Degree in	Architettura quinquennale classe LM4
Course code	SAR 40
Lecturers	Giuseppina Foti, Massimo Lauria, Corrado Trombetta
Course	Laboratorio di progettazione esecutiva
Disciplinary area	08/C Design e Progettazione Tecnologica dell'Architettura
Disciplinary field of study	Progettazione esecutiva (ICAR12) SAR12 Morfologia dei componenti (ICAR 13) 64N41
University credits - ECTS	12
Teaching hours	120
Course year	fourth
Semester	yearly

Synthetic description and specific course objectives

Within the activities of the second cycle of the course in Architecture studies (3rd and 4th year), the Executive Planning Laboratory aims at developing practical knowledge of the architecture core aspects related to the moulding of buildings in a renewed vision of their changing context; this characterize "the job" of the architect for the construction of architecture.
In particular, this workshop aims at providing students with cognitive and methodological tools in order to achieve more control in the planning process through the awareness of the existing ties between materials and procedures, considering the broader process of planning, making and using a product. Therefore, its main feature is that of working as a linkage within the building process in which the planning decision-making takes into consideration both the information needed for the implementation of the ideas and the real possibility of achieving them, by playing a role of mediation between design and reality.
Specific objectives of the workshop are:
- The integration and dialogue between representation techniques, experimentation and technological innovation related to the ability to conceive, design and graphically return the principal building blocks and their assembly (detailed design);
- The design, which is anchored on the relationship between form and content, including the use of materials and their performance, logic design and production aspects (morphology of the components).

Course entry requirements

The laboratory is closely related to the approach and content of the courses in Materials for Architecture (first year), Design of building systems (second year), Project management and construction management of public works (third year).
This represents the necessary knowledge for a mature approach to the topics that will be discussed during the workshop. In order to guarantee an adequate level of understanding of the specific terminology, methodologies, cultural references and bibliographies that will be used during the workshop, students must have completed the disciplines of the first and second year and, at least, the course in Project management and construction management of public works of the third year.

Course programme

In the logic of an interdisciplinary approach that addresses an issue in which the relationship between technology, technique and constituent parts (components) is aimed at defining a project that could draw together formal, constructive and functional ideas, the Laboratory proposes an exercise of medium complexity, credible and with a functional program clearly defined.
In this context, through lectures and direct participation in the workshop (stage of the exercise in the classroom) specific rules will be introduced, according to which we can draw up the executive project by highlighting the role that the same project (executive and buildable) has to perform.
This simulation will be implemented through drawings and texts that, together, are the real basis (ie.

referring to the object) of the contractual agreement between the company and the customer.
In this respect, the following expressions are very useful:
- The representation of the object to create is entrusted to the drawings.
- The description of the works is expressed in the contract.
- The definition of the commitment of financial resources necessary for the construction is based on the quantification of the work (bill of quantities) and the definition of costs (of quantities and unit prices lists).
In this context, the single disciplines, besides providing the basic knowledge and media-theoretical applications, will follow the tutorial project along its entire path; from the initial phase of preliminary concept to the final one of executive simulations.
The executive design's course (6 credits) has the aim of coordinating the entire lab and puts as field of interest the executive design with the understanding that construction activities involve, sometimes in a decisive way, man's life, the resources and the environment; looking at the building as a whole and its individual parts organized, with an approach of needs-performance. More general objective is to contribute to the formation of a new culture of construction, able to mend the separation between ideas and reality, which is being discussed for a long time with concern.
The course of Morphology of the components (6 credits) will explore the issues related to the pursuit of improving the quality of standards related to the component, not only produced in the form of pre-prototype, but also and above all in search of ideation, identification, creation of new strategic and productive niches.
From the organizational point of view, the activities of the Laboratory will be organized in several stages directly related to the development of the tutorial project.
For each phase there will be communications, coordinated seminars and assisted work that will address the following topics:
- Definition and technological requirements of the executive project
- Regulatory Aspects
- Setting the design methodology
- Materials, semi-finished products and components. Archives products
- Technological details: design choices and innovative tools
- Elaborate technical and economic project executive
In support of classroom activities, teaching materials will be provided in advance, with specific bibliographies, data on cognitive technology systems, material anthology, etc..

Expected results

At the end of the laboratory of the final design, the student must know in detail the functional aspects, performance, materials, technical-construction, regulatory, environmental and operational benefits associated to the implementation of the processes in architecture.
Students must also know how to use the skills acquired to verify the feasibility of the project, the construction of the works, the transformation of the physical artifact/natural, even in a context of innovation, showing ability to integrate the various knowledge, manage the complexity of the problems and reflect, more generally, on the ethical responsibilities of the architectural profession.

Course structure and teaching

Lectures (hours/year in the classroom): 40
Exercises (hours/year in the classroom): 30
Practical activities (hours/year in the classroom): 50

Student’s independent work

In addition to working on the cultural aspects - Recommended readings of texts, research with the subject works and authors, theoretical preparation for the final exam - students will independently produce working projects as well as specific actions of thematic analysis: construction of archives produced, contacts with the manufacturers, graphic experiments aimed implementing the techniques of working drawing, etc..
The time spent in implementing these activities will be calibrated with respect to hours needed to reach the total number of hours of each CFU given to the laboratory.

Testing and exams

The work produced in the classroom and at home, partly individual, partly developed by groups, will be tested and evaluated periodically, based on states of progress and programmed in a collective manner; inspections will be translated into "loans" for the overcoming of examination.
The attendance of the Laboratory and exams (an exam integrated the two disciplines by single vote for the laboratory) will be "certified" at the end of the course and will be worth a total of 12 credits.

The exam consists on the evaluation of the design final and intermediate, in the discussion on the contents of lectures, seminars and texts listed in the bibliography for the development of the project.

Suggested reading materials

AA.VV., *Manuale di Progettazione Edilizia*, Hoepli, Milano, 1992
Torricelli M.C., Mecca S., *Qualità e gestione del progetto nella costruzione,* Alinea, Firenze, 1996
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Disciplinary area	08/C Design e Progettazione Tecnologica dell'Architettura
Disciplinary field of study	Progettazione esecutiva (ICAR12) SAR12 Morfologia dei componenti (ICAR 13) 64N41
University credits - ECTS	12
Teaching hours	120
Course year	fourth
Semester	yearly

Synthetic description and specific course objectives

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Course programme

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