



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: 01 Cognome A - Z
YEAR OF THE DEGREE PROGRAMME: I
PERIOD IN WHICH THE COURSE IS DELIVERED: SEMESTER II
CFU: 8

REQUIRED PRELIMINARY COURSES

Done

PREREQUISITES

Done

LEARNING GOALS

In line with the objectives of the course of study and with the training to be gained in subsequent years in the field of Architecture Technology, the teaching aims to:

- a) understand the technology-architecture relationship, between the creative moment and the construction moment, as well as the construction techniques, materials, products and contents of the technical information;
- b) understand the concepts relating to the building process and technical regulations by interpreting the built in systemic terms
- c) critically frame the appropriate use of resources and the needs of individuals and the

environment and the results of the application of construction techniques

d) interpret the logic that underlies the construction solutions and indicate the main methodologies relevant to the choices of technical-design solutions

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

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The student must understand the technology-architecture relationship, between the creative moment and the realization moment, as well as the construction techniques, materials, products and contents of the technical information; the building process, the technical regulations. He must be able to interpret the built in systemic terms and synthesis of formal, functional, technical and environmental aspects. The training course aims to provide students with the knowledge and basic methodological tools necessary to understand the implications of the technical-performance aspects in architectural solutions.

Applying knowledge and understanding

The student must be able to frame the interventions related to the built environment within the scenarios of the building process, contemplating the various aspects of production (construction, organization, economic, regulatory), the appropriate use of resources and the needs of individuals and of the environment. The training course is aimed at transmitting the operational skills necessary 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 consideration of its position in the first year, proposes a preliminary reflection on the architectural project as a process capable of developing continuous relationships between conception and execution. Various aspects of the design-construction process will be studied in depth. Specifically, the lectures will cover:

Structures in architecture

The walls

The concrete

The steel

The modalities of graphic representation

The building system

The logic of demand-performance

The foundations

The lower horizontal locks

The external vertical closures

The internal partitions

The upper horizontal closures

Vertical links

Notes on environmental design

Hints on the design of nZEB buildings

READINGS/BIBLIOGRAPHY

E. Allen, *Come funzionano gli edifici*, Dedalo, Milano, 1993; A. Campioli, M. Lavagna, *Tecniche e architettura*, Città Studi, Milano, 2013; M. Salvadori, R. Heller, *Le strutture in architettura*, Etaslibri, Milano, 1992; AA.VV., *Progettazione tecnologica*, Techne n. 2, Firenze University Press, 2011. (download: <http://www.fupress.net/index.php/techne/issue/view/785>)

TEACHING METHODS OF THE COURSE (OR MODULE)

Teaching will be organized through lectures, classroom exercises and thematic seminars. The practical phases will include questionnaires formed by closed and open questions and the resolution of simple nodal situations of reinforced concrete and steel buildings. At the end of the course, based on the knowledge acquired, the student must be able to understand and describe the relationships between the architectural project and its construction, understand and describe the technical-construction solutions of a building, define technical solutions of elements construction and related details. The final exam will be aimed at verifying the learning of the contents of the lessons, seminars, bibliography and evaluating the final outcome of the exercise activity

EXAMINATION/EVALUATION CRITERIA

a) Exam type

- Written
- Oral
- Project discussion
- Other

In case of a written exam, questions refer to

- Multiple choice answers
- Open answers
- Numerical exercises

b) Evaluation pattern