

Academic Year/course: 2022/23

## 28604 - Building history

### Syllabus Information

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**Academic Year:** 2022/23

**Subject:** 28604 - Building history

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

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

**ECTS:** 6.0

**Year:** 1

**Semester:** Second semester

**Subject Type:** Compulsory

**Module:**

## 1. General information

### 1.1. Aims of the course

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

It is a subject whose purpose is to initiate the student in the study of the constructive processes that intervene in the architectural fact through time, with the purpose of acquiring the general concept of what the discipline of Building History is.

Offer general knowledge of the field of construction, taking a global and comparative view from the first buildings and construction techniques to current.

Identify the construction systems of each time in each building to be able to act on it in an appropriate way and perform the correct execution of adopted solutions.

Identify terms, constructive elements and their components, defining the mission of each of them framed in their historical period.

Develop the sense of observation as well as the logic reasoning to reach the understanding and resolution of constructive problems of other times.

Interpret the behaviour of these elements in themselves and in relation to others.

Know the historical evolution of the different systems and construction processes, as well as their location in their corresponding chronological periods.

To awaken in the student the interest in these subjects, which he sees for the first time from the specific point of view that this subject poses.

Show him how to look at architecture in a new way, the architect's one.

Provide the student an adequate training base for his future professional work in related fields.

To awaken in the student the interest to travel, not only as an indispensable means to know directly what has been explained to him, but also to "open his mind" and his understanding to the enormous complexity of our world.

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.

Goal 4: Quality Education.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

4.C By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states.

Goal 5: Achieve gender equality and empower all women and girls.

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decisionmaking in political, economic and public life.

Goal 10: Reduce inequality within and among countries.

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability,

race, ethnicity, origin, religion or economic or other status.

Goal 11: Make cities inclusive, safe, resilient and sustainable.

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

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

Building History is a compulsory subject with specific training character that is taught in the first semester of the first year of the Bachelor's Degree in Building Engineering, with a teaching load of 6 ECTS credits.

It is part of the subject of Building, Maintenance and Architectural Constructions, within the module called Building Techniques and Technologies.

This subject is fundamental in the correct formation of a Building Engineer, since the contents expose the student the roots of the long process of the construction of architecture and its evolution over time. Essential knowledge to understand our current architectural landscape.

The acquired learning after his study supposes an indispensable base for the development of his professional activity, that will make him understand better his paper inside the process of the construction of the architecture. It has a direct and indispensable application in those fields of professional activity directly related to the Monumental Restoration, as well as those related to the production and management of related cultural activities.

## 1.3. Recommendations to take this course

Without prerequisites beyond those marked by the ministry for access to a Bachelor's Degree in Building Engineering.

# 2. Learning goals

## 2.1. Competences

Organizational and planning skills

Capacity to solve problems

Ability to make decisions

Aptitude for oral and written communication of the native language

Capacity for analysis and synthesis

Ability to manage information

Capacity for teamwork

Capacity for critical reasoning

Ability to work in an interdisciplinary team

Ability to work in an international context

Improvisation and adaptation capacity to face new situations

Leadership aptitude

Positive social attitude towards social and technological innovations

Ability to reason, discuss and present your own ideas

Ability to communicate through words and images

Ability to search, analyze and select information

Capacity for independent learning

Possess and understand knowledge in an area of study that starts from the general secondary education base, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the avant-garde from your field of study

Apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and problem solving within their area of study

Ability to collect and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature

Transmit information, ideas, problems and solutions to both a specialized and non-specialized audience

Develop those learning skills necessary to undertake further studies with a high degree of autonomy

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

Knowledge of the historical evolution of construction techniques and elements and structural systems that have given rise to stylistic forms

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

Ability to rule on the causes and manifestations of building injuries, propose solutions to avoid or correct pathologies, and analyze the life cycle of elements and construction systems

Ability to intervene in rehabilitation of buildings and in restoration and conservation of the built heritage

## 2.2. Learning goals

At the end of the course, the student:

will have knowledge of the historical evolution of construction techniques and elements and structural systems that have originated stylistic forms and traditional construction systems.

will be able to identify and differentiate the structural, constructive systems and typologies of the buildings of different constructive cultures and their chronology.

will have acquired the ability to analyze, understand and assess the reason for the constructive solutions adopted in a building and your overall understanding.

will be able to handle related texts and to discern their values and contents.

will have a solid cultural base, always necessary and essential for the subsequent development of studies related to historical constructions.

will have become familiar with the technical language of the discipline and the graphic expression of constructive elements framed in each historical period.

will have developed the sense of observation, as well as logical reasoning to get the understanding and resolution of constructive problems in the historical architecture.

## 2.3. Importance of learning goals

This subject is important in the development of the Bachelor's Degree in Building Engineering for the training of students in this field of knowledge and its application in related activities.

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

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

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

-Face-to-face assessment system: characterized by the obligation to attend more than 80% of the hours. The teacher will evaluate the attendance and participation of the student in the lectures, the demonstration of acquired knowledge and the ability to solve the practical questions raised. Likewise, the practical exercises carried out by the student will be evaluated. Finally, the student must take several written tests for each part of the subject. Students who do not exceed 80% of attendance will automatically go to the non-attendance assessment model.

-Non-face-to-face assessment system: the student will have the option of a grading of the non-face-to-face assessment system that goes from the absolutely non-face-to-face assessment, in which the evaluation consists of a theoretical-practical test of the subject contents, to the quasi-face-to-face evaluation in which the student will enjoy almost all the benefits of the face-to-face assessment. It will be established by teacher-student agreement. Throughout the course, the assessment system can be varied depending on the evolution of the student's personal situation. Even in the most unfavorable case, an absolutely non-face-to-face assessment, the student will be accompanied in the learning process, since there will be an on-line attention system, through the Moodle platform of the University of Zaragoza. It will consist of a single global final evaluation test.

### Face-to-face assessment system

The students must demonstrate to have achieved the expected learning outcomes through the following assessment tasks:

-Individual activities in class: The active participation of the students will be taken into account, both in person (in the classroom) and virtual (on the Moodle platform), in addition to their fluency and oral expression when exhibiting in public, thus as their capacity of expression in the writing and in the drawings and diagrams. All activities will contribute in the same proportion to the total mark of this block, which will contribute 5%.

-Practical works: Throughout the course, the student will have to carry out various works to be solved individually or in groups. The works must be turned in on time and the tutorials set by the teacher must be attended. This activity will contribute 35% to the final grade.

-Written tests: There will be several tests distributed throughout the semester that will include theoretical or practical questions to evaluate different topics. These tests are carried out in order to regulate learning, stimulate the distribution of effort over time and have a more individualized assessment tool. The total of the tests will contribute 60% to the final grade.

Each part will be evaluated on 10 points, and it will be necessary to obtain a minimum grade of 4 in each part to average with the rest. The course will be approved with an average grade equal to or greater than 5.

### Non-face-to-face assessment system

The students must choose this modality when they cannot adapt to the pace of work required in the face-to-face assessment system, have failed or would like to increase their grade.

The students must demonstrate that they have achieved the expected learning results through a single written test, which will include theoretical or practical questions. The quality of the writing and the drawings or diagrams required in the test will be assessed.

The test will be passed with a grade equal to or greater than 5.

## 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 lectures, practice sessions, fieldwork, conferences, tutorials, and autonomous work and study.

A strong teacher-student interaction is promoted. This interaction becomes a reality through a division of work and responsibilities between the students and the teacher.

For the learning process, the student will have the basic contents available through lectures given by the teacher. These contents will give rise to both the questions considered in the practice sessions and the work that students must develop autonomously, always monitored 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 6 ECTS (150 hours) course is organized as follows:

- **Lectures** (4 hours). Theoretical activities carried out mainly through explanation by the teacher, where the theoretical supports of the course are given, highlighting the basics, structuring them into topics and/or sections, interrelating them. The lecture is supported by the projection of audio visual presentations, including different images and videos. The student is provided through Moodle with both the notes prepared by the teacher to support lessons and the recommended bibliography.
- **Practical lessons** (2 hours). The weight of these sessions is shared between teacher and students. The teacher solves practical cases for teaching purposes. This type of teaching complements the theory shown in the lectures with practical aspects.
- **Fieldwork and conferences**: Visits to construction sites are very useful in order to learn to identify in situ elements and construction systems defined in the classroom. It will be especially interesting to visit constructions which are in the process of rehabilitation, accompanied by the technicians responsible for its management and execution to visualize the constructive solutions used and deal with the real problems. The attendance to conferences related to the course is also considered, in both the University of Zaragoza and other institutions.
- **Tutorials**. Those carried out giving individual, personalized attention with a teacher from the department. They may be in person (department) or online (Moodle or mail).
- **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 practice tasks, etc.
  - Preparation of the written tests for continuous assessment and final exams.
  - Reinforcement activities: Activities that reinforce the basics of the course are assigned from Moodle. The monitoring of these activities is carried out in a personalized way. This kind of activities provides the teacher with attitude, effort and performance evaluation of the student learning.

The combination of these learning activities is considered essential for students to be able to achieve the objectives. Thus, after an initial theoretical explanation, the students will be instructed in solving practical problems associated to complete their understanding of the course and eventually they will be placed facing a problem to be addressed independently without the direct participation of the teacher who will, nevertheless, act as a counsellor.

### 4.3. Syllabus

This course will address the following topics:

#### PRECLASSICAL ARCHITECTURAL CONSTRUCTION

- T.0. The origins: the preclassical construction

#### CLASSIC ARCHITECTURAL CONSTRUCTION

- T.1. Greek construction and background
- T.2. Roman construction and background

#### MEDIEVAL ARCHITECTURAL CONSTRUCTION

- T.3. Early Christian and Byzantine construction

- T.4. Hispanic-Visigothic, Hispanic-Islamic and ?Mudejar? construction
- T.5. Romanesque construction and Pre-Romanesque background
- T.6. Gothic construction

#### MODERN AND CONTEMPORARY ARCHITECTURAL CONSTRUCTION

- T.7. Construction from the Renaissance to the 19th century
- T.8. 19th and 20th century construction

#### 4.4. Course planning and calendar

##### Schedule sessions and presentation of works

Week	Content
1	Presentation and T.0. The origins: the preclassical construction
2	T1. Greek construction
3	T2. Roman construction
4	T2. Roman construction
5	T3. Early Christian and Byzantine construction
6	T4. Hispanic-Visigothic construction
7	T4. Hispanic-Islamic/ Mudejar construction
8	T5. Romanesque construction and Pre-Romanesque background
9	T5. Romanesque construction
10	T6. Gothic construction
11	T6. Gothic construction
12	T7. Construction from the Renaissance to the 19th century
13	T8. 19th and 20th century construction
14	T8. 19th and 20th century construction
15	Tutorial/ Assessment

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=28604>