COURSE DESCRIPTION
TECHNOLOGY OF BUILDING RENOVATION

SSD: TECNOLOGIA DELL'ARCHITETTURA (ICAR/12)

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

COURSE DESCRIPTION

TEACHER: DIANO DONATELLA
PHONE:
EMAIL: dodiano@unina.it

GENERAL INFORMATION ABOUT THE COURSE

INTEGRATED COURSE: 15187 - PROGETTAZIONE DEI SISTEMI COSTRUTTIVI E TECNOLOGIA DEL RECUPERO EDILIZIO
MODULE: 11328 - TECNOLOGIA DEL RECUPERO EDILIZIO
CHANNEL: 01 Cognome A - Z
YEAR OF THE DEGREE PROGRAMME: IV
PERIOD IN WHICH THE COURSE IS DELIVERED: SEMESTER I
CFU: 4

REQUIRED PRELIMINARY COURSES

Architecture Construction Laboratory

PREREQUISITES

There are no prerequisites

LEARNING GOALS

The integrated course Design of Building Systems - Building Recovery Technology, provides principles, tools and methods to experiment the potential of technological innovation - process, design and product - in order to control the relationship between user needs, performance and technologies.
In line with the objectives of the study course and with the training gained in previous years, the Building Recovery Technology course aims to:
a) acquire knowledge and know how to use basic methodological tools necessary to analyze the potential of innovation in relation to technological choices;

b) identify interventions compatible with the preservation of material culture in compliance with the regulatory framework, resources and pre-existing constraints;
c) independently evaluate the recovery processes of the built environment, with reference to maintenance, reuse and rehabilitation strategies;
d) produce drawings and graphic-descriptive documents with clarity and rigor.

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

The student must understand the issues related to the built environment recovery project; check the relationship between services offered and technologies to manage the life cycles of settlement systems and prefigure new ones, starting from the relationships between the behaviour of the building and the conditions of use. The training course aims to provide students with the knowledge and basic methodological tools necessary - in the recovery and maintenance project - to analyze the potential of innovation in relation to compatible technological choices.

Applying knowledge and understanding

The student must be able to identify, starting from the reading of architecture as a system, the interventions compatible with the conservation of the material culture, solve problems for the recognition of obsolescence and failure processes. The student must know how to prefigure design scenarios, according to the needs of users, in compliance with the regulatory framework, resources and pre-existing constraints. The training course is aimed at transmitting the operational skills to concretely apply the knowledge in the project outcomes, evaluated along the life cycle of the existing with reference to the maintenance, reuse and rehabilitation strategies.

COURSE CONTENT/SYLLABUS

The teaching program of the course includes:
- the framing of the disciplinary field in the current scientific scenario;
- knowledge of the principles, tools and strategies that govern the recovery actions of settlement systems;
- the recognition of the conditions of obsolescence and failure for the construction of design alternatives;
- the definition of design scenarios according to the needs of users in respect of resources and constraints of the existing building;
- the control of the project outcomes, also in reference to the building life cycle and maintenance strategies.

READINGS/BIBLIOGRAPHY

Viola, S; Ul Abedin, Z. (2021), *Cultural and creative industries. Technological innovation for the built environment* La Scuola di Pitagora, Napoli.
Pinto M.R.; Diano D., (2020) *Reti Ferroviarie e valorizzazione dei territori. Recupero, manutenzione e innovazione delle stazioni*, La scuola di Pitagora, Napoli.

Viola S., Diano D. (2019), *Repurposing the Built Environment: Emerging Challenges and Key Entry Points for Future Research*, Sustainability, 11(17), 46-69; https://doi.org/10.3390/su11174669.
Caterina G. (2016), *Strategie innovative per il recupero delle città storiche*, Techne Journal of Technology for Architecture and Environment, 12, Firenze University Press, Firenze.

TEACHING METHODS OF THE COURSE (OR MODULE)

The course is divided into theoretical lessons and classroom exercises to outline the theoretical approaches dealt with and to experiment with fault diagnosis strategies and design of new performance levels compatible with the pre-existing. The teacher will use: a) frontal lessons for about 50% of the total hours; b) exercises to practically deepen theoretical aspects for approx. 12 hours; c) joint meetings with the teacher of the Design of Building Systems course with which the course is integrated for approx. 10% of the total hours; d) seminars to explore specific topics for approx. 3 hours.

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

The final evaluation will take into account 50% of the results obtained in the Building Recovery Technology course and 50% of the outcome of the integrated Design of Building Systems course. The final grade will be weighted on the CFU of each course and therefore composed as follows: Building Recovery Technology Module 4CFU-50%, Design of Building Systems Module 4CFU-50%.