

Academic Year/course: 2022/23

28614 - Building II

Syllabus Information

Academic Year: 2022/23

Subject: 28614 - Building II

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

Degree: 422 - Bachelor's Degree in Building Engineering

ECTS: 6.0

Year: 2

Semester: First 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:

Enabling students to acquire the necessary skills that will allow him to know, understand, design and implement systems and construction processes related to building works, in the context of the outside cover (claddings and roofs) and interior finishes.

These approaches and 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.

- (3) Good Health and Well-being.
- (4) Quality Education.
- (6) Clean Water and Sanitation.
- (7) Affordable and Clean Energy.
- (9) Industry, Innovation and Infrastructure.
- (11) Sustainable Cities and Communities.
- (12) Responsible Consumption and Production.
- (13) Climate Action.

1.2. Context and importance of this course in the degree

The course of Building II assumes the continuity of the course on Building I, supplementing it and giving the Technical Architecture student a global view of the construction process in the building and the role played by the Technical Architect.

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

1.3. Recommendations to take this course

The courses of the Building Area are interlinked and scheduled throughout the degree, so it is highly recommended to have passed Building I before taking Building II

In addition, for the progress of the course, knowledge and strategies from the Subjects of Technical Drawing, for the representation of constructive details, and of Physics for the understanding of concepts related to structural systems will be an asset.

2. Learning goals

2.1. Competences

Upon passing the course, the student will be more competent to ...

Knowledge of the traditional or prefabricated materials and construction systems used in buildings, their varieties and the physical and mechanical characteristics that define them.

Ability to identify the elements and construction systems, define their function and compatibility and their implementation in the construction process. Pose and solve constructive details.

Knowledge of the specific procedures for controlling the real implementation of the building work.

Ability to diagnose the causes and appearance of building damage, suggest solutions to prevent or correct pathologies, and analyze the life cycle of construction elements and systems.

Ability to apply technical regulations to the building process, and generate technical specification documents for building construction procedures and methods.

Ability to apply facilities specific regulations to the building process.

Ability to analyze, design and implement solutions that facilitate universal accessibility in buildings and their surroundings.

2.2. Learning goals

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

Have knowledge of the traditional or prefabricated construction systems used in construction and their varieties.

Have the aptitude to identify the construction elements and systems, define their function and compatibility, and their implementation in the construction process.

Learn how to plan and solve construction details, as well as conceive, design, define, detail and solve, technically and technologically, construction elements, processes and systems.

Be able to apply technical regulations to the building process, and generate technical specification documents for building construction procedures and methods.

2.3. Importance of learning goals

The learning outcomes of the course of Building II, being a continuation of another course, involve the consolidation of knowledge, on the part of the student, of the building itself in a general way, and offers training with some application and development content in the student's professional future. In addition, with the achievement of the learning outcomes, the necessary skills will be obtained for the understanding and progress in the study of the rest of the subjects of this course that will be taught in further semesters (Building III, Sustainable Building and Maintenance).

3. Assessment (1st and 2nd call)

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

The student must prove 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: featuring the obligation to take and pass the practical tests, and academic work assigned in the subject, within the established deadlines, and take a final written test.

? Global assessment, without continuous monitoring: featuring the lack of obligation of taking or passing the practical tests or academic work assigned 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 same day as the exam, which will be a compendium of the practices developed during the course and will be carried out from a project about a real building.

The term and mode of delivery of practical tests and academic work will be explained in the assignments

GLOBAL ASSESSMENT MODE, CONTINUOUS MONITORING

The assessment mode will be global with continuous monitoring, and the teacher will evaluate the student's participation in the lectures, the demonstration of the knowledge acquired and the ability to solve problems that the teacher will observe in the practical classes. Likewise, the work / project carried out, in group, by the student will be evaluated. Finally, the student must take a final written test on the theoretical content of the subject.

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

Participation in theoretical classes	10%
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Individual and Group Practice Tasks	40%
Final Written Test	50%

Each of the parts passed in the subject, will not be evaluated again during that academic year.

The grade obtained in the practical tasks, provided that the minimum required, 4.0, is reached, will be valid exclusively in the two calls of the academic year.

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

GLOBAL ASSESSMENT MODE WITHOUT CONTINUOUS MONITORING

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

The student, in addition to the final written test, must take a final practical test, which will be seated 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 drafting about a real building.

Throughout the course, the student will be able to modify 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 assessment process.

Final Practice Test	50%
Final Written Test	50%

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 sessions, workshops, tutorials, and autonomous work and study.

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.
- **Practical 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.
- **Workshop:** The lecture group is divided up into various groups, according to the number of registered students, but never with more than 20 students, in order to make up smaller sized groups.
- **Individual Tutorials:** Those carried out giving individual, personalized attention with a teacher from the department. These tutorials can 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 sessions.
 - 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

Syllabus:**Theoretical**

Unit 1	Roofs I. Sealing concept. Types of roofs. Design and construction (Basic concepts).
Unit 2	Roofs II. Roof classification. Constructive solutions. Components (basic concepts).
Unit 3	Interior Divisions. Brick factory. Layout. On-site Installation.
Unit 4	Other Partition Walls Laminated gypsum boards. On-site Installation. Commercial systems. Screens
Unit 5	Continuous claddings I. Plaster trims and plasters.
Unit 6	Continuous claddings II. Stucco
Unit 7	Continuous claddings III. Plasters. Monolayer mortar.
Unit 8	Claddings: Tiling. Ceramic tiles and pieces.
Unit 9	Cladding: Panelling Stone cladding. Typologies. Laying systems.
Unit 10	Flooring I Concrete floors. Surface treatments. Joints. On-site installation
Unit 11	Flooring II Ceramic. Stoneware. Stone
Unit 12	Flooring III Synthetics and Timber. Typologies. On-site installation. Technical floors.
Unit 13	False Ceilings. Continuous and removable. Typologies. Commissioning. Technical floors.
Unit 14	BD Safety Windowsill. Railings. Floors
Unit 15	Introduction to fire regulations. Fire sector. Exits. Occupancy calculation. Sizing of evacuation routes.

Practical

Practice 1	Sloping Roof Design
Practice 2	Flat Roof Design
Practice 3	Interior Partition Design
Practice 4	Field Documentation. Facade Cladding.
Practice 5	Paneling and Tiling Document Search
Practice 6	Development of Fire and Safety Regulations On Project Simulation

4.4. Course planning and calendar

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

Nevertheless, this can be shown in greater detail, taking into account the following overall distribution:

- 40 hours of lectures, with 50% theoretical demonstration and 50% solving type problems.
- 10 hours of laboratory workshop, in 1 or 2 hour sessions.
- 6 hours of written assessment tests, one hour per test.
- 4 hours of PPT presentations.
- 90 hours of personal study, divided up over the 15 weeks of the 2nd semester.

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.

Classroom Session Calendar and Presentation of Projects

Lectures

Week 1	Roofs I.
Week 2	Roofs II.
Week 3	Interior Partitions.
Week 4	Other Partition Walls
Week 5	Continuous claddings I.
Week 6	Continuous claddings II.
Week 7	Continuous claddings III.
Week 8	Claddings: Tiling.
Week 9	Cladding: Paneling
Week 10	Flooring I
Week 11	Flooring II
Week 12	Flooring III
Week 13	False Ceilings.
Week 14	BD Safety
Week 15	Introduction to fire regulations.

Practical lessons

Practice 1 (Week 1)	Sloping Roof Design
Practice 2 (Week 2)	Flat Roof Design
Practice 3 (Week 4)	Interior Partition Design
Practice 4 (Week 7)	Field Documentation. Facade Cladding.
Practice 5 (Week 9)	Paneling and Tiling Document Search
Practice 6 (Week 11)	Development of Fire and Safety Regulations On Project Simulation
According to Calendar	Final Written Test

Material Resources

Material	Medium
Course Syllabus Notes	Paper / Moodle
Constructive Detail Appendixes	Paper / Moodle
Implementation Photo Appendixes	Moodle / Projector
Practice Tasks	Paper / Moodle
Technical-commercial information	Moodle / Internet
Regulations Concerned	Moodle

To achieve the learning outcomes, the following activities will be carried out:

- Generic classroom activities:

? **Theoretical-practical classes:** The theoretical concepts of the subject will be explained and illustrative practical examples will be developed to support the theory when necessary.

? **Practical classes:** Practical cases will be carried out as a complement to the theoretical concepts studied.

- Non-classroom generic activities:

? Study and assimilation of the theory explained in the master classes.

? Understanding and assimilation of examples and practical cases

? Preparation of exercises and practical cases to be solved by the student

? Preparation of written continuous assessment tests and final exams.

- Supporting activities: With a mainly non-classroom nature, various activities that support the basic contents of the subject will be conducted through the virtual teaching portal (Moodle), where these activities will be monitored and sometimes customized.

The weekly schedule of the course and the assessment dates in each call will be shown on the EUPLA website

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28614>