COURSE: Technology & Architecture

ACADEMIC YEAR: 2019/2020

TYPE OF EDUCATIONAL ACTIVITY: (C) Affine

TEACHER: Francesco Paolo R. MARINO

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Language: Italian

ECTS: 9

n. of hours: 48 Lessons
33 Tutorials
81 Total

Campus: Potenza
Dept./School: Engineering
Program: Master’s degree in Civil Engineering (LM23) – curriculum in Structural-Building Engineering (ISE)

Semester: I and II (annual)

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The Course aims to contribute to form designers who know design and building methods used in buildings middle-high performing in Europe and other industrialized countries, being able of evaluating implications of choices both on formal domain, and in feasibility, and in economic domain too. On the basis of the requirement-performance methodology approach, the course intends to improve and deepen the knowledge of this methodology, in particular through the discussion of examples particularly relevant from the architectural point of view, to understand how the definition can be reached in projects of high complexity in connection with the environment.

The disciplinary content of the course covers the theories, tools and methods of experimental architecture at different scales, based on the evolution of settlements, constructive and environmental design, and the techniques of transformation and maintenance of the built environment. They include the history and the technological culture of design; the study of the natural and artificial materials; environmental design, elements and systems; engineering, construction, transformation and maintenance technologies; innovation process and organization of building production; demanding dynamics, performance aspects, and quality controls.

Knowledge and understanding: The course provides students with a wealth of systematized information on the problems inherent in the realization of a building, with particular reference to the relationship between design and execution time.

Ability to apply knowledge and understanding: Students will have to demonstrate knowing and learning the systems and construction techniques, components and industrial construction products and assemblies in use. They will also gain awareness of the design of architecture as a "design process", characterized by sequences, operator roles, and methodologies.

Autonomy of judgment: The didactic approach provides that theoretical training is accompanied by individual work, which encourages active participation, propositional attitudes and self-elaboration skills.

Communicative skills: Preparation and presentation of a technical relationship is planned to develop both written and oral communication skills during the course. The student must be able to explain in a simple way to unskilled persons and to use the scientific language correctly, to design activity carried out. Verification of learning also includes oral talks during revisions of the elaborated design in which the ability to express, correct, clear, and concise constitute a primary judgmental element. The final exam offers the students a further opportunity to test the processing skills and communication of the work they are doing.

Learning abilities: Learning abilities are verified throughout the course, using methodologies based on the analysis and the resolution of complex and interdisciplinary problems as well as on group discussion. The student must progressively become independent from the teacher and the teaching aids provided during the frontal lessons,
acquiring the ability to refine and deepen his / her knowledge by consulting texts and publications on specific topics covered in the course.

**PRE-REQUIREMENTS**

It is necessary to acquire and assimilate the knowledge of the fundamental concepts of Materials Technology and Building Materials, Static, Strength of Materials.

**SYLLABUS**


**TEACHING METHODS**

Theoretical lessons (48 hours), classroom and laboratory (at La.Te.C. - Laboratory of Building Technology) tutorials and guided design exercises (33 hours).

**EVALUATION METHODS**

Intermediate verifications, Discussion of a project work, Oral examination.

The aim of the examination is to verify the level of achievement of the goals indicated above. The positive evaluation of intermediate tests (n. 3) and guided design exercise, developed during the course, are precondition for the access to the oral examination. The exam consists in the overcoming of an oral examination, during which the ability to connect and compare the different aspects covered during the course will be evaluated, with reference to bibliography support, and the discussion of the elaborates produced by the student in the project design exercise. The overall assessment will also consider the level of maturity reached in the project work. This overall evaluation will be weighed by the number of 9 cfu of the integrated course "Recovery and Renovation Design + Technology & Architecture" (15 cfu).

**TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL**

- Reference textbooks:

- For further information, the following texts (made available by the teacher) can be utilized:
- Course notes provided by the teacher and made available also on electronic support.
- Online teaching materials at the URL:
  https://www.dropbox.com/sh/odhuyiqhdyw885u/AACWQMN_BMcfOABq3vo7XMUa?dl=0

INTERACTION WITH STUDENTS
At the beginning of the course, after describing objectives, program and verification methods, the teacher makes the teaching material available to the students (shared Dropbox® folders, website, etc). At the same time, he collects the list of students that intend to enroll in the course, including their name, surname, student number, email and telephone number.
Reception hours: Tuesday and Wednesday from 9.30 am to 11.30 am at: School of Engineering (fourth floor, room 64). In addition to the weekly reception time, the teacher is always available previous appointment, immediately after each lesson and through his e-mail.

EXAMINATION SESSIONS (FORECAST)¹
A number of dates will be guaranteed for exams in accordance with the requirements of the Manifesto of Studies for the examination sessions, some of which presumably on days: 24/06/2020, 08/07/2020, 24/07/2020, 16/09/2020, 09/10/2020, 13/11/2020, 18/12/2020.

SEMINARS BY EXTERNAL EXPERTS YES X NO □

FURTHER INFORMATION
The frequency requirements of didactic activities are automatically satisfied at the end of the semester in which they are placed.

¹ Subject to possible changes: check the web site of the Teacher or the Department/School for updates.