COURSE DESCRIPTION
ARCHITECTURAL WORKS CONSTRUCTION

SSD: TECNOLOGIA DELL'ARCHITETTURA (ICAR/12)

DEGREE PROGRAMME: ARCHITETTURA (N14)
ACADEMIC YEAR 2022/2023

COURSE DESCRIPTION

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GENERAL INFORMATION ABOUT THE COURSE

INTEGRATED COURSE: NOT APPLICABLE
MODULE: NOT APPLICABLE
CHANNEL: 03 Cognome A - Z
YEAR OF THE DEGREE PROGRAMME: I
PERIOD IN WHICH THE COURSE IS DELIVERED: SEMESTER II
CFU: 8

REQUIRED PRELIMINARY COURSES

No

PREREQUISITES

No

LEARNING GOALS

In line with the objectives of the Course of Study and with the training to be completed in the following years in the field of Architecture Technology, the teaching aims to:
a) understanding the relationship between technology and architecture, between concept and construction, between construction techniques, materials, products and technical information content;
b) understand concepts relating to the building process and technical regulations by interpreting the building in systemic terms

c) critically consider the appropriate use of resources and needs of individuals and the environment and the outcomes of the application of construction techniques
d) interpret the logic behind construction solutions and indicate the main methodologies relevant to the choice of technical-design solution

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

The students must understand the relationship between technology and architecture, between design and realization moments, as well as the construction techniques, materials, products and contents of the technical information; the building process, the technical code. They must be able to interpret the built environment in systemic terms and as a synthesis of formal, functional, technical and environmental aspects. The educational path aims to provide students with the basic knowledge and methodological tools necessary to understand the implications of technical-performance aspects in architectural solutions.

Applying knowledge and understanding

The students must be able to frame interventions related to the built environment within the scenarios of the building process, covering the various aspects of production (construction, organization, economic factors, regulatory requirements), the appropriate use of resources and the needs of individuals and the environment. The training is geared towards providing the necessary operational skills to critically frame the results of the application of construction techniques and to apply technical information to design solutions.

COURSE CONTENT/SYLLABUS

The course, in view of its placement in the first year, proposes a preliminary reflection on the design of architecture as a process capable of continuously developing relations between the moment of conception (thought) and that of realization (technique, construction): the technologies of process, design and product, grafted in a systemic vision, are related to the complexity proper to contemporary.The aim of the course is to develop the basic concepts of the technological discipline, the technical terminologies and conventions, the products and the construction processes, in order to make students aware of the tools necessary for the physical construction of an architectural project.It is also aimed at encouraging a critical attitude towards resource use and technical choices to be made in relation to the processes of transformation of the built environment and the challenges induced by energy and health crises, and digitalization.The topics to be covered are:
The Technology of Architecture.
The Industrial Revolution and Architecture.
Sustainable development and the construction world. NZEB Building Design Overview
Systemic logic, building system, systemic approach to design
Structures. Structural concept. Characteristics, properties, performance of: foundation structures, elevation structures, floors.

Building envelope. Characteristics, properties, performance of: perimeter walls, flat and inclined cover, external fixtures.
Partitions. Features, properties, performance of: walls, interior fixtures, stairs.
Construction process.
Performance based approach.
Standard and architectural design.
Building materials and systems

READINGS/BIBLIOGRAPHY

AAVV, Manuale di progettazione edilizia, Hoepli, 1995
E. Arbizzani, Tecnica e tecnologia dei sistemi edilizi. Progetto e costruzione, Maggioli Editori, Rimini, 2021
A. Campioli, M. Lavagna, Tecniche e architettura, Città studi edizioni, Milano, 2013
E. Dassori, R. Morbiducci, Costruire l'Architettura. Tecniche e tecnologie per il progetto, Tecniche nuove, 2010
A. Laurìa, Tecnologie di base per la residenza, Edizioni Centro A-Zeta, 2000

TEACHING METHODS OF THE COURSE (OR MODULE)

The teaching will be organized through lectures, classroom exercises and thematic seminars.

EXAMINATION/EVALUATION CRITERIA

a) Exam type

- ☐ Written
- ☑ Oral
- ☐ Project discussion
- ☑ Other : Discussion of the drawings

In case of a written exam, questions refer to

- ☐ Multiple choice answers
- ☐ Open answers
- ☐ Numerical exercises

b) Evaluation pattern

The assessment is based on verifying the learning of the contents of the lectures and the acquisitions obtained through the exercises carried out during the course. The interview and the presentation of the papers contribute equally to the definition of the final grade.