 1.1. Aims of the course

**The course and its expected results respond to the following approaches and objectives:**

In the first place, students must learn about the field in which they will carry out their job and the regulations that affect it.

Secondly, they must acquire the necessary competences that will allow them to know, understand, design and implement building systems and processes corresponding to the different building stages, foundations, structures, roofs and claddings, as well as their specific features.

These objectives are in line with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the course learning outcomes provides training and competence to contribute to their achievement to some degree.

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.

12.2 By 2030, achieve the sustainable management and efficient use of natural resources.

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

### 1.2. Context and importance of this course in the degree

The course of **Building III** is the third contact that the students of Technical Architecture have with construction itself, from what they begin to become aware of how the building process develops in a global way and the role played by the Graduate in Technical Architecture.

It is part of a group of compulsory specific training areas throughout the four years of the degree, and they will provide many of the specific competences and further professional skills of these graduates.

### 1.3. Recommendations to take this course

The current curriculum does not set up any previous conditions to take this subject. However, it would be advisable not only to possess the basic knowledge of Mathematics, Physics, Fundamentals of Materials and Technical Drawing, but also to have completed and / or passed the following subjects:

- Construction Materials I.
- Construction Materials II.
- Structures I.
- Building I.
- Building II.

## 2. Learning goals

### 2.1. Competences

Upon passing the course, the student will have acquired the basic and general competences according to the degree verification report, in addition to the following specific competences:

CB3  
CE1  
CE4  
CE5  
CE7  
CE8  
CE9  
CE21  
CE30

[https://academico.unizar.es/sites/academico.unizar.es/files/archivos/ofiplan/memorias/grado/ingenieria/mv\\_142.pdf](https://academico.unizar.es/sites/academico.unizar.es/files/archivos/ofiplan/memorias/grado/ingenieria/mv_142.pdf)

## 2.2. Learning goals

The student, to pass this course, must demonstrate the following results ...

Have knowledge of the traditional, prefabricated and innovative construction systems used in construction and in its different typologies (residential, commercial, industrial), as well as in the development of urbanizations.

Have the aptitude to identify the elements and construction systems, define their function and compatibility, compare them technically and economically, specify and control their implementation within the construction process.

Know how to plan and resolve construction details and solutions, as well as conceive, design, define, detail and technically and solve elements, processes and construction systems.

Be able to apply the technical regulations to the building process, and generate technical specification documents of the construction procedures and methods of buildings, as well as express clearly and concisely orally the construction solutions and building procedures.

## 2.3. Importance of learning goals

This course EDIFICACION III, complements and completes the agenda of BUILDING I and II, which, as in every logical order such as construction, has been preceded by way of introduction the subject Building History.

The BUILDING (I, II and III), which form a coordinated whole, are complemented in later semesters with the STRUCTURES subjects and as a specialized complement the student will take the compulsory subjects of MAINTENANCE AND REHABILITATION OF BUILDINGS, of wide use in the sector and that of SUSTAINABLE BUILDING with wide future environmental and economic repercussions.

Once the constructive aspects are known, the main objective of the course is to determine the most suitable materials and systems for the different applications based on their safety, functionality and compatibility between them, taking into account budgetary criteria, quality, performance and deadlines, without forgetting their subsequent maintenance and operating expenses during its useful life.

## 3. Assessment (1st and 2nd call)

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that they have achieved the expected learning outcomes through the following assessment activities

At the beginning of the course the student will choose one of the following two assessment methodologies:

- **Global assessment, with continuous monitoring:** characterized by the obligation to take and pass the practical tests, and academic work proposed in the subject, within the established deadlines, and take a final written test.
- **Global assessment, without continuous monitoring:** characterized by not doing or not passing the practical tests, or academic work proposed in the subject. In this case, the student, in addition to taking the final written test,

must pass a final practical test, which will be held on the day of the exam, which will be a compendium of the practices developed during the course and will be carried out from a Proposed statement about a real building. The term and mode of delivery of practical tests and academic work will be indicated in the delivery of statements.

### **GLOBAL EVALUATION MODE, CONTINUOUS MONITORING**

The evaluation model will be global with continuous monitoring, and the teacher will evaluate the student's participation in the theoretical classes, the demonstration of the acquired knowledge and the ability to solve problems that the teacher will observe in the practical classes. Presentations will be made in class of the practical solutions adopted. Finally, the student must take a final written test on the theoretical contents of the subject, this final test may be fragmented from several tests.

To opt for the Continuous Assessment system, you must attend at least 80% of the face-to-face activities.

The following board summarizes the indicative weights of the parts mentioned in the evaluation process.

face-to-face activities - <i>ISABTP Project</i>	10%
<i>Self practices</i>	20%
<i>Final test</i>	70%

All students, who do not exceed the necessary minimum required of the practical tests or academic work proposed in the subject, will automatically go to the global assessment model without continuous monitoring.

**The ISABTP Project is compulsory to pass the Continuous Assessment course.**

### **GLOBAL EVALUATION MODE WITHOUT CONTINUOUS MONITORING**

The student must opt for this modality when, due to their personal situation, they cannot adapt to the rhythm of work required in the global assessment mode with continuous monitoring.

The student, in addition to the final written test, must pass a final practical test, which will be held on the same day as the exam, which will be a compendium of the practices developed during the course and will be based on a proposed statement about a building real.

Throughout the course, the student will be able to vary the evaluation system depending on the evolution of their personal situation.

The following table summarizes the maximum indicative weights of the parts mentioned in the evaluation process.

<i>Final written and practical test</i>	100%
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The minimum to pass this course in both continuous and global assessment system, will be in its part Practice of 1.5 points. over 3, and the minimum of the Final Written Test will be 3.5 points. over 7.

## **4. Methodology, learning tasks, syllabus and resources**

### **4.1. Methodological overview**

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as theory sessions, practice session, autonomous work and study, and tutorials.

A strong interaction between the teacher/student is promoted. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain

degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

The approach, methodology and assessment of this guide are intended to be the same for any teaching scenarios. They will be adapted to the social-health situation at any particular time, as well as to the instructions given by the authorities concerned.

## 4.2. Learning tasks

This course is organized as follows:

- **Theory sessions:** Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the course are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.
- **Practice sessions:** The teacher resolves practical problems or cases for demonstrative purposes. This type of teaching complements the theory shown in the lectures with practical aspects.
- **Self practical activities:** The students solve different kind of practical activities on their own, based on theoretical sessions.
- **Individual Tutorials:** Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online.
- **Autonomous work and study**
  - Study and understanding of the theory taught in the lectures.
  - Understanding and assimilation of the problems and practical cases solved in the practical classes.
  - Preparation of seminars, solutions to proposed problems, etc.
  - Preparation of laboratory workshops, preparation of summaries and reports.
  - Preparation of the written tests for continuous assessment and final exams.

## 4.3. Syllabus

The Building III subject consists of 6 ECTS credits, which represents 150 hours of student work in the subject during the semester, that is, 10 hours per week for 15 school weeks.

A summary of the indicative temporal distribution of a teaching week can be seen in the following table. These values are obtained from the subject file of the Verification Report of the degree title, taking into account that the degree of experimentality considered for said subject is low.

The topics to be discussed are:

<b>Isolations.</b>
<b>Precast intro</b>
<b>Precast structures</b>
<b>Precast flooring</b>
<b>Precast walls</b>
<b>Precast walls: GRC, metal sheet</b>
<b>ventilated walls</b>
<b>Roofs</b>
<b>Glued Laminated wood structures</b>
<b>Glass</b>
<b>Inside Carpentry</b>
<b>Outside Carpentry</b>
<b>Curtain walls</b>
<b>Urbanization works</b>

#### **4.4. Course planning and calendar**

The course has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class. This includes 3 hours of lectures, 1 of practice sessions and 6 of other activities every week.

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Faculty of EUPLA website and Moodle.

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28619>