

The teaching of Construction and the rare and traditional knowledge



The Aim of the Course

The evolution of the developed countries, went through dramatic stages that left their scars on the environment, both natural and built, imposing on the future generations the responsibility and task to find the ways and means to improve it.

Therefore, it is crucial, for the architecture graduates, to understand that as they practice Architecture, struggling with demanding design and economic problems, they should not undervalue or ignore, parameters such as the quality of the natural and built environment.

In order to gradually achieve this aim, during the undergraduate studies, we offer an elective course, on the subject of conservation and rehabilitation of old buildings, aiming at the supply of basic learning for the students to understand and approach, the incredible amount and extremely useful instruction that exist in old buildings.

Through this knowledge they comprehend that issues like environmental awareness or an economical use of materials, were known and respected. Also, they understand that the existing Architectural quality, in those simply but functional and built to last structures, is a result of a way of construction methodology, that contains the experience of hundreds of years and has been tested successfully, through the influence of natural phenomenon.

As they gathered experience, they feel more confident in designing new buildings, since they realize that so many Architectural and construction issues, are not new but, in fact, quite old and timeless.



The Course Curriculum

The structure of the course, does not aim to train young students into experts on conservation, it strives rather into giving enough information on the methods, the approach and the difficulties involved.

The course covers one semester and contains both theoretical and practical training, as conservation is one of the subjects that requires a lot of fieldwork.

The selection of the old buildings that will be surveyed is a very important factor for the success of the course. Although Greece is a country with a wealth in historical monuments of many periods, Classical, Hellenistic, Byzantine, we focus our research and analysis of old buildings, on vernacular architecture of the 19th century.

The reason for this selection is for instructional purposes. The simple, but not without Architectural and constructional interest building, is easily approached by the students and simultaneously it has a more comprehensible construction system.

Fortunately small villages with interesting regional Architecture, exists all over Greece, thus making the selection of buildings with intriguing construction systems, for instance, not difficult. The reason for this selection is the very interesting fact, that a construction constrain caused by the same effect, for instance, earthquakes, is regarded differently, in a mountainous village or in a coastal one.

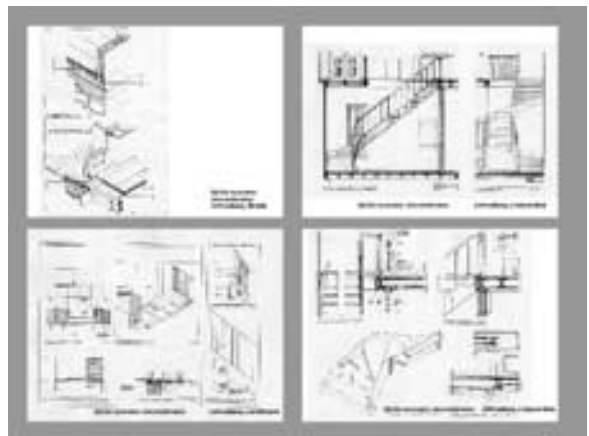
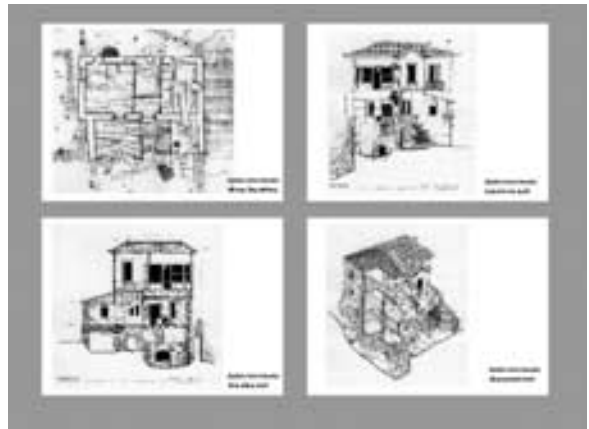
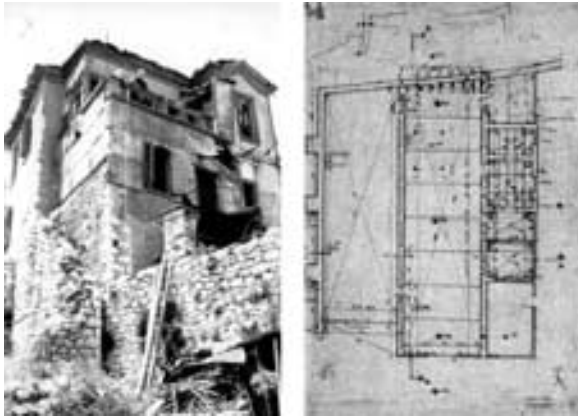
Last but not least, the selected buildings have to be, not in prime conditions, in order to register the influence, that time and natural phenomenon, had implement into the structural system, their external envelope and interior space.

At the beginning of the course, a series of lectures supply them with, as much information is possible, on the approach, the recognition of the architectural styles and methods of construction. The vocabulary of the vernacular architecture is pointed out, identifying the variations according to the locality and the environmental parameters, without ignoring the social factors.

The theoretical material is complemented with examples of different methods of construction quite extensively, as they differ according to local conditions related to the climate, the ground relief and quality and most important, the seismic conditions, an element that has affected the development of many areas in this country.

Theoretical knowledge and information is always desirable, but cannot substitute practical experience. In that respect, a field trip is organized, where students, with the assistance of the teaching staff members, are asked to apply the information they have attained during the lectures.

When on site, the sixty to seventy students that follow the course, are broken down into smaller groups up to maximum ten persons. Each group has a member of the teaching staff responsible for it and all groups go to their designated building. The work begins with the analytical perception of the building and its elements. It continues with the sketching and measuring of the building, including every observation they can make on the morphology and the construction with the cracks and damages.



They analyse the construction method used and identify the interventions made due to natural phenomenon or other causes.

The aim is for each group to produce measure drawings of the assigned building. Furthermore, in situ and with the continuous tutoring from their professors, they familiarise themselves with the environment. They recognise forms that derive from construction necessities and produce an Architectural vocabulary based on real functional needs.

It is also essential, the understanding of the relation between different materials, how they perform individually and collectively, in order to form an active construction model which finally will produce a building consistent to the original desirable functions.

Once the field trip is over, the students transfer their sketches into proper drawings to scale, containing all the details the damages and remarks from their observations on site. Their drawings are as analytical as possible so as to assist the next phase with the introduction of the new uses and the construction improvements.

They have to implement the acquired knowledge in designing a proposal for the rehabilitation of the case study building. The designation of the use of the building, either the original one or a new one, is top priority. The work is completed in the studio with the use of the measured drawings and it contains all the necessary working drawings for the realization of the project. At the same time, the lectures are continued conveying knowledge on the conservation methods, the construction, the details and the materials in use.

The use of new materials, the reuse of existing ones, the relation of the new with the old one, the form that results, the distinctive acknowledge of the rehabilitation or the downgrade of it, are some of the various important issues related to their proposal.

Finally they have to submit a complete project that contains two parts, the measured drawings with the analysis of the construction methods used and the rehabilitation proposal with the construction drawings.

The Final Results

This is an elective course that has been continuously active in our school since 1976, almost for thirty years. We have been in some villages more than two times and that has been very helpful, since we were able to acknowledge the transformation that occurred in most of them and the experience was passed to our students.

The in situ study of the buildings, has an direct impact to the students, since they measure, touch the materials with their own hands and they involve themselves with the methodology how to research, analyse, understand the construction, in order to implement a rehabilitation proposal that will not affect the stability of the structure and will not distort or affect beyond repair, the Architecture of the building itself.

Some Thoughts

The architecture graduates, that have participate in this elective course, fit to the profile of the student that has a special interest to explore and



study construction methodology, to understand why buildings stand and how that need affects, if it does, their design.

On the other hand, there are students that believe that there is a clear distinction between design and construction.

An attempt to explain this interpretation, could be that today, specialisation characterizes science, thus the impression that there exists many different architects, specialised in various domains, which is not totally untruth.

Nevertheless, as a result of such an impression is the production of buildings architecturally totally indifferent, with poorly designed details, unfriendly to users, more expensive that they need to be, for their construction and their maintenance, with an unconcerned attitude towards the environment and natural resources.

On the other hand, it is a absolute fact that contemporary Architecture that produces quality and distinguishes herself, is created by architects that care about construction methodologies and appropriate materials, designing details that emancipates quality and comfort in the composed spaces.

Finally we, as teachers, should insist on this direction, in order to inspire our graduates to produce solid and sensitive Architecture, which is lacking so badly to day.