Degree in	
Course code	SAR 40
Lecturers	Francesco Bagnato
Course	EXECUTIVE DESIGN
Disciplinary field of study	Tecnologia Dell'Architettura (ICAR12) SAR12
University credits - ECTS	6
Teaching hours	60
Course year	fourth
Semester	second

Synthetic description and specific course objectives

Within the activities of the second cycle of the course in Architecture studies the course 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 course 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 couse is closely related to the approach and content of the courses in Materials for Architecture and of Design of building systems. 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

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).
The course has the aim of coordinating 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.

Expected results

At the end of the course and 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): 20
Exercises (hours/year in the classroom): 20
Practical activities (hours/year in the classroom): 20

Student's independent work

In addition to working on the cultural aspects - the 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 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 the examination.
The attendance of the course and exam will be "certified" a total of 6 credits.
The examination is based on the evaluation of the final and intermediate design, in the discussion on the content of lectures, seminars and texts listed in the bibliography for the development of the project.

Suggested reading materials

- AA.VV., Manuale di Progettazione edilizia, Milano, Hoepli.
- Torricelli / Del Nord / Felli, Materiali e tecnologie dell'architettura, Bari 2001, Laterza
- Sinopoli N., La tecnologia invisibile. Il processo di produzione dell'architettura e le sue regie, F. Angeli, Milano, 2004
- Mangiarotti A., Paoletti I., Dall'idea al cantiere, Progettare, produrre e costruire forme complesse, Hoepli Milano, 2008
- Arbizzani E. 2011, Tecnologia dei sistemi edilizi. Progetto e costruzione, Rimini, Maggioli Editore
- Campioli A., Lavagna M. 2013, Tecniche e Architettura, Torino, CittàStudi Edizioni.