# BEST PRACTICES HANDBOOK

„Contemporary realities and needs of sustainable urban rehabilitation”

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## Contemporary Realities and Needs of Sustainable Urban Rehabilitation

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Publisher:
Lublin University of Technology

Lublin 2017

**ISBN 978-83-7947-262-8**

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**Design and layout:**
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**Publisher:**
Politechnika Lubelska
ul. Nadbystrzycka 38D, 20-618 Lublin


Project SURE: Sustainable Urban Rehabilitation in Europe.

Erasmus+ Call: 2016; KA2 – Cooperation for Innovation and the Exchange of Good Practices Strategic Partnerships for higher education


Polski Komitet Narodowy ICOMOS

This project has been funded with support from the European Commission.


**Print:**
Drukarnia Alf-Graf
ul. Abramowicka 6, 20-442 Lublin

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# INTRODUCTION

Best Practices Handbook: Contemporary Realities and Needs of Sustainable Urban Rehabilitation summarizes the first stage of the SURE project: Sustainable Urban Rehabilitation in Europe.
The project is implemented as part of Erasmus+ Call: 2016; KA2 – Cooperation for Innovation and the Exchange of Good Practices Strategic Partnerships for higher education, which is planned for implementation in the period of 09.2017–08.2019.

There are seven partners representing four different countries participating in the subject undertaking: Poland, Italy, Lithuania, Spain. Selection of partners collaborating within the project consortium followed from the educational nature of the programme, as part of which the project is financed.[1] The project is being implemented by staff of four universities representing each country being a member of the consortium, who specialise not only in teaching architects but also in matters pertaining to heritage protection and urban revival. Three other partners include NGOs dealing with education, heritage promotion and protection, and being active in Poland, Italy as well as internationally.

The main objective of the project is to develop model academic syllabi for architecture programmes which would cover matters pertaining to heritage protection and revitalization of cities of great historical significance. The syllabi are intended to be of universal character, hence they should satisfy all requirements for master programmes in architecture. The heritage and revitalization related courses need to be in line with academic standards applied in architecture programmes.

The main idea behind development of the syllabi is to combine three elements in them: urban studies and architecture (fundamental courses in teaching architects), heritage protection, as well as social determinants (matters in which the users of works of architecture and urbanism). The syllabi being developed are planned to present and teach contemporary approaches to development, management, and respect of the natural and cultural environment. These ideas are mirrored in three modules in which courses taught as part of architecture programmes are included: Sustainable Architecture and Urban Planning, Sustainable Heritage, Heritage and Society.

As higher education systems being applied in countries participating in the project vary in terms of traditions and requirements, it is impossible to develop and adopt one common academic curriculum for all countries. The model curriculum should be used as a point of reference and be further provided with supplementary aspects, depending on the country and local requirements. Therefore, project partners were simultaneously developing curricula, focusing on experiences and determinants typical of each country being a member of the consortium.

1 The project is implemented by the following partners: Lublin University of Technology (PL) – consortium leader, Sapienza University of Rome (IT), Universidad Politécnica de Madrid (SP), Vilnius Gediminas Technical University (LT), ICOMOS Poland (PL), Fondazione Romualdo Del Bianco (IT), Fondazione Flaminia (IT).

Developing the model curriculum requires carrying out works by the following stages – experiences and practices should be summarized and current situation in architecture programmes should be presented. Given the direction to be taken when developing the curricula, the summary should focus on heritage protection and city revitalization in particular. Additionally, in the summary, needs should be analysed and formal requirements pertaining to the subject matter should be presented. These categories are discussed in the handbook.

According to project criteria, the information to be collected should cover the broadest possible scope, i.e. it should be gathered from all partners participating in the SURE project. Surveys examining education systems and education needs were prepared by members of staff in several universities across Poland, Italy, Lithuania, and Spain. Moreover, the questionnaire was sent to several universities around the world. This allowed not only for surveying specialists working in a number of academic institutions but also for collecting information on curricula and syllabi followed in these universities.

Such a broad scope of material would not have been analysed if not for the process of collecting information being based on a common structure. A survey entitled "*Teaching Protection of Historic Monuments and Sites and Revival of Cities of Historical Significance in Selected Faculties of Architecture*" was developed.

In the first stage, questionnaires aimed at collecting information were prepared by representatives of all academic institutions participating in the subject project. Members of staff in four universities taking part in the project were responsible for selecting faculties of architecture where academic staff follows curricula within which heritage protection and urban matters are taught. Del Bianco Foundation, having a lot of good contacts worldwide, conducted surveys in universities not represented in the project consortium. In the next stage, each partner was asked to synthesize the information collected in the surveys. This was the basis for producing reports mirroring the structure of the surveys. The reports are the content of the handbook.[2]

The surveys were developed by individuals directly involved in teaching. In most cases, these individuals could influence the development of the syllabi and, simultaneously, they were engaged in broadly understood heritage protection and urban revitalization.

Every respondent has long and considerable educational and practical experience. This allowed for presenting and evaluating syllabi, in terms of both teaching and practical needs.

Each of the six reports provides information and evaluation results collected in academic milieus in each country[3]. In line with the project assumptions, the acquired data will provide basis for developing different concepts of curricula, including indication of subjects to be taught, the number of hours, and the number of ECTS points. Each partner will develop a concept of the model curriculum individually. The concepts will be used for producing a common curriculum model.

In the present form, each national report is a part of a wide and coherent panorama of views on the issues covered by the reports.

In each participating country, representatives of leading academic institutions in which historic preservation issues are handled were asked to participate in the survey. Due to this, the information published in the reports can be considered a set of best practices and guidelines for developing model curricula, which is actually the principal aim of the Handbook.

What is presented in the first part is architecture teaching system in a certain country as well as requirements to be satisfied when working as a heritage protection specialist or architect. The second part aims at defining qualifications that architects dealing with heritage protection and urban revival should hold. Analysis of issues pertaining to these areas provided basis for defining the skills being required. In the third part, syllabi followed in each academic institution were analysed and described.

Therefore, the report structure allows for presenting not only the syllabi being used at present but also formal determinants to be satisfied and needs following from practice.

The subject publication is based on the said reports. It provides accurate information allowing for planning detailed content and structure of architecture syllabi focusing on heritage protection and urban revival in particular. This will be the basis for developing detailed syllabi and teaching aids to be used in lectures and workshops. It was also the main idea behind the *Best Practices Handbook: Contemporary Realities and Needs of Sustainable Urban Rehabilitation*.

2 Surveys and summary reports were developed as part of the first project activity entitled *Needs Analysis in Terms of the Contents of Curricula in the Field of Architecture, Urban Planning, Heritage Protection and Sustainable Development*, implemented in the period of 09.2016–03.2017. The survey was developed by project supervisor, B. Szmygin, representative of Lublin University of Technology.

3 Two Italian partners not dealing with academic teaching (Flaming Foundation and Del Bianco Foundation) produced reports covering narrower area, suitable to the scope of their activity. ICOMOS Poland cooperated with Lublin University of Technology to compile the report..

## Structure of reports presenting the needs and architecture syllabi covering heritage protection and urban revival in particular

All reports produced as part of the project show the same structure. It is even reflected in their titles – *Teaching Protection of Historic Monuments and Sites and Revival of Cities of Historical Significance in Selected Faculties of Architecture*. The only difference lies in the name of countries covered by the reports, e.g. *in Poland* or *in Lithuania.* In introduction to each report, a group of respondents is defined, i.e. universities and individuals developing the subject surveys. Additionally, other sources of information on the basis of which the report was produced are also provided.

# PART I

The first part of the report presents general determinants for teaching architects. It includes four points in which important aspects of the teaching system are defined. This part of the report aims at presenting the widest possible scope of determinants which result from the specific nature of the teaching and heritage protection systems applied in the subject countries. Additionally, it is of great importance that these systems determine the monument protection and preservation topics to be taught on architecture programmes.

Obviously, it is necessary to be familiar with these elements when developing the curriculum. However, as the teaching and heritage protection systems applied in certain countries differ considerably, it is impossible to draw common conclusions. For this reason, each national report provides information pertaining to the certain teaching system applied in a specific country.

The information published in this part of the report was not provided in surveys, results of which were used for producing the two other parts. The information was collected and studied by authors who compiled each national report individually.

### 1.1. ANALYSIS OF THE EDUCATION SYSTEM ADOPTED IN TEACHING ARCHITECTS

The first point aims at describing the education system adopted in teaching architects in each country. It is planned that the analysis will cover the entire education system instead of focusing on individual aspects of historic preservation. The presentation provides basic statistical data pertaining to the number and type of faculties of architecture, number of students of architecture and professionally active architects. This kind of data shows quantitative possibilities of the specific teaching system.

Further information pertains to organisation of academic courses. In Europe, the basic education framework is three cycles of higher-education qualifications (bachelor, master, and doctoral degrees), developed in the Bologna process. The division into cycles, however, differs from country to country, e.g. in terms of the length of each cycle, the number of classes to be attended or ECTS points to be collected.

What is also of considerable importance is information on additional qualifications to be acquired by those who would like to become architects. The requirements vary from country to country. In some countries, in order to work in historic monuments and sites, architects are required to hold special qualifications.

Moreover, academic education is also subject to internal regulations, which also vary from country to country. These concern a number of elements – organisation of the course of studies, the number of courses, the content of curricula, extra issues to be discussed, requirements to be satisfied when writing diploma theses, etc.

### 1.2. ANALYSIS OF THE EDUCATION SYSTEM APPLIED IN TEACHING SPECIALISTS IN PROTECTION OF HISTORIC MONUMENTS AND SITES AND URBAN REVIVAL

The second point aims at presenting a system adopted in teaching specialists in protection of historic monuments and sites and urban revival. What should be provided in this point is presentation of educational paths to be taken in teaching heritage specialists. It must be also mentioned that these paths frequently do not overlap with any specific type of academic education.

The scope of qualifications required in heritage protection is extremely broad because specialists working in historic monuments and sites need to address issues concerning different fields, e.g. the history of art, the historic preservation theory, construction engineering, spatial planning, law, administrative procedures, organisation, social communication, economics, etc. For this reason, heritage protection and urban revival can be dealt with by different specialists of various educational background. Most frequently, however, they need to extend their education by attending specialist courses, e.g. postgraduate studies.

The differences in education also follow from different functions pertaining to protection of historic monuments and sites. Different skills and qualifications are required in conservation works of art, working in historic preservation offices, conducting restoration works, and managing the revival process.

These aspects make it even more difficult to define, in formal terms, educational requirements to be met by specialists conducting such works.

Given the variety of issues and functions pertaining to protection of historic monuments and sites as well as urban revitalization, the report is planned to present different forms of teaching specialists working in the subject fields.

### 1.3 REQUIREMENTS/QUALIFICATIONS/ RESTRICTIONS REGARDING CONDUCTING CONSTRUCTION AND DESIGN WORKS IN HERITAGE PROPERTIES AND SITES.

The third point concerns formal requirements to be satisfied when undertaking urban revival works as well as works in heritage properties and sites. As this field involves specialist skills, individuals willing to conduct such works may be required to hold certain qualifications. Requirements to be satisfied when applying for licences granting certain qualifications should be discussed in syllabi followed in heritage protection-related courses.

In practice, requirements to be fulfilled in order to obtain certain qualifications may pertain to certain field of education, specialist experience, and passing a specific exam. These elements varying from one another in different terms, can be included in syllabi.

It is extremely common that specialist education is required in order to carry out certain works. This means that those who receive specialist education must be also trained vocationally. In architecture studies, it is rather uncommon to teach heritage protection. However, in terms of obtaining professional qualifications, there are sound reasons behind teaching this field.

Specialist experience, required when applying for a professional licence, can include period of working (professional experience) and specific character of the job (defining the type of work). It is impossible to satisfy these requirements when studying. It is, however, possible to prepare students for taking exams – by including the right content into syllabi.

For this reason, the report, by outlining requirements for working in properties and sites of great historical value, provides information important in developing architectural syllabi.

### 1.4. REQUIREMENTS/QUALIFICATIONS FOR ADMINISTRATIVE JOBS IN HISTORIC PRESERVATION OFFICES

In the fourth section of the survey, one can find formal requirements for administrative jobs in historic preservation offices.

Historic preservation theory, which provides foundation for heritage protection, has not been codified. Therefore, it is critical for individuals responsible for making heritage-related decisions to be qualified and hold appropriate licences. In specific heritage protection systems, formal requirements for holding key positions in this system are defined.

The requirement to be satisfied may be either completion of formal education or having a certain number of years of professional experience. Candidates may be also required to have additional specialist education certificate, e.g. postgraduate programme diploma or other training certificates. Moreover, specialist licences may also be required, e.g. permissions issued by professional commissions, e.g. in the Ministry of Culture. These requirements may follow from what is provided in certain curricula.

Furthermore, such knowledge should be demonstrated by authors of syllabi followed in architecture programmes.

# PART II

The second part of the report aims at presenting information on qualifications and skills required in heritage protection and urban revitalization. Needs analysis in this area was carried out by academic teachers. It was based mainly on their knowledge and practical experience.

This part of the report consists of four sections in which qualifications to be held by architects dealing with heritage will be provided. This pertains to both skills required in heritage jobs and approaches to be adopted by heritage specialists.

Each point in this part of the report should be provided with conclusions which will be used for defining aspects and even courses to be included in architecture studies curriculum. Authors of the reports used the conducted surveys to reach conclusions.

### 2.1. WHAT ASPECTS/ISSUES PERTAINING TO HERITAGE PROTECTION AND URBAN REVITALIZATION SHOULD BE INCLUDED IN ARCHITECTURE STUDIES SYLLABI?

In this part of the report, the first point concerns heritage-related material which should be taught in architecture studies. The material to be learnt by architecture students should be comprehensive and give a global picture of historic preservation.

In fact, this point aims at identifying the main problems which may be encountered in heritage protection and urban revitaliozation. Although this undertaking seems to be easy, contemporary heritage protection also concerns a great number of issues lying outside the scope of purely technical, architectural, and urban matters. Given development goals, the curriculum must also

incorporate topics pertaining to sustainable development, relations with stakeholders, environment, etc. It is therefore difficult to keep all these aspects in balance in teaching architecture and heritage protection.

As national reports in the second part were based on a great number of surveys, the information gained from the questionnaires needs to be synthesised and presented in several themes only. The authors responded to this serious challenge in this point.

It needs to be emphasised that the selected topics/issues differ from what is incorporated in syllabi. Moreover, the material indicated in the reports included not only the entire themes, e.g. theory of historic preservation, but also specific skills, e.g. analysing and documenting heritage. Nevertheless, this can be used for planning academic courses in the next stage of the project.

The most frequently occurring themes in this point included:

- theory and doctrines of historic preservation
- history of historic preservation
- protection of historic monuments and sites – the legal basis
- analysis of a property of great historical significance and assessment of historical values
- assessment of the technical condition of a historic property or site
- adaptation of properties of historical significance to contemporary uses
- revitalization of historic areas
- new development in historic areas

## 2.2. WHAT QUALIFICATIONS IN HERITAGE PROTECTION AND REVIVAL OF HISTORIC CITIES SHOULD ARCHITECTS HOLD?

The second point concerns qualifications in heritage protection and revival of historic cities which architects should hold. In the contemporary curricula, skills to be acquired by students are clearly and explicitly defined. Obviously, the competences are in line with the courses being delivered – they follow from while being separate at the same time. Therefore, a separate point in the report was devoted to defining them.

Skills demonstrated by architects dealing with heritage protection and urban revitalization fall beyond the stereotypical image of architect's competences. Such professionals also need to know, for instance, currently applied materials and techniques, how to assess tangible and intangible values, as well as how to diagnose complex issues pertaining to degraded areas. Although this diagnosis is not obvious, it is of considerable importance.

The skills listed in this point are critical for planning academic courses. The curriculum may incorporate lectures, classes, workshops, and design classes. It may also incorporate on-site classes, study visits, and summer training. In order to fully exploit the opportunities that each form of teaching offers, it needs to be indicated which skills architects should demonstrate and, hence, which themes they should become familiar with.

Given the specific nature of actions undertaken in properties of historical value, the following qualifications were mentioned in this section of the report:

- expertise in the theory of historic preservation
- being able to assess technical condition of properties and their historical values
- expertise in procedures followed when planning design projects to be carried out in properties and sites of historical significance (law and regulations)
- expertise in contemporary materials and technologies applied in conservation and renovation works conducted in properties of historic significance
- expertise in revitalization process (as a complex procedure)

## 2.3. DESCRIPTION OF THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF CITIES OF HISTORICAL VALUE, WHICH SHOULD BE TAUGHT IN FACULTIES OF ARCHITECTURE.

In the third section, general approach to heritage protection and revitalization of cities of historical value which should be taught in faculties of architecture is described. It is a both critical and ambiguous issue. Analysis of curricula which are followed in faculties of architecture as well as of interviews with academic teachers in particular, proved that heritage can be approached/handled in different ways. The differences lie in several aspects.

First and foremost, different approaches to the idea of protecting heritage can be developed. Some architects are of the opinion that there are sound reasons behind conducting works having impact on historical landscape and buildings of historical significance. They claim that as properties and sites of historical value are 'living structures', such actions should not be subject to strict control or be severely restricted. This means that it should be permitted to adapt them to contemporary needs, standards, and aesthetics. When this approach is adopted, historical landscape does not differ from other landscapes in terms of architectural ingenuity and creation being used. This is what students are taught.

On the other hand, heritage should be respected, i.e. its value should be respected and contemporarily conducted architectural works should be in line with

this value. In this case, ingenuity and creation are limited and aimed at achieving a certain objective. This approach can be taught to students.

Depending on the approach to heritage, syllabi vary in terms of the number of courses, hours, and ECTS points being incorporated. It is therefore critical to clearly define which approach to heritage we adopt because it is a crucial factor which determines the scope of syllabi.

Obviously, the objective is to promote approaches based on respect to heritage values. For this reason, given the approach to heritage, the following aspects are predominant in the reports:

- respect for historic monuments and sites and historical values
- contemporary works conducted in properties and sites of historical value should be adapted to historical landscape, which they should respect as well.
- as historic monuments and sites vary in terms of their value, it is necessary to conduct a wide range of conservation and preservation works (such undertakings are not universally applicable)
- revitalization of areas of historical value is a complex process. It falls beyond the scope of technical problems arising from maintenance of properties and sites of historical significance; revitalization requires taking comprehensive actions in different domains.
- monument protection can be beneficial to development
- monument protection brings its own problems; because of restricting development projects and being unnatural, it requires support (independent historic preservation authority), financial compensation, and involves a need to convince stakeholders.

### 2.4 OTHER POSITIVE AND NEGATIVE ASPECTS TO EDUCATION THAT ARCHITECTS RECEIVE AT PRESENT AS WELL AS TO THE ATTITUDES THEY TAKE TOWARDS HERITAGE PROTECTION AND REVITALIZATION OF HISTORIC CITES.

In its last section, the report describes positive and negative opinions on teaching heritage protection and revitalization of historical cities to architects. To large extent, the information having been collected is in line with and follows from attitudes presented in section three of this report. It may also, however, fall outside this area.

Conclusions provided in this section should concern all aspects of architectural education. For instance, areas or courses not incorporated in the curricula can be indicated – knowledge gaps or skill shortages.

Positive comments are also expected, e.g. emphasising the role that certain courses or skills play in heritage protection and revival of sites of historical value.

The reports allow for drawing the following conclusions pertaining to gaps in architecture studies curricula:

- the form and architectural detailing of historical significance are not given adequate consideration.
- it is not common enough to teach that creativity and talent can be also reflected in designing adaptation and renovation solutions in historic monuments and sites
- using properties of historical significance as well as historical landscapes as material and setting for contemporary functions (no respect givened)
- recognising the right to use a historic monument or site – the right to transform and use it instead of leaving it in the past
- negative consequences of heritage destruction are insufficiently analysed and not presented to wider audiences

## PART III

In its third part, the report provides description of courses covering heritage protection and urban revival delivered in faculties of architecture. In fact, it is an analysis of the existing curricula. The second part of the survey examining curricula which are followed in selected universities, provided Information to this part of the report.

The third part of the report consists of five sections in which curricula being followed are analysed in different aspects. In each part, different elements of academic curricula are investigated – courses, sources of practical experience, 'student profile', etc. Curriculum analysis also focuses on assessing whether the documents are complete and correspond with what is required in practice. Curricula regarded optimal are listed in a separate section.

As in the second part, at the end of this part, there are also conclusions drawn on the basis of surveys.

### 3.1 LIST AND DESCRIBE COURSES IN HERITAGE PROTECTION AND REVIVAL OF HISTORIC MONUMENTS AND SITES DELIVERED IN FACULTIES OF ARCHITECTURE.

This section provides detailed description of courses in heritage protection and urban revival delivered to students of architecture. The presentation should cover courses being of key importance to the subject field and creating its image to the fullest possible extent.

In the description of each course, there should be information important for organisation of the teaching process, i.e. defining the type of courses and the number of hours allocated for delivering them.

Furthermore, this report also aims at indicating model courses which can be useful in developing the model curriculum. Detailed information on these courses can be found in the reports.

The reports provide basis for indicating courses which should be included in curricula followed in faculties of architecture.

- history of architecture/history of arts (introduction course)
- measuring/studying properties of historical value (pre-design activities)
- foundations of/introduction to/theory of historic preservation
- designing in properties of outstanding historical value
- new development in historic areas
- revival of cities/landscapes of great historical significance
- adapting historic monuments and sites to new uses

## 3.2. ANALYSE AND DESCRIBE THE FORM AND SCOPE OF ACTIVITIES AIMED AT GAINING PRACTICAL PROFESSIONAL EXPERIENCE IN HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES IN THE PROCESS OF TEACHING STUDENTS OF ARCHITECTURE

The second point concerns practical experience in heritage protection and revitalization of historical cities which students can gain as part of their studies. Due to the specific nature of heritage, heritage protection requires students of architecture to gain broader practical experience. Studies in properties and sites of great historical significance , e.g. architectural studies, assessment of the condition of a property or site, measuring them, and producing documents can be conducted only in practice, i.e. when being in the property or site. Therefore, it is of great importance to incorporate on-site workshops into curricula.

On-site workshops can be organised either in the academic year or during summer holidays. It is either a university that organises such workshops or it is students who need to find a partner company (usually in the event of internships and training during summer holidays) on their own. Some practical workshops can be organised by academic teachers, e.g. taking measures in properties and sites of historical significance. In other cases, cooperation with external partners is required, e.g. with historic preservation offices. There are multiple forms of gaining practical experience. It is therefore of great importance to present only the best experiences and evaluate them.

The reports revealed that students of architecture are provided with insufficient opportunities to gain practical experience in heritage protection. The most common forms of practical experience which students can gain when studying at university include:

- measuring/studying properties of historical value / provided in the curriculum/
- study visits /provided in the curriculum/
- obligatory summer training /provided in the curriculum/ – most frequently: studying and measuring properties and sites of historical significance
- study camps and summer schools – extracurricular
- internships in design studios, historic preservation offices, and local government offices

## 3.3. DESCRIBE A GRADUATE PROFILE IN TERMS OF PROTECTION OF HISTORIC MONUMENTS/ SITES AND URBAN REVITALIZATION AS PROVIDED IN CURRICULUM-RELATED DOCUMENTS

The third section provides an insight into the profile of an architecture graduate. In curricula, it is required to detail a graduate profile. Practically, it means declaring skills graduates gained when studying. Presentation of a graduate profile is useful in developing a curriculum – by defining a perfectly educated specialist, it is easier to determine the material to be taught.

As requirements to be satisfied in the process of developing graduate profiles are published by the Ministry, their importance is supreme. Nevertheless, by juxtaposing profiles provided in the reports, one can collect extra information to be used in developing model curricula. As it, however, turns out, matters directly pertaining to heritage and revitalization fall outside the scope of profile descriptions provided in architecture curricula.

## 3.4. DESCRIBE THE CURRICULUM (AS A WHOLE) IN TERMS OF ITS CONTENT, STRUCTURE, ETC.

The fourth section of the report concerns general description and assessment of the curricula being analysed. It is aimed at assessing whether the curricula are complete, the material is taught in the right order, individual themes being taught are coherent, etc.

This section is also aimed at comprehensive assessment of the curricula in terms of the objective of the SURE project, i.e. developing respect to heritage in students of architecture. Consequently, such graduates will be able to protect heritage and conduct revival works in areas of outstanding historical value. It should be also assessed whether material pertaining to stakeholders' participation and presentation of sustained development principles is also incorporated in the curricula. In other words, the assessment aims at verifying whether the material pertaining to heritage protection and urban revival is compliant with the contemporary theory of historic preservation.

As the conclusions vary from report to report, it is not possible to provide their common synthesis.

## 3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS.

The last section of the report provides suggestions concerning development of model curricula to be followed in teaching heritage protection and urban revival to students of architecture. The model curriculum will be designed in the next stages of the SURE project. However, the authors were asked to formulate the first proposals already in the report development stage.

The suggested curricula incorporate basic elements – names of courses, the number of course hours to be delivered by teachers and ECTS points to be collected by students.

The authors were asked to take market needs into consideration.

*Bogusław Szmygin*

# 01

# THE TEACHING OF THE HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES AT THE FACULTIES OF ARCHITECTURE IN THE FIELD OF ARCHITECTURE IN SPAIN

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## INTRODUCTION

### /INFORMATION ON THE AIM, SCOPE AND STRUCTURE OF THE REPORT; CHARACTERISTICS OF THE PARTICIPANTS COMPLETING THE QUESTIONNAIRES; OTHER RELEVANT INFORMATION/

In this report on the WP1 we will want to provide the status of art of the character of architectural teaching, qualifications and skills transferred in order to protect the heritage in Spain, in the different universities.

We started by studying the Plans (curricula) of nearly all of our official universities where Architecture could be studied.

Then, we have chosen some of them with different characteristics. And so, some which form part of Polytechnic University and others of general university, when there isn't it.

Because in Spain, in general, Architecture is studied in "Escuela Técnica Superior", which is not a faculty. In general, in big cities where there are more than one university, the technics studies joins all together in the Polytechnic University.

Then we have seen that only in three of the 18 "Higher technical schools", there were obligatory matters about Heritage protection or revitalization of historical cities.

To help us we used the questionnaires submitted by the project leader to each partner of SURE. We send them to those different recipients, educational (professors and or directors of universities) and institutions and administration (central, regional or communal) (such as Patrimonio Nacional, Junta de Castilla León, Generalitat de Valencia and Consorcio de Toledo).

Now in Spain we haven't the possibility of studying Architecture with the old plan before Bologna System as this plan has being introduced in all our universities.

The report is structured in three parts:

**Part I**

Characteristics of the system of educating the architects in Spain.

Part II

Determination of the qualifications and skills required in working with heritage protection and revitalisation of historical cities.

Part III

Characteristics of the teaching of heritage protection and revitalization of cities in the system of educating the architects.

# PART I

## General characteristics of the system of educating the architects (in particular country); issues of heritage protection and revitalisation of historical cities in the system of architectural education; formal qualifications and education required from the architects dealing with heritage protection and revitalization of cities.

### 1.1. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE ARCHITECTS (IN PARTICULAR COUNTRY)

/inter alia: statistical data regarding the number of faculties educating the architects; the structure of the studies in field of architecture, incl. the Bologna system; the required licenses for the designing/

Architects training tradition in Spain started in the XVIII century when it was created the "Real Academia de Bellas Artes de San Fernando" in Madrid[1].

Some years after, in 1844 the High Technic School of Architecture was created in Madrid.

The School was near to the technical studies of the Army and not too close to the "Beaux Arts" French studies.

The structure of the current architecture studies in Spain, establishes official university degrees and master's degrees, whose study plans will have a duration of 300 and 60 ECTS credits, respectively. The lessons will be planned taking into account that the access to studies leads to the obtaining of the qualification of masters and qualifies for the exercise of the regulated profession of architect, and it will require the previous graduation of the corresponding undergraduate courses, which includes the following modules and credits, as minimum:

**Grade:**

- Propedeutico – basic sciences and drawing.
- Technician – Construction, structures and installations.
- Proyectual – Composition, project and urbanism.
- End of Year Work.

**Master:**

- Technical – Construction, structures and facilities.
- Proyectual – Composition, project and urbanism.
- Final project.

As we have said, in Spain, in Architecture Bologna system has being implanted in all our universities. So there are implanted the number of credits ECTS, and the semesters. The number of hours is separate between the theoretic lessons, the work in aula, and the practice work to do at home.

1 Some of the important architects that after have restored important monuments in Spain, came to Academia de San Lucas in Rome

Since 3rd year, in general, there are optional matters to choose.

In general is not enough one semester to arrive to what is expected.

After finishing the 300 ECTS, you get the title of architect, but you are not legally qualified to sign as such. To do this, it´s necessary to do the *Master Habilitante*. Before the Bologna plan, at the end of the five or six courses of the degree plus the final project, you were already legally qualified to practice.

PhD studies[2] do not presently include any training cycle, starting from the beginning the research work.

2 regulated by RD 99/2011

The degree of architecture is taught in eighteen public universities:

U. Politécnica de Madrid, U. Politécnica de Cataluña, U. Rey Juan Carlos, U. de Castilla La Mancha, U. de Zaragoza, U. de Málaga, U. Politécnica de Cartagena, U. de Alcalá de Henares, U. de La Coruña, U. del Pais Vasco, U. de Gerona, U. Politécnica de Valencia, U. de Sevilla, U. de Valladolid, U. de Las Palmas de Gran Canaria, U. de Alicante, U. de Granada, U. Rovira Y Virgili.

The plans (curricula) of the Universities we have studied, because of the interest, history and tradition are Universidad Politécnica de Madrid UPM-ETSAM; Universidad Politécnica de Valencia UPV-ETSAV; Universidad de Granada UGR-ETSAG; Universidad Politécnica de Cataluña UPC-ETSAB; Universidad de Sevilla US-ETSAS; Universidad de Alcalá UAH-UTSAA; Universidad de Valladolid UVA-ETSAV.

UNIVERSIDAD POLITÉCNICA DE MADRID, Grado en Fundamentos de la Arquitectura, PLAN 2010

| | | SUBJECT | TYPE | ECTS |
|---|---|---|---|---|
| 1ST COURSE | 1ST SEMESTER | Geometry and architectural drawing I | MD | 6 |
| | | Drawing, analysis and ideation1 | MD | 6 |
| | | Euclidean and proyectiva geometry | MD | 6 |
| | | Introduction to Architecture | MD | 6 |
| | | Workshop | MD | 6 |
| | 2ND SEMESTER | Drawing, analysis and ideation 2 | MD | 6 |
| | | Geometry and architectural drawing II | MD | 6 |
| | | Architectural Design 1 | MD | 6 |
| | | Calculus | MD | 6 |
| | | History of Art and Architecture | MD | 6 |
| 2ND COURSE | 3RD SEMESTER | Architectural Design 2 | MD | 9 |
| | | Physical Mechanics | MD | 6 |
| | | Building Materials | MD | 6 |
| | | The City and Town Planning | MD | 6 |
| | | Curves and Surfaces | MD | 3 |
| | 4TH SEMESTER | Architectural Design 3 | MD | 9 |
| | | Structures 1 | MD | 6 |
| | | Building Physics | MD | 6 |
| | | Architectural Analysis | MD | 6 |
| | | Construction and Building Technology 1 | MD | 3 |
| 3RD COURSE | 5TH SEMESTER | Architectural Design 4 | MD | 12 |
| | | Construction and Building Technology 2 | MD | 6 |
| | | Structural Design 2 | MD | 6 |
| | | History of Architecture and Town Planning | MD | 6 |
| | 6TH SEMESTER | Architectural Design 5 | MD | 12 |
| | | The City and the Built Environment | MD | 6 |
| | | Landscape and Garden Design | MD | 3 |
| | | Environmental Conditioning and Habitability | MD | 3 |
| | | English comunication | MD | 6 |
| 4TH COURSE | 7TH SEMESTER | Architectural Design 6 | MD | 12 |
| | | Construction and Building Technology 3 | MD | 6 |
| | | Structural Design 3 | MD | 6 |
| | | Architectural Composition | MD | 6 |
| | 8TH SEMESTER | Architectural Design 7 | MD | 12 |
| | | Urban Project | MD | 6 |
| | | Technical Equipment and Services | MD | 3 |
| | | Electric, Lighting and Media Technologies. | MD | 3 |
| | | Experimental Workshop 1 | EL | 6 |
| 5TH COURESE | 9TH SEMESTER | Architectural Design 8 | MD | 12 |
| | | Soil Mechanics | MD | 6 |
| | | Architectural Regulation | MD | 6 |
| | | Urban and Land Planning | MD | 6 |
| | 10TH SEMESTER | Building and Technology Systems Design | MD | 6 |
| | | Structural Design | MD | 6 |
| | | Technical Equipment Design | MD | 6 |
| | | Optional Extension | EL | 6 |
| | | Diploma Project | MD | 6 |

MD Mandatory; B Basic; EL Elective; FE Free Election

| | SUBJECT | TYPE | ECTS |
|---|---|---|---|
| 1ST COURSE | Analysis of forms I | B | 12 |
| | Architectural representation I | B | 9 |
| | Descriptive geometry I | B | 9 |
| | Mathematics I | B | 9 |
| | Introduction to architecture | B | 4,5 |
| | Introduction to construction | B | 4,5 |
| | Physics for architecture | B | 7 |
| | Projects I | B | 5 |
| 2ND COURSE | Projects II | MD | 15 |
| | Urban desing I | MD | 9 |
| | Construction materials | MD | 9 |
| | Mathematics II | MD | 6 |
| | Architectural graphic expression | MD | 6 |
| | Art history | MD | 4,5 |
| | Architecture history I | MD | 4,5 |
| | Economy and business management | MD | 6 |
| 3RD COURSE | Projects III | MD | 15 |
| | Urban desing II | MD | 9 |
| | Construction I | MD | 9 |
| | Structures I | MD | 9 |
| | Architecture history II | MD | 6 |
| | Physics for environmental conditioning | MD | 6 |
| | Electrical installations | MD | 6 |
| 4TH COURSE | Projects IV | MD | 15 |
| | Urban desing III | MD | 9 |
| | Construction II | MD | 9 |
| | Structures II | MD | 9 |
| | Theory of architecture | MD | 4,5 |
| | Hidraulic installations | MD | 4,5 |
| | Composition | MD | 4,5 |
| | Higrothermic conditioning installations | MD | 4,5 |
| 5TH COURESE | Projects V | MD | 15 |
| | Construction III | MD | 9 |
| | Architectural restoration | MD | 4,5 |
| | Structures III | MD | 4,5 |
| | Legal architecture, urban planning, legislation and valuations | MD | 7,5 |
| | Soil mechanics and foundations | MD | 4,5 |
| | Optative I | EL | 4,5 |
| | Optative II | EL | 4,5 |
| | End of degree work | MD | 6 |

UNIVERSIDAD DE GRANADA, Grado en Arquitectura, PLAN 2011

| | | SUBJECT | TYPE | ECTS |
|---|---|---|---|---|
| 1ST COURSE | 1ST SEMESTER | Graphic ideation and introduction to the architectural project | B | 6 |
| | | Graphic expression I | B | 6 |
| | | Construction materials | MD | 6 |
| | | Introduction to art and architecture history | B | 6 |
| | | Mathematical fundamentals in architecture I | B | 6 |
| | 2ND SEMESTER | Architectural projects I | MD | 6 |
| | | Graphic expression II | B | 6 |
| | | Physics I | B | 6 |
| | | Introduction to construction | B | 6 |
| | | Architectural history I | B | 6 |
| 2ND COURSE | 3RD SEMESTER | Architectural projects II | MD | 6 |
| | | Graphic expression III | B | 6 |
| | | Analysis of architectural forms I | B | 6 |
| | | Physics II | B | 6 |
| | | Mathematical fundamentals in architecture II | MD | 6 |
| | 4TH SEMESTER | Architectural projects III | MD | 6 |
| | | Construction I | MD | 6 |
| | | Installations I | MD | 6 |
| | | Analysis of architectural forms II | MD | 6 |
| | | Architectural history II | B | 6 |
| 3RD COURSE | 5TH SEMESTER | Architectural projects IV | MD | 6 |
| | | Structure fundamentals | MD | 6 |
| | | Architectural composition I | MD | 6 |
| | | Urban desing I | MD | 6 |
| | 6TH SEMESTER | Construction II | MD | 6 |
| | | Architectural projects V | MD | 6 |
| | | Structures I | MD | 6 |
| | | Urban desing II | MD | 6 |
| | | Instalations II | MD | 6 |
| 4TH COURSE | 7TH SEMESTER | Architectural projects VI | MD | 12 |
| | | Construction III | MD | 6 |
| | | Urban desing III | MD | 6 |
| | | Architectural composition II | MD | 6 |
| | 8TH SEMESTER | Architectural projects VII | MD | 6 |
| | | Installations III | MD | 6 |
| | | Structures II | MD | 6 |
| | | Urban desing IV | MD | 6 |
| 5TH COURESE | 9TH SEMESTER | Architectural projects VIII | MD | 9 |
| | | Construction IV | MD | 3 |
| | | Soil mechanics | MD | 6 |
| | | Structures III | MD | 6 |
| | 10TH SEMESTER | Architectural projects IX | MD | 9 |
| | | Architectural restoration | MD | 6 |
| | | Construction V | MD | 3 |
| | | Urban desing V | MD | 6 |
| | | Architectural projects IX | MD | 9 |

## UPC UNIVERSIDAD POLITÉCNICA DE CATALUÑA, Grado en Estudios de Arquitectura, PLAN 2014

| | SUBJECT | TYPE | ECTS |
|---|---|---|---|
| 1ST COURSE | Bases for the project I | MD | 6 |
| | Bases for the project II | MD | 6 |
| | Bases for the technique | MD | 6 |
| | Bases for the theory | MD | 6 |
| | Drawing I | MD | 6 |
| | Drawing II | MD | 6 |
| | Physical I | MD | 6 |
| | Physical II | MD | 6 |
| | Maths I | MD | 6 |
| | Maths II | MD | 6 |
| 2ND COURSE | Conditioning and services I | MD | 6 |
| | Building I | MD | 6 |
| | Structures I | MD | 7 |
| | History I | MD | 6 |
| | Projects I | MD | 7,5 |
| | Projects II | MD | 7,5 |
| | Architectural representation I | MD | 5 |
| | Architectural representation II | MD | 5 |
| | Urbanistic I | MD | 6 |
| | Urbanistic II | MD | 6 |
| 3RD COURSE | Conditioning and services II | MD | 6 |
| | Building II | MD | 6 |
| | Structures II | MD | 6 |
| | History II | MD | 7 |
| | Projects III | MD | 7,5 |
| | Projects IV | MD | 7,5 |
| | Architectural representation III | MD | 5 |
| | Urbanistic III | MD | 5 |
| | Urbanistic IV | MD | 5 |
| 4TH COURSE | Conditioning and services III | MD | 6 |
| | Building III | MD | 7 |
| | Structures III | MD | 6 |
| | Projects V | MD | 7,5 |
| | Projects VI | MD | 7,5 |
| | Architectural representation IV | MD | 5 |
| | Theory I | MD | 6 |
| | Urbanistic V | MD | 5 |
| | Urbanistic VI | MD | 5 |
| 5TH COURESE | Legal architecture and management | MD | 7,5 |
| | Building IV | MD | 7,5 |
| | Structures IV | MD | 5 |
| | Thematic workshop I | MD | 7,5 |
| | Thematic workshop II | MD | 7,5 |
| | Theory II | MD | 5 |

## US UNIVERSIDAD DE SEVILLA, Grado en Fundamentos de Arquitectura, PLAN 2012

| | SUBJECT | TYPE | ECTS |
|---|---|---|---|
| 1ST COURSE | Construction I | B | 6 |
| | Drawing I | B | 6 |
| | Drawing II | B | 6 |
| | Structures I | MD | 6 |
| | Physical fundamentals of structures | B | 6 |
| | Mathematical fundamentals of architecture I | B | 6 |
| | History, theory and architectural composition I | B | 6 |
| | Projects I | B | 6 |
| | Projects II | MD | 6 |
| | Urban desing I | MD | 6 |
| 2ND COURSE | Drawing III | B | 6 |
| | Mathematical fundamentals of architecture II | MD | 6 |
| | History, theory and architectural composition II | MD | 6 |
| | Projects III | MD | 6 |
| | Architectural workshop I | MD | 6 |
| | Conditioning and services I | MD | 6 |
| | Construction II | MD | 6 |
| | Physical fundamentals of services and conditioning | B | 6 |
| | Projects IV | MD | 6 |
| | Architectural workshop II | MD | 6 |
| 3RD COURSE | Construction III | MD | 6 |
| | Drawings IV | B | 6 |
| | Structures II | MD | 6 |
| | Projects V | MD | 6 |
| | Architectural workshop III | MD | 6 |
| | Conditioning and services II | MD | 6 |
| | Soil mechanics and foundations | MD | 6 |
| | Projects VI | MD | 6 |
| | Architectural workshop IV | MD | 6 |
| | Urban desing II | MD | 6 |
| 4TH COURSE | Conditioning and services III | MD | 6 |
| | Construction IV | MD | 6 |
| | Projects VII | MD | 6 |
| | Architectural workshop V | MD | 6 |
| | Urban desing III | MD | 6 |
| | Construction V | MD | 6 |
| | Structures III | MD | 6 |
| | History, theory and architectural composition III | MD | 6 |
| | Projects VIII | MD | 6 |
| | Architectural workshop VI | MD | 6 |
| 5TH COURESE | Optative I | EL | 6 |
| | Optative II | EL | 6 |
| | History, theory and architectural composition IV | MD | 6 |
| | Projects IX | MD | 6 |
| | Architectural workshop VII | MD | 6 |
| | Urban desing IV | MD | 6 |
| | Construction VI | MD | 6 |
| | Projects X | MD | 6 |
| | Architectural workshop VIII | MD | 6 |
| | End of degree work | | 30 |

## UAH UNIVERSIDAD DE ALCALÁ, Grado en Fundamentos de Arquitectura y Urbanismo, PLAN 2013

| | SUBJECT | TYPE | ECTS |
|---|---|---|---|
| 1ST COURSE | Physical fundamentals of architecture | MD | 6 |
| | Physics expansion | B | 7,5 |
| | Drawing and descriptive geometry I | MD | 13,5 |
| | Mathematical fundamentals of architecture | MD | 9 |
| | Calculation applied to the architecture | B | 6 |
| | Drawing II | B | 6 |
| | Analysis of architectural forms I | MD | 10,5 |
| | Descriptive geometry II | B | 6 |
| | Architectural projects I | MD | 6 |
| 2ND COURSE | Analysis of architectural forms II | MD | 10,5 |
| | Construction I | MD | 7,5 |
| | Architectural projects I | B | 7,5 |
| | History and theory of architecture I | MD | 7,5 |
| | Introduction to structures | MD | 9 |
| | Construction materials | MD | 7,5 |
| | Architectural Projects II | MD | 12 |
| | History and theory of architecture II | MD | 7,5 |
| 3RD COURSE | Architectural composition I | MD | 6 |
| | Architectonical construction I | MD | 12 |
| | Structures I | MD | 6 |
| | Services I | MD | 6 |
| | Architectural projects III | MD | 12 |
| | Landscape architecture and environmental impact | B | 10,5 |
| | Services II | MD | 6 |
| | Architectural projects II | B | 9 |
| | Urbanism | MD | 9 |
| 4TH COURSE | Architectural projects IV | MD | 12 |
| | Structures II | MD | 7,5 |
| | Urban desing I | MD | 6 |
| | Architectonical construction II | MD | 6 |
| | Free configuration subject I | | 12 |
| | Architectonical construction III | MD | 6 |
| | Free configuration subject II | | 12 |
| 5TH COURESE | Technological innovations | B | 9 |
| | Arquitectural projects V | MD | 12 |
| | Soil Mechanics and foundations | FE | 6 |
| | Architectonic composition | MD | 6 |
| | Urban desing II | MD | 12 |
| | Restoration of buildings and assemblies and rehabilitation | B | 9 |
| | Legal architecture | B | 6 |
| | End of degree work | | |

UVa UNIVERSIDAD DE VALLADOLID, Grado en Fundamentos de la Arquitectura, PLAN 2013

| | SUBJECT | TYPE | ECTS |
|---|---|---|---|
| 1ST COURSE | Analysis of forms I | B | 3 |
| | Architectural representation I | B | 3 |
| | Descriptive geometry I | B | 3 |
| | Architecture history | B | 9 |
| | Mathematical fundamentals for architecture | B | 9 |
| | Building I | MD | 3 |
| | Analysis of forms II | B | 6 |
| | Architectural representation II | B | 6 |
| | Descriptive geometry II | B | 6 |
| | Physical fundamentals for architecture | B | 9 |
| | Building II | MD | 3 |
| 2ND COURSE | Analysis of forms III | B | 4 |
| | Building III | MD | 5 |
| | Projects I | MD | 10 |
| | Architecture history of 20º century | MD | 6 |
| | Urban desing | MD | 5 |
| | Analysis of forms IV | B | 5 |
| | Building IV | MD | 5 |
| | Building structures I | MD | 5 |
| | Projects II | MD | 10 |
| | Architectonic composition I | MD | 5 |
| 3RD COURSE | Building V | MD | 5 |
| | Building structures II | MD | 5 |
| | Conditioning and services I | MD | 5 |
| | Projects III | MD | 10 |
| | Urban ecology | MD | 5 |
| | Building VI | MD | 5 |
| | Conditioning and services II | MD | 5 |
| | Projects IV | MD | 10 |
| | Architectonic composition II | MD | 5 |
| | Urban rehabilitation and heritage | MD | 5 |
| 4TH COURSE | Building VII | MD | 5 |
| | Conditioning and services III | MD | 5 |
| | Projects V | MD | 10 |
| | Architectonic composition III | MD | 5 |
| | Theory of the city and urban debates | MD | 5 |
| | Building VIII | MD | 5 |
| | Building structures III | MD | 7 |
| | Conditioning and services IV | MD | 3 |
| | Projects VI | MD | 10 |
| | Urban planing and city project | MD | 5 |
| 5TH COURESE | Measurements, budgets, security and management | MD | 5 |
| | Soil mechanics | MD | 5 |
| | Projects VII | MD | 10 |
| | Architectonic composition IV | MD | 3 |
| | New areas urban planning | MD | 5 |
| | Evaluation and performance in buildings | MD | 4 |
| | Projects VIII | | 10 |
| | End of degree work | MD | 6 |
| MD Mandatory; B Basic; EL Elective; FE Free Election | | | |

The eighteen universities are public. Ten of these universities are in the QS World University Ranking.

From the twenty degrees, one of them is taught in four courses and four in six courses, the other fifteen are taught in five courses.

All of the degrees are taught in-person. There is no distance learning degrees. Two of the cases end with a double degree, with the following complementary titles:

– Integral Design and Image Management.
– Landscaping.

The universities are distributed in eleven regions of the seventeen that make up the Spanish State. The distribution is substantially proportional to the population, with four universities in Andalucía (20%), three universities in Madrid, Valencia and Cataluña (15%). The rest of the seven communities have one universities in their territory.

To exercise the architectural design, it is necessary, once the title has been obtained, to join to a chartered institute. The chartered institutes are trade associations formed by those natural or juridical persons (always with an associated physical person), that exert a certain liberal profession. Chartered institutes are governed by specific legislation, and are therefore called corporations under public law. People belonging to these entities are known as collegiate members. Chartered institutes might have different territorial areas, although the whole of them covers the whole of Spain. The grouping of the chartered institutes forms the General Council of the corresponding profession. Internationally, chartered institutes are governed by the World Organization of Interprofessional Councils (OMCI).

The purpose of professional colleges is the management of the exercise of grouped professionals, representation before other social groups, including administration and defense of the interests of collegiate members. In the purely professional field, the college ensures the good practice of its components, establishing, through its statutes, a deontology; the duties, obligations and ethical standards that must be fulfilled by the members for the general social good.

## 1.2. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE SPECIALISTS FOR THE HERITAGE PROTECTION AND REVITALISATION OF THE CITIES (IN PARTICULAR COUNTRY)

In general, in Spain, the matters concerning educating specialists for the heritage protection and revitalisation of cities can be chosen from those of a list after third or fourth year. There are few universities with obligatory matters in this sense (Universidad de Valencia, Universidad de Granada).

For example in ETSAM (UPM) there are some theoretic matters and some practical matters which can be studied in what is call “Taller” (Laboratory), after passing the third or the forth year.. These have a different number of credits, generally more those catalogued as practical. And then, each matter must be studied in one semester.

In Madrid, there is the possibility of choosing some Laboratories in 4th year. One is about vaults, another one is called “Fundamentos de Patrimonio Arquitectónico”. In this one, during one semester (6 hours a week) there are theoretical lessons (about History, Criteria, Pathology, Design) and each student (by groups) develop one work. On 5th year, in one obligatory matter as Intensification, if someone choose “in Construction” can choose to do one work in something concerning Heritage. When finished (all the 300 Credits ECTS) must choose the work for TGF, and is possible about Heritage.

After all, in *Master Habilitante*, there is one matter to choose about Heritage. After there is the possibility of PhD (Doctorado), and some so called “Masters”.

*Master Habilitante* is obligatory to sign as an architect. *Master Universitario* is an official title but not an academic one. *Master Propio* is a particular one with a not official title.

## GRADO

| UPM | UNIVERSIDAD POLITÉCNICA DE MADRID | Grado en Fundamentos de la Arquitectura | PLAN 2010 |
|---|---|---|---|
| Curso | Asignatura | Tipo | Créditos |
| 4º | Fundamentos de la intervención en el Patrimonio | Optativa | 6 ECTS |
| 4º | Historia de la construcción: taller de cantería | Optativa | 6 ECTS |
| 4º | Historia de la construcción: taller de carpintería de armar | Optativa | 6 ECTS |
| 5º | Intensificación en Construcción y Tecnología Arquitectónicas | Optativa | 6 ECTS |
| UPV | UNIVERSIDAD POLITÉCNICA DE VALENCIA | Grado en Fundamentos de la Arquitectura | PLAN 2014 |
| Curso | Asignatura | Tipo | Créditos |
| 5º | Restauración Arquitectónica | Obligatoria | 4,5 ECTS |
| 5º | Levantamiento Gráfico del Patrimonio Edificado | Optativa | 4,5 ECTS |
| 5º | Patología y Técnicas de Intervención en el Patrimonio | Optativa | 4,5 ECTS |
| 5º | Patologías y Rehabilitación Estructural | Optativa | 4,5 ECTS |
| UGR | UNIVERSIDAD DE GRANADA | Grado en Arquitectura | PLAN 2011 |
| Curso | Asignatura | Tipo | Créditos |
| 5º | Restauración Arquitectónica | Obligatoria | 6 ECTS |
| 5º | Construcción 5: Patología de la edificación | Obligatoria | 3 ECTS |
| 4º-5º | Levantamiento arquitectónico | Optativa | 6 ECTS |
| 3º-5º | Infografía y patrimonio | Optativa | 6 ECTS |
| UPC | UNIVERSIDAD POLITÉCNICA DE CATALUÑA | Grado en Estudios de Arquitectura | PLAN 2014 |
| Curso | Asignatura | Tipo | Créditos |
| 3º-4º-5º | Introducción al Patrimonio Arquitectónico | Optativa | 3 ECTS |
| 3º-4º-5º | Re-habitar. La Casa y la Calle | Optativa | 5 ECTS |
| 3º-4º-5º | Técnicas de Rehabilitación y Puesta en Obra | Optativa | 3 ECTS |
| US | US-UNIVERSIDAD DE SEVILLA | Grado en Fundamentos de Arquitectura | PLAN 2012 |
| Curso | Asignatura | Tipo | Créditos |
| 5º | Patrimonio Urbano y Planeamiento | Optativa | 6 ECTS |
| 5º | Dibujo y Patrimonio | Optativa | 6 ECTS |
| 5º | Arquitectura, Paisaje y Territorio | Optativa | 6 ECTS |
| 5º | Arquitectura y Patrimonio | Optativa | 6 ECTS |
| 5º | Intervención Estructural en Edificios Existentes | Optativa | 6 ECTS |
| UAH | UNIVERSIDAD DE ALCALÁ | Grado en Fundamentos de Arquitectura y Urbanismo | PLAN 2013 |
| Curso | Asignatura | Tipo | Créditos |
| 4º | Patrimonio Industrial | Optativa | 6 ECTS |
| 4º | Patrimonio, Teoría de la Restauración e Intervención en el Patrimonio | Optativa | 6 ECTS |
| 4º | Taller de Documentación del Patrimonio | Optativa | 4 ECTS |
| UVa | UNIVERSIDAD DE VALLADOLID | Grado en Fundamentos de la Arquitectura | PLAN 2010 |
| Curso | Asignatura | Tipo | Créditos |
| 3º | Restauración Urbana y Patrimonio | Obligatoria | 5 ECTS |
| 5º | Evaluación y actuación en edificios | Obligatoria | 4 ECTS |
| 4º | Fundamentos y práctica del proyecto de restauración arquitectónica | Optativa | 3 ECTS |
| 5º | Historia y Teoría de la Restauración Arquitectónica | Optativa | 3 ECTS |
| 5º | Masonry Structures | Optativa | 3 ECTS |

## MÁSTER HABILITANTE

| UPM | UNIVERSIDAD POLITÉCNICA DE MADRID | Máster en Arquitectura | PLAN 2010 |
|---|---|---|---|
| Curso | Asignatura | Tipo | Créditos |
| 1º | Técnicas de Intervención en Edificios Históricos | Optativa | 4 ECTS |
| 1º | Intervención en lo ya Construido (Conservación, Restauración, Rehabilitación) | Optativa | 4 ECTS |
| 1º | Estudio documental y arqueológico de construcciones históricas | Optativa | 4,5 ECTS |
| 1º | Bóvedas: su construcción y empleo en la arquitectura antigua | Optativa | 4,5 ECTS |
| 1º | Intervención en edificios existentes: estructuras | Optativa | 4,5 ECTS |
| 1º | Levantamiento arquitectónico y dibujo de la ciudad | Optativa | 4,5 ECTS |
| 1º | Fotogrametría para el levantamiento | Optativa | 4,5 ECTS |
| 1º | La protección del patrimonio urbano y del medio natural | Optativa | 4,5 ECTS |
| UPV | UNIVERSIDAD POLITÉCNICA DE VALENCIA | Máster Universitario en Arquitectura | PLAN 2014 |
| Curso | Asignatura | Tipo | Créditos |
| 1º | Evaluación de Daños Debidos al Sismo. Protocolos y Actuación de la Dirección Facultativa | Optativa | 4,5 ECTS |
| 1º | Patología y Técnicas de Intervención en la Arquitectura Construida | Optativa | 4,5 ECTS |
| 1º | Patología y Rehabilitación Estructural | Optativa | 4,5 ECTS |
| 1º | Patrimonio Moderno: Líneas de Intervención | Optativa | 4,5 ECTS |
| 1º | Proyectos de Intervención en el Patrimonio Arquitectónico | Optativa | 4,5 ECTS |
| 1º | Restauración de la Arquitectura Histórica No Monumental | Optativa | 4,5 ECTS |
| 1º | Historiografía y fundamentos de la crítica arquitectónica | Optativa | 4,5 ECTS |
| UGR | UNIVERSIDAD DE GRANADA | Máster Universitario Habilitante en Arquitectura | PLAN 2011 |
| Curso | Asignatura | Tipo | Créditos |
| 1º | Intervención en edificación existente | Obligatoria | 4 ECTS |
| 1º | Ciudad, Patrimonio y Paisaje | Obligatoria | 8 ECTS |
| 1º | Patrimonio, Memoria y Arquitectura | Optativa | 3 ECTS |
| 1º | Análisis Estructural de Edificios Históricos | Optativa | 4 ECTS |
| UPC | UNIVERSIDAD POLITÉCNICA DE CATALUÑA | Máster Universitario en Arquitectura | PLAN 2014 |
| Curso | Asignatura | Tipo | Créditos |
| 1º | Bloque Proyectual | | 12 ECTS |
| 1º | Bloque Técnico | | 8 ECTS |
| 1º | Intensificación/Investigación | | 10 ECTS |
| 1º | Proyecto de Fin de Carrera (Trabajo de Fin de Máster) | | 30 ECTS |
| 1º | Vivienda y Sostenibilidad: Rehabilitación Física y Regeneración Social y Urbana | Optativa | 5 ECTS |
| 1º | Arquitecturas en arquitecturas | Optativa | 5 ECTS |

| US | UNIVERSIDAD DE SEVILLA | Máster en Arquitectura | | PLAN 2012 |
|---|---|---|---|---|
| Curso | Asignatura | Estudio | Tipo | Créditos |
| — | — | — | — | — |

| UAH | UNIVERSIDAD DE ALCALÁ | Máster Universitario en Arquitectura | PLAN 2013 |
|---|---|---|---|
| Curso | Asignatura | Tipo | Créditos |
| 1º | Rehabilitación del Medioambiente. Intervención en la Edificación con Técnicas y Sistemas de Bajo Impacto | Optativa | 4 ECTS |
| 1º | Restauraciones Contemporáneas Internacionales: Últimas Tendencias y Casos Más Notables | Optativa | 6 ECTS |
| 1º | Paisaje Urbano Histórico y Patrimonio | Optativa | 4 ECTS |
| 1º | Técnicas Avanzadas para el Estudio del Patrimonio | Optativa | 4 ECTS |
| UVa | UNIVERSIDAD DE VALLADOLID | Máster en Arquitectura | PLAN 2010 |
| Curso | Asignatura | Tipo | Créditos |
| 1º | Paisaje, Arquitectura y Patrimonio | Optativa | 5 ECTS |
| 1º | Proyectos de Restauración Arquitectónica | Optativa | 5 ECTS |

## MÁSTER OFICIAL Y PROPIO

| | |
|---|---|
| UPM | UNIVERSIDAD POLITÉCNICA DE MADRID |
| Títulos Oficiales | |
| Master Universitario en Construcción y Tecnología Arquitectónicas | |
| Master Universitario en Construcción y Tecnología de los Edificios Históricos | |
| Master Universitario en Conservación y Restauración del Patrimonio Arquitectónico | |
| Títulos Propios | |
| Master en Patología de la Edificación | |
| UPV | UNIVERSIDAD POLITÉCNICA DE VALENCIA |
| Títulos Oficiales | |
| Máster Universitario en Conservación del Patrimonio Arquitectónico | |
| UGR | UNIVERSIDAD DE GRANADA |
| Títulos Oficiales | |
| Máster Universitario en Rehabilitación Arquitectónica | |
| UPC | UNIVERSIDAD POLITÉCNICA DE CATALUÑA |
| Títulos Oficiales | |
| Máster Universitario en Paisajismo | |
| US | UNIVERSIDAD DE SEVILLA |
| Títulos Oficiales | |
| Máster Universitario en Arquitectura y Patrimonio Histórico<br>Master Propio de Gestión en Patrimonio Industrial. Proyecto, Cultura, Sociedad y Territorio. | |
| UAH | UNIVERSIDAD DE ALCALÁ |
| Títulos Oficiales | |
| Máster Universitario en Gestión Integral de Inmuebles y Servicios en el Patrimonio Arquitectónico | |
| Títulos Propios | |
| Máster en Facility Management en la Gestión del Patrimonio | |
| UVa | UNIVERSIDAD DE VALLADOLID |
| Títulos Propios | |
| Máster en Habilidades para la Gestión del Patrimonio Cultural | |

## 1.3. REQUIREMENTS/PERMISSIONS/ RESTRICTIONS ON CONDUCTING THE WORKS AND DESIGN BY ARCHITECTS AND OTHER PROFESSIONALS IN THE HISTORIC BUILDINGS

To project: and conducting the works, you must be architect. For every work, you must be inserted in Colegio de Arquitectos, Hermandad Nacional de Arquitectos, Secure office Asemas, and Fiscal. If the work is vinculated, for arriving to have this project you must do a "concurso" with your curricula, level of knowledge of the building, other similar experiences, and a preventive under the number offered. Moreover, similar for urban, urbanistic works, etc.

### Professional colleges

To practice the profession of Architect at the present time, one has to be an Enabling Master in the studies.

There is a Proposed Draft Law on Professional Services and Colleges in December 2012. The Higher Council of the Colleges of Architects of Spain in coordination with the Colleges has requested to change the text of the draft to the Ministry of Economy of Spain to avoid that the preliminary draft puts in danger the profession of architect.

The Regulations of Deontological Standards for Professional Performance of Architects were approved in May 1971, revised in November of the same year and modified in November 2003. It establishes the scope, the forms of exercising the profession of architect, general obligations, incompatibilities, relations of the architect with the client, contractors, other professionals, other architects and with the College.

### Legislation on cultural heritage in Spain

The Spanish Constitution in Art. 46, states that the public authorities will guarantee conservation, promote the enrichment of the historical, cultural and artistic heritage and sanction the attacks against the heritage. Art. 148, establishes the powers of the Autonomous Communities and Art. 149, establishes the exclusive competence of the State in defending the cultural, artistic and monumental spanish heritage against exportation and plundering.

**The Spanish State participates in the agreements and complies with the European regulations when in 1986 it forms part of the same.**

The International Conventions (since The Hague, May 1954) aim to protect cultural property in the event of armed conflict, to protect the archaeological heritage, to prohibit illegal trade and to safeguard the architectural heritage of Europe.

European Union legislation, March 1957, expresses the need for the conservation and protection of cultural heritage of European importance. And the regulation of exports of cultural goods.

The State Law, RD 16/1985, dated June 25, of the Spanish Historical Heritage, with RD 798/1971, of April 3, which provides that works and monuments and historical-artistic use traditional materials and techniques where possible.

Normative of the Autonomous Communities. Each Community has its powers of inheritance and its Statutes, Laws and Regulations.

Autonomous Community of the Basque Country, Catalonia, Galicia, Andalusia, Principality of Asturias, Cantabria, La Rioja, Region of Murcia, Valencian, Aragon, Castilla-La Mancha, Canary Islands, Navarra, Extremadura, Balearic Islands, Madrid, Castilla Leon, City of Ceuta, and City of Melilla.

There are no specific requirements or permits to practice the profession of architect or others in historic buildings. Law RD 38/1999 on Building Management establishes the following requirements for the following figures, which intervene in the construction process:

### The designer

1. The designer is the agent who, at the request of the developer and subject to the corresponding technical and urban regulations, drafts the project.

   They will be able to write partial projects of the final project, or parts that complement it, other technicians, in a coordinated way with the author of this one.

   When the project is developed or completed through partial projects or other technical documents as provided in section 2 of article 4 of this Law, each designer will assume ownership of his project.

2. The obligations of the designer are:
   a) To be in possession of the academic and professional qualification of architect, technical architect, engineer or technical engineer, as appropriate, and fulfill the conditions required for the exercise of the profession. In the case of legal entities, designate the technical editor of the project who has the qualifying professional qualification.

When the project that has to be carried out has as its object the construction of buildings for uses indicated in group a) of section 2 of article 2, the qualifying academic and professional qualification will be the one of the architect.

When the project to be carried out has as its object the construction of buildings for the uses indicated in group b) of section 2 of article 2, the academic and professional qualification, generally, will be that of engineer, technical engineer or architect and will come determined by the legal provisions in force for each profession, according to their respective specialties and specific competences.

When the project to be carried out has as its object the construction of buildings included in group c) of section 2 of article 2, the qualifying academic and professional qualification will be of architect, technical architect, engineer or technical engineer and will be determined by the legal dispositions valid for each profession, according to their specialties and specific competencies.

In Spain, the construction process after the project, should be supervised by a technical body, called facultative management. In building this body is formed by an architect, called construction manager and a technical architect, called execution director. The aforementioned Law on Building Ordinance establishes the following conditions for the construction manager:

### The construction manager

1. The work manager is the agent who, as part of the facultative management, directs the development of the work in technical, aesthetic, urban and environmental aspects, in accordance with the project that defines it, the building permit and other Mandatory authorizations and the conditions of the contract, in order to ensure their suitability for the proposed purpose.
2. Other works may be directed by the works of the partial projects, under the coordination of the construction manager.
3. The duties of the construction manager are:
   a) To be in possession of the qualification academic and professional *habilitante* of architect, technical architect, engineer or technical engineer, as it corresponds and to fulfill the conditions demandable for the exercise of the profession. In case of legal entities, appoint the technical director of the work that has the qualifying professional qualification.

   In the case of the construction of buildings for the uses indicated in group a) of section 2 of article 2 (administrative, health, religious, residential in all its forms, teaching and cultural), the qualifying academic and professional qualification will be the one of architect.

   When the works to be carried out have as their object the construction of the buildings indicated in group b) of section 2 of article 2 (aeronautical, agricultural, energy, hydraulic, mining, telecommunications, land, maritime, fluvial Industrial, naval, sanitation and hygiene engineering, and accessory to engineering works and their exploitation), the qualification, generally speaking, will be that of engineer, technical engineer or architect and will be determined by the legal provisions in force for each profession, according to their specialties and specific competences.

   When the works to be carried out have as their object the construction of the buildings indicated in group c) of section 1 of article 2 (all other buildings whose uses are not expressly related in the previous groups), the qualification will be architect, technical architect, engineer or technical engineer and will be determined by the legal provisions in force for each profession, according to their specialties and specific competencies.

   Identical criteria shall be followed in respect of the works referred to in paragraphs 2.b (all interventions on existing buildings, provided that they alter their architectural configuration, understood as those that have the character of total intervention or the partial ones that produce an essential variation of the general external composition, the volume, or the whole of the structural system, or whose purpose is to change the characteristic uses of the building) and 2.c (works having the character of total intervention in buildings cataloged or having some type of protection of environmental or historical-artistic nature, regulated by means of a legal norm or urban planning document and those of a partial nature that affect the elements or parts object of protection) of article 2 of this Law.

   b) Verify the redesign and adequacy of the proposed foundation and structure to the geotechnical characteristics of the terrain.

   c) Resolve contingencies that might occur during the works and record on the Book of Orders and Attendances the precise instructions for the correct interpretation of the project.

   d) To elaborate, at the request of the developer or with its conformity, any modifications of the project, that are required by the progress of the work, provided that they conform to the normative dispositions contemplated and observed in the drafting of the project.

   e) To subscribe the act of settling or beginning of work and the final certificate of work, as well as conforming the partial certifications and the final settlement of the executed work units, with the visas that if necessary were mandatory.

   f) To elaborate and to subscribe the documentation of the executed work to deliver it to the promoter, with the visas that in his case were prescriptive.

   g) Those referred to in article 13, in those cases in which the director of the work and the director of the execution of the work is the same professional, if this was the chosen option, in accordance with the provisions of section 2.a (be in possession of the qualifying academic and professional qualification and to fulfill the conditions required for the exercise of the profession. In case of legal entity, to appoint the technical director of the execution of the work that has the qualifying professional qualification) of the article 13.

There are currently no common guidelines for specialization training in heritage conservation. In July 2005, the White Book on Architecture in Spain was published, by the National Agency for the Evaluation of Quality and Accreditation (ANECA). It was intended to compile the requirements that must be met by the degree in architecture, after a study of the existing degrees, the profile of the graduate, the dedication of the practicing degree and other factors.

In this study carried out by the practicing professional, five profiles of activity are detected after a study by surveys of collegiate members. These profiles are:

- Building.
- Urbanism.
- Real estate action.
- Technical specialization.
- Drawing and design.

The text recognizes that this relationship lacks the profile of conservation and restoration of the architectural heritage, which was one of the specialties incorporated into the curriculum of 1957, but which was not studied this time because of the way in which they were conceived the surveys. For this reason, "a more advanced postgraduate degree is recommended, focusing on monumental restoration and intervention in the built heritage of historical value".

## 1.4. REQUIREMENTS/QUALIFICATIONS FOR TAKING UP POSITIONS IN THE CONSERVATION SERVICES ADMINISTRATION

In general, when a place is offered by a "concurso" "oposición", if you are interested you signed for it. If you have all documents and conditions required, you are able to do some exams.

There are no specific requirements for an architect to occupy a post in management related to conservation.

Some oppositions for architect's places establish specific themes of intervention and preservation of heritage, but it depends on the corresponding contracting body.

Some private competitions may also establish specific conditions for the work to be performed.

Finally it is possible to find some recommendations, from official bodies, for the hiring of architects destined to heritage. We give as an example those of the Andalusian Institute of Historical Heritage:

- Title of architect.
- To have followed along the degree the curricular lines dedicated to the formation of historical and cultural heritage. (if there are)
- Additional training in heritage through specialization courses, masters and other possible studies of postgraduate and doctorate.
- Update the knowledge regarding:
- Change of regulations.
- Technological evolution.
- Theoretical critical evolution.

Among the specific competences and areas of knowledge established for the title are the following, referring to heritage:

- Intervention in built heritage: Aptitude or ability to intervene in buildings of historical value, to coordinate historical and archaeological studies on them, to develop their conservation master plans and to write and implement restoration and rehabilitation projects.
- Protection of the built heritage: Aptitude or ability to perform tasks of monumental cataloging, to define measures of protection of buildings and historical groups and to draw up plans for delimitation and conservation of the latter.

Later on, the text specifies that this postgraduate degree should be a master's degree, dedicated to restoration and intervention in monumental heritage, with its own general guidelines, with a limited access to graduates who inherit the professional attributions that the law grants today in the subject, and studies of between 60 and 120 European credits, according to the previous formation of these".

As an example of the importance of the training, the following paragraph of the National Plan for Traditional Architecture is presented in section 1.6. Identification of hazards, in the inadequate intervention criteria sub-section, in the first point establishes "inadequate rehabilitation and/or restoration interventions from the point of view of physical, chemical, material, structural and aesthetic incompatibility due to lack of knowledge, training and sensitivity of some architects vis-a-vis vernacular architecture ".

# PART II

## Determination of the qualifications and skills required in working with heritage protection and urban rehabilitation /in light of the practical experience/

## /based on the information gathered in the Questionnaires – Part I/

### 2.1. WHAT ISSUES / PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

*[please list separately the particular issues and determine their scope, e.g. the theory of conservation, the legal basis for the heritage protection, monuments adaptation to modern functions, the design of new buildings in historical areas]*

One of the most important things that the architects should know is the ability to analyse the (historical) values. The architects should have criteria. So history and theory of conservation is one of the principal matters to be taught.

And also principal Charters about Heritage.

History of Architecture, to know about where must we work; History of cities an urbanism; History of construction; Historic traditional construction.

And them, all the matters in order to know about the building, city or element. How to measure and define it (traditional and technological).

How to know about its problems: from static to aesthetic problems. Mechanics, dampness, problems of the materials, structures, roof structures, etc. Finishing Installations (light, warm, water, air conditioned...); Surroundings: earth, water...; Problems and causes; Different solutions for these.

It is also necessary to know: how to choose the best solution of those possible; design and project: compatibility, visibility, reversibility; Ideas of economics; how to measure and make a budget; the administration of the work (*certifications, liquidations...*).

Some of those of the Institutions have answered:

- Urban, landscape and territory analysis
- Relationship between historic processes and urban development.
- Evolution of urban shape: approach to interpretation.
- Defensive structures analysis.
- Communication and transport evolution in territory: influence in urban plot.
- Formal patterns in historic towns: relationship between elements, typologies analysis, colour, materials.
- Energy evaluation of historic buildings: level of legal fulfilment according to current standards.
- Accessibility in urban towns and historic buildings.
- History of construction, including traditional procedures research.
- Traditional materials description.

The next Areas must be taught:

1. Knowledge and values of heritage
   - Theory and history of heritage
   - Culture and Images about history of architecture and urban planning
2. Methods and Techniques about preliminary studies and problems of historic towns
3. Technical solutions for conservation and intervention in historical architecture
4. Technical proyects and urbanistic documents
5. Laws. Economics
6. Project management.

## 2.2. WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL CITIES?

*[please list separately the qualifications and describe them, e.g. knowledge of specific design programs, the ability to evaluate the technical condition of the historical building, the ability to analyse the historical values]*

The qualifications that an architect should have are:

- Ability to analyse historical values
- Ability of analysing in its context
- Ability to evaluate technical condition (mechanical, static, physical and chemical condition)
- Ability to know problems and causes.
- Ability in resolving these problems.
- Ability to choose the best (compatible with its values) solution of those possible.
- Ability in knowing prices and time of the works and how to do the best

From the answers of the questionnaires we can see:

In before degree studies, general studies on:

- Projects on architecture and urban and landscape planning
- Art and Architecture History
- Historical Construction and urban planning
- Laws

After the degree it must be useful to work two years in practice.

Other institution answered like this:

- History research methods: documents search, wall lecture, architecture`s archaeology.
- History research methods and relationship with architectural analysis.
- No destructive archaeological techniques.
- Physical notions of humidity, thermic and sound evaluations.
- Research methods of no destructive method analysis.
- Low cost methods of architectural and urban representation.
- Relationship with physical parameters and building diagnosis.
- Data base method of evaluation and representation.
- Limit analysis of historic structures.
- Historic material notions: lime, clay, wood, earth construction, etc.
- New materials compatibility with historic ones.
- Buildings evaluation before and after refurbishment: techniques of analysis and survey.

Other Institution answered with the importance of Travels.

## 2.3. CHARACTERISTICS OF THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[e.g. the traditional approach, which recognizes the primacy of heritage protection over contemporary needs; inadmissibility of procedures such as reconstruction, restoration; the admissibility of extensive interventions in the historical areas treated as a continuation of their development]*

The approach to the protection of heritage should be:

- With criteria and Method.
- Each problem and monument, centre, element has a personal solution. Without ideological and closed position.
- The knowledge and values of the building will direct the intervention in order to protect this values.

The institutions answered:

- Old structures and new techniques balance.
- Comparison between old and future towns.
- Requirements of contemporary citizens and urban evaluation.
- Urban evolution theory and intervention examples.
- Urban understanding processes: lecture of patterns.
- New definition of legal protection models in urban planning.

- People participation in urban planning models.
- Meaning of heritage in the cultural development of individuals and society.
- Social and economic importance in the development of heritage conservation.
- Review of all the formulations that have been practiced in the conservation and intervention of heritage, detailing successes and errors.
- Need to know and study in situ monuments and historical centers intervened and not intervened in the local, national and international context.

## 2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES

*[e.g. lack of knowledge of the principles of revitalisation of the historical cities, lack of knowledge of the history of architecture, lack of respect for the historical architecture, a positive attitude towards the heritage protection]*

Now, heritage is fashionable, so we must be careful to use words without sense because Heritage is not only an image.

It is important to note the lack of criteria.

And the differences are misunderstood in terminology.

Some Universities and Institutions said:

Positive:

- New techniques improvement in representation and evaluation.
- New materials improvement.
- Connectivity and no wire communication improvement.
- Sustainable advantages of old materials.

Negative.

- Excessive formal education.
- Lack of relationship among buildings agents.
- Lack of common vocabulary among building and historic construction agents.
- No people participation.
- No legal improvement in urban and heritage protection associated.

Observations on students:

- Students have shown a great interest and attention for the training in which they are enrolled, as well as a positive attitude towards heritage conservation.
- Lack of pre-training in the subjects set out in the answer to question 2.1.
- Impossibility of carrying out practices in the administration, professionals or companies dedicated to the conservation of the heritage.

In the faculties:

- Programming of the training in two semesters, including the final work, which ends the studies with lack of maturity and assimilation of the subjects taught.
- Lack of economic means in faculties to complete with training and to invite external teachers.
- Excessive teaching load of teaching staff from universities that do not have the minimum adequate training.
- Lack of social projection of studies and students, with few possibilities of professional practice.

Other Institutions said:

It is observed in the perception of the architecture student of the subjects of Degree and Master, a distant attitude in relation to the Heritage in front of the architecture of the author and the ephemeral of the present time. Virtual reality has changed the patterns of teaching.

There is no training aimed at representing the patrimonial values, the city and the landscape, focused on capturing the vitality of the young student. The uses, applications, and versatility of the concept of space today do not appear in the themes.

An academic expression founded on flexible culture with a rigor and imagination could complete a broad and technical subject, with a master's degree aim very well oriented to the future professional.

Today, the word Heritage has a level of quality and image, brings prestige and is fashionable. It is an advertisement that helps sell a product. This carries a risk, because it is not seen as science but as an aesthetic expression and can be rewarded creativity, not the practice of some criteria.

# PART III

## Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating the architects /along with the examples of syllabi/

## /based on the information gathered in the Questionnaires – Part II/

### 3.1. LIST AND DESCRIBE THE COURSES RELATING TO HERITAGE PROTECTION AND REVITALISATION OF MONUMENTS, TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[please specify the courses and include their detailed programmes; specify the structure of each course – division into lectures and design classes; describe the purpose and scope of these courses; make a critical evaluation – identify the courses considered to be the best (to be used in a model programme)]*

As noted, only in some universities the subjects related to heritage are established as compulsory subjects, both in degree and in master, being mostly displaced optional subjects in their final years.

We assume that the compulsory subjects are given more weight in architectural studies, taking more loans, will be the most comprehensive, encompassing more powers within the curriculum. Even so, it includes a selection of subjects of the optional part that stand out for their quality.

| COMPULSORY SUBJECTS | | | | | |
|---|---|---|---|---|---|
| **UPV UNIVERSITAT POLITÈCNICA DE VALÈNCIA** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Architectural Restoration<br>Restauración Arquitectónica | 4,5 | Grade | 5th | Theory + Exercise | Theory Aula: 22 h., Seminary Theory: 3 h., Practice Classroom: 8 h., Laboratory Practice: 8 h., Practice Field: 4 h. |
| **UGR UNIVERSIDAD DE GRANADA** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Architectural Restoration<br>Restauración Arquitectónica | 6 | Grade | 5th | Theory + Exercise + Course work | Lessons, thematic seminars, guided tours, exercises in classrooms, assisted restoration project with collective and personal lessons |
| Construction 5: Building Pathology<br>Construcción 5: Patología de la edificación | 3 | Grade | 5th | Theory + Course work | Theory: 18 h., Practice: 12 h., Seminary: 2 h., Individual work: 30 h., Group Work: 9 h. |
| Intervention in existing buildings<br>Intervención en edificación existente | 4 | Master | 1st | Theory + Exercise + Course work | Lessons, thematic seminars, case studies, individual work, group work. |
| City, Heritage and Landscape<br>Ciudad, Patrimonio y Paisaje | 8 | Master | 1st | Theory + Course work | Lessons, guided tours, thematic seminars, case studies, individual work, group work. |
| **UVa UNIVERSIDAD DE VALLADOLID** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Urban rehabilitation and heritage<br>Rehabilitación urbana y patrimonio | 5 | Master | 3rd | Theory + Exercise + Course work | Theory: 15 h., Seminary: 30 h., Practice Classroom: 5 h., Individual work: 75 h. |

| ELECTIVE SUBJECTS | | | | | |
|---|---|---|---|---|---|
| **UPM UNIVERSIDAD POLITÉCNICA DE MADRID** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Criteria and techniques of intervention in historic buildings<br>Criterios y técnicas de intervención en edificios históricos | 4 | Master | 1st | Theory + Exercise + Course work | Theory: 22 h., Practice: 12 h., Seminary: 4 h., Individual work: 15 h., Group Work: 20 h. |
| **UPC UNIVERSITAT POLITÈCNICA DE CATALUNYA** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Introduction to Architectural Heritage<br>Introducción al Patrimonio Arquitectónico | 3 | Master | 3rd–5th | Theory + Exercise + Course work | Theory: 30 h., Case studies: 15 h., Individual work: 42 h. |
| **US UNIVERSIDAD DE SEVILLA** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Architecture and Heritage<br>Arquitectura y Patrimonio | 6 | Grade | 5th | Theory + Exercise + Course work | Theoretical classes: 10 h.,<br>Project Workshop: 50 h.,<br>Research work: 20 h., Practices: 70 h. |
| **UAH UNIVERSIDAD DE ALCALÁ** | | | | | |
| Subject | ECTS | Level | Course | Method | Structure |
| Heritage, Restoration Theory and Heritage Intervention<br>Patrimonio, Teoría de Restauración e Intervención en el Patrimonio | 6 | Grade | 4th | Theory + Exercise + Course work | Theory: 24 h., Practice: 24 h., Individual and Group work: 102 h. |

Within the Universities that offers subjects of Heritage are:

## UPV – UNIVERSITAT POLITÈCNICA DE VALÈNCIA

GRADE. 5th Course. Mandatory.

### Architectural Restoration (Restauración Arquitectónica) (4,5 ECTS)

#### General description

The subject of Architectural Restoration's main objective is to train students to design and develop a conservation, restoration or rehabilitation project of the built heritage and enable him to study the values of the historic building, assess their conservation status ahead their protection, conservation or restoration. As well as for the analysis and criticism of any intervention in it. The student will understand the historical and current theories of restoration and the methodological knowledge for its application in the analysis of interventions and in the adoption of criteria for the restoration project. The student will solve questions related to previous studies on heritage and its application to the project. For this , the subject has two theoretical parts, one for the history of theories of restoration and another for providing a methodology of analysis and intervention linked to practice. Both should empower the student for analysis, criticism and creativity.

#### Teaching Units

1. Introduction
2. History of restoration: the foundations of contemporary theory
3. Restoration in Spain and the Valencian Community
4. Knowledge of the historic building. Methodology and presentation of cases
5. Criteria for architectural restoration. From theory to practice: case presentation.

| Didactic unit | Theory Aula | Seminary Theory | Practice Classroom | Laboratory Practice | Practice Field |
|---|---|---|---|---|---|
| Introduction | 1 | — | — | — | — |
| History of restoration: the foundations of contemporary theory | 8 | — | 2 | 2 | — |
| The restoration in Spain and in the Valencian Community | 3 | — | 1 | 1 | — |
| Knowledge of the historic building. Methodology and presentation of cases | 6 | — | 4 | 4 | 4 |
| Criteria for architectural restoration. From theory to practice: case presentation | 4 | 3 | 1 | 1 | — |
| Total hours: | 22 | 3 | 8 | 8 | 4 |

## UGR – UNIVERSIDAD DE GRANADA

GRADE. 5th Course. Mandatory.

### Architectural Restoration (Restauración Arquitectónica) (6 ECTS)

#### Description of contents

Analysis of historical and documentary sources, survey, reading of formal, constructive and structural characters, non-destructive analysis. The restoration as a synthesis between the premises of conservation and the requirements of conservation of use. Guidelines for interpretation of injuries and consolidation interventions. The supports of the modern technology for the conservation of the materials. Relations with archeology (preservation of excavations and connections with the themes of urban archeology). Extension of the concept of restoration to the insertion of architecture of today in historical environments. The rational use of the legislation in the matter of architectural heritage, edification and urbanism on the matter through the knowledge of its philosophy.

#### Goals

- Acquire the theoretical-practical knowledge that allows them the analysis and the execution of the intervention in the architecture from the culture; and the techniques of the conservation and architectural restoration, contextualized in the current international reality.
- Develop the ability to construct, expose and defend arguments of the culture of conservation and architectural restoration in an ethical, honest and coherent way, with intellectual independence, scientific rigor and a critical commitment to reality.

Detailed course syllabus

Theoretical agenda:

1. General principles of architectural restoration.
2. Historical-constructive analysis.
3. Metric Survey.
4. Photographic survey.
5. Critical survey.
6. Constructive survey.
7. Conservative critical restoration project.

Practical agenda:

Practice 1. Previous studies.

Practice 2. Conservative critical restoration project.

Practice 3. Field Practices.

Teaching methodology

The course aims to bring students to the dimension of the restoration project through analysis and reflection on outstanding examples of restoration produced over time. The historical, technical and critical motivations will be illustrated and the dialectical nature of the discipline and the confrontation between theoretical positions and their translation into operative practice will be emphasized.

The course takes place in the second semester, according to the established schedule. During its development disciplinary contributions follow in different phases: lessons, thematic seminars, guided tours, exercises in classrooms, assisted restoration project with collective and personal lessons.

Construction 5: Building Pathology (Construcción 5: Patología de la edificación) (3 ECTS)

Description of contents.

Introduction to the pathology of building.

Requirements and performance in building. Durability.

Diagnosis methodology in processes of constructive pathology.

Pathology of the constructive and structural systems.

Therapeutics: Generic interventions in construction and structural systems.

Goals

Provide the student with an overview of the existing building, its behavior and its state, as well as the intervention processes on it, including aspects related to previous analysis, diagnosis and therapeutic indications of a generic nature, with determination Of criteria for the choice of intervention systems, whose development, including the design and execution aspects thereof, corresponds to the compulsory subject of construction to be taught in the Enabling Master in Architecture. The integral skills in this matter will be complemented, therefore, in a specialized way, through own contents of the said Master Habilitante in Architecture.

Detailed course syllabus

Content theory:

1. Introduction to the pathology of construction.
2. Durability of construction.
3. Methodology in processes of constructive pathology.
4. Pathology of the metallic construction.
5. Pathology of concrete constructions.
6. Pathology of foundations.
7. Pathology of factory works.
8. Pathology of wood.
9. Humidity in the building.

Practical content:

Diagnosis exercise in the pathology of the building, by means of the elaboration of diagnostic files that must comprise a vision as wide as possible on concrete injuries of a building, with qualitative and quantitative type evaluations and indication of the generic criteria for its therapeutic intervention. The work will be done in a group of two students or exceptionally individually.

Teaching methodology

In order to achieve the established objectives, guaranteeing the learning of the minimum contents that allow the student to address the technological aspects in the development of the pathological analysis of the building, as well as introduction to the therapeutic intervention, a methodology is developed as a broad program of theoretical and theoretical-practical classes, in which the general concepts and the content of the corresponding subject will be presented, with the necessary indications to complement the acquisition and later putting into practice of the respective knowledge. Without prejudice to its programmatic rigor, the development of the agenda is complemented by the exhibition and analysis of various real actions in the field of constructive pathology and interventions on existing building.

This is complemented by the elaboration of practical work, by the student developing an exercise in diagnosis in the pathology of building and addressing generic formulas of intervention in relation to the corresponding therapeutics or actions on a building actually existing. The advice and monitoring of the work will be carried out in a particular way,

in practical classes and through specific appointments indicated by the teacher.

The work will be done in a group of two students or exceptionally individually.

The practical part of the subject can be complemented by other types of activities:

– Seminars and conferences on topics related to the program, taught by professionals or technical personnel of specialized companies, experts in the subject that they develop.
– Visits to work whenever possible based on the conditions and availability of the student group, of the teaching staff and the purpose of the visit.

MASTER

Intervention in existing buildings *(Intervención en edificación existente)* (4 ECTS). Mandatory.

Brief description of contents.

Based on the competences on the state of the existing building acquired in the degree, comprehensive of the aspects related to the previous analysis and the diagnosis in constructive pathology, the student is given a broad vision on the different intervention criteria to be applied in each case, together with the appropriate procedures for effective control of the building processes that generate such interventions, always from an architectural perspective that will cover the aspects concerning the intervention project and the management of the work.

In addition, proposed alternative construction systems for interventions on foundation, structure and envelope, the student is provided with elements of judgment that allow him to identify the most suitable, in each case, in order to the appropriate choice, project prescription and consequent employment on site.

On the other hand, the current legislation on Urban Rehabilitation establishes guidelines for intervention in the field of technical evaluation of building, which opens new perspectives on approaches and objectives that tend to the actions in the urban environment, when there are situations of insufficiency or degradation of basic safety requirements, habitability, universal accessibility and functionality of buildings.

Goals

– Acquisition of the theoretical knowledge necessary for the professional practice of the future architects, in the intervention in existing building (reform-repair-consolidation-rehabilitation-restoration), in order to their own professional attributions.
– Analytical knowledge of the methods related to the constructive intervention in the existing building.
– Acquisition of the necessary knowledge for the appropriate choice, design prescription and consequent use in works on existing building of the alternative construction systems.
– Knowledge and understanding of the nature of the built heritage on which an action is to be produced, applying the intervention criteria that, in each case, are appropriate, in the context of the architectural project.
– Ability to conceive and integrate existing construction and structural interventions, as well as to define their maintenance.
– Knowledge of systematization resources for the collection, archiving and processing of the necessary information, as well as for its presentation, especially in order to the technical evaluation of the building.
– Acquisition of the necessary knowledge on the working methods of the architect in matters of intervention on the built heritage and capacity of synthesis for the drafting of the corresponding architectural project.
– Ability to elaborate studies on the state of the built heritage, as well as for its expertise, with special emphasis on the architect's own actions as a judicial expert.

Temary

The contents of this subject are organized according to the following blocks:

- Intervention systems in the existing building:
  1. Interventions on existing building: Reform. Repair. Consolidation. Rehabilitation. Restoration.
  2. The state of the building. Durability of the construction. Maintenance of buildings.
  3. Intervention on metal and concrete construction. Structural reinforcements.
  4. Intervention on foundations. Micropilotations. Anchors. Drains. Land improvement.
  5. Intervention on factory work. Non-resistant facade cladding. *R*esistant walls.
  6. Intervention on wood construction.
  7. Intervention for the correction of humidity in the building. Covers. Basements.
  8. Construction, structural and conditioning systems in intervention on existing buildings. Evaluations. Selection criteria. Suitability. Compatibility.
  9. The expert opinion on the state of the building.

- Recognition and technical evaluation of buildings. Urban rehabilitation, regeneration and renovation.

1. Interventions on existing building: Reform. Repair. Consolidation. Rehabilitation. Restoration. The historical study as support of the criteria of choice in architectural restoration interventions.
2. Recognition of the building to be intervened. Documentary research. Graphic support – design.
3. Urban rehabilitation, regeneration and renovation. Most relevant urban aspects. Law RD 8/2013 (RRR)
4. Technical evaluation of buildings: conservation, accessibility, energy efficiency and acoustic conditions. Law RDL 7/2015 on urban rehabilitation.

### Teaching methodology.

Master / expository lesson.

Sessions of discussion and debate.

Problem solving and case studies.

Analysis of sources and documents.

Performing group work.

Making individual jobs.

## City, Heritage and Landscape (Ciudad, Patrimonio y Paisaje) (8 ECTS). Mandatory.

### Description of contents.

The subject deals with issues related to urban problems, heritage and landscape transformation, and is developed around three lines of research complementary to the exercises proposed in the End of Career Project (TFM) that will help the student to complete his knowledge about these matters, aware that in designing the architectural project is projected and investigated simultaneously. The teaching of the subject „Ciudad, patrimonio y paisaje" allows the student to start research work derived from his Final Project, developing some specific aspect that will revert to the qualification of the same.

### Goals.

- To learn to apply and integrate the knowledge acquired in the subject for the elaboration of the proposals of the End of Career Project (TFM), including multidisciplinary knowledge that will help the research and professional development of the project as a unique and complementary fact. It is projected and investigated at the same time.
- To develop sufficient autonomy to participate in research projects and scientific or technological collaborations within its thematic area, in interdisciplinary contexts and, where appropriate, with a high knowledge transfer component.
- Acquire a solid theoretical and conceptual basis in the training of the student of architecture, optimizing the tools of work and analysis.
- Learn how to develop approaches to architectural intervention at various scales, improving understanding of the cultural context and deepening the criteria of intervention in heritage and in urban contexts and landscape in transformation.
- Train the student to research and apply this knowledge in the development of an End of Career Project that demonstrates that the student has sufficient preparation and capacity to face the professional practice of architecture.

### Temary

The contents of the three lines of research that make up the subject are:

1. The landscape intervened. Laboratory of processes and experiences in the contemporary project (PI).
2. Time, legacy and continuity. Inheritance in the architecture project (PA).
3. The future of the modern city. Urban Recycling (RU).

The contents of these three lines of research are developed in the following 10 lessons:

PI "The landscape intervened. Contiguity and displacement"

PI "The memory of the territory"

PI "The Mediterranean Baltic fold"

PA "Tradition and heritage. The importance of the interpreter"

PA "Relations between history, archeology and architecture"

PA "On the memory of the city. From permanence to transformation"

PA "Add light, subtract light, heritage interventions"

RU "Re recycling, re to perform"

RU "Recycling Strategies"

RU "Towards a new culture of living"

### Teaching methodology

The teaching methodology of the subject implies the joint participation of the teaching staff and the student, based on the lessons given during the course and the complementary activities around them. It is intended an active and participative teaching oriented to improve the knowledge and the formation of criterion for the project intervention with direct application on the topics of the End of Career Project (TFM). This type of teaching, open and flexible, allows the student to decide, according to the interests of his Final Project (TFM), the work and research topics to be carried

out, which will subsequently revert to a better development of the draft. The teacher should guide and accompany the development of the research work of the student throughout the course, providing specific bibliography on the subject of research. Classes per week are organized according to the following activities:

- Master / expository lesson.
- Cultural visits.
- Sessions of discussion and debate with the student based on the lessons taught and the research topics raised by the student.
- Roundtables integrated by the students on the research lines of the subject.
- Performing group work.
- Performing individual work.
- Analysis of sources and documents. Bibliography and review sessions of the works.

## UPC – UNIVERSITAT POLITÈCNICA DE CATALUNYA

GRADE. 3rd–4th–5th Course. Elective.

### Introduction to Architectural Heritage (Introducción al Patrimonio Arquitectónico) (3 ECTS)

#### Description

The criteria applied to determine the content to be developed are:

1. The various ways of understanding the key concepts, starting with the basic, architectural heritage and followed by others such as conservation, restoration, intervention, reintegration, anastylosis, etc., must be understood.
2. It will be necessary to know the set of theories, both historical and current, that guide or establish principles and modes of action on how to intervene contemporaneously in the legacy buildings of the past.
3. All concepts will be applied in specific cases, in order to fix them clearly. Taking into account the possibilities of the calendar, they will be oriented towards the capacity to establish the method of analysis of concrete cases that, to the extent of the possibilities of the moment, will be studied directly by conferences of the architects (authors of the project and direction) and visits to the work in progress.
4. The agenda will be developed alternating the exposition of theoretical aspects with the case study and the direct experiences.

#### Temary

1. Introduction
2. Basic concepts and terminology
3. Theories and tendencies of architectural restoration, historical and current: archaeological or neoclassical restoration, anti-restoration, stylistic or romantic restoration, historical restoration, modern restoration, philological or scientific restoration, critical restoration, objective restoration.
4. Development of the basic activity of intervention in heritage.
   - 4.1. Knowledge
     - 4.1.1. Pre diagnosis
     - 4.1.2. Diagnosis. Historical analysis, material analysis and sociological analysis.
   - 4.2. Reflection
     - 4.2.1. Evaluation of the object
     - 4.2.2. Scheduling of the action
   - 4.3. Intervention
     - 4.3.1. Draft
     - 4.3.2. Execution
     - 4.3.3. Tracing
     - 4.3.4. Participation
   - 4.4. Preventive conservation
     - 4.4.1. Custody and Disclosure
     - 4.4.2. Verification and prevention
     - 4.4.3. Maintenance
5. Case study
   - 5.1. Analysis of interventions already carried out
   - 5.2. Direct experience of ongoing interventions.

#### Learning objectives of the subject

To transmit to the students some knowledge, tools of analysis and practical skills that allow them:

1) To understand everything related to intervention in the architectural heritage and,
2) To develop basic procedures to be able to act in this professional field.

#### Teaching methodologies

Activities Contact

Participatory exhibition Class

Case Study

Activities Non -contact

Self study

#### Total hours of student dedication

Total dedication: 75h

Large group Hours: 33h 44.00%

Autonomous learning hours: 42h 56.00%

## US – UNIVERSIDAD DE SEVILLA

GRADE. 5th Course. Elective.

### Architecture and Heritage (Arquitectura y Patrimonio) (6 ECTS)

#### Specific teaching objectives

To deepen in the practice and the theory of the architectural project on elements of patrimonial value, attending to inherited situations whose permanence is of interest for the community, arriving at an advanced graphic and conceptual definition, with elaborations equivalent to the level of Preliminary project.

To emphasize the intellectual and experimental value at the same time of all intervention in the architectural heritage, presenting to the student a specific patrimonial matter of investigation and reflection, to be studied and transformed according to a plan of selection of elements and relationships.

To direct the student to a deep knowledge of the patrimonial reality that is proposed to him, on which to argue an architectonic project of intervention, serious and documented. Support this knowledge in the study and critical review of the most relevant theoretical contributions, as well as reference interventions of the last decades and the current panorama.

To expose a concept of open heritage, which includes not only the architectures traditionally considered monumental, but also all those elements that present some typological, constructive, spatial, or even environmental value to be taken into account.

Understand the tension between the factors of permanence and the factors of change that make up the evolution of culture, to arrive to insert with some possibility of success the patrimonial project in the historical sequence.

To deepen the concept of intervention as an interactive task with respect to the patrimonial element, in which the study and investigation of historical data, which refer us to the evolution of its form and operation, are guided by a selective and intentional look, Attentive to the signs in which to support the shaping of the future.

To deepen in the concept of scale of the intervention, discovering the internal logic and the vocation of use, size and complexity, that presents the proposed work place.

#### Course contents

Studies are carried out in areas where heritage elements of different nature occur and with attributions of value from very heterogeneous instances. The precise designation and the limits of the same will be made at the beginning of the course and will be a reason for visit and specific field work.

These areas will be analyzed in depth, especially studying the problems posed by boundaries and encounters between elements.

From the existing documentation, the visit and reflection on the site and the contribution of the research, we want to establish a strategy of intervention on the workplace.

The reality faced by the project on the built heritage is usually an object, in the broad sense, prejudged. Unlike other situations in which the action of projecting as a transformation of reality, faces certain programmatic and location conditions, the so-called patrimonial object appears surrounded by catalogs, historiographic records or memories of injuries. That is, it comes from a presumption of values. The approach to the object from the project will require the search of data, diagnoses and reports that allow to complement in just measure the protection of the element.

The choice of an environment with heritage value as a field of teaching experimentation provides a wide mosaic of themes specific to the architectural discipline and opens a series of thematic areas to explore and study:

- Analysis of cities characterized by the multiplicity of cultural traces.
- Archaeological complexes.
- Problem of the overlapping of strata contributed by the different ages.
- Evolution of the accessibility of urban spaces in relation to the territory.
- Evolution of the internal permeability of the historic city.
- Aging and transformation of household tissues.
- Validity and manipulation of the historical domestic types in relation to contemporary housing.
- Historical variations in the relationship between the city and the landscape.
- The appearance of large unexpected public stays by man and its problem of reuse.
- Full-empty tension in the elements of patrimonial value.
- The validity of the theories of intervention in the patrimony, and revision of the same ones throughout the history.
- State and autonomous legislation on the protection of architectural heritage.
- Study of Interventions in the architectural heritage throughout recent history.
- Reflections on the current scenario.

The common intellectual thread of all these issues will be the intervention project.

#### Formation activities

List of training activities for the semester:

Theoretical classes

| | |
|---|---|
| Hours: | 10.0 |
| Non -contact hours: | 0.0 |

Project Workshop

| | |
|---|---|
| Hours: | 50.0 |
| Non -contact hours: | 0.0 |

Research work

| | |
|---|---|
| Hours: | 0.0 |
| Non -contact hours: | 20.0 |

Practices (others)

| | |
|---|---|
| Hours: | 0.0 |
| Non -contact hours: | 70.0 |

## UAH – UNIVERSIDAD DE ALCALÁ

GRADE. 4th Course. Elective.

### Heritage, Restoration Theory and Heritage Intervention (Patrimonio, Teoría de Restauración e Intervención en el Patrimonio) (6 ECTS)

#### Presentation

The aim of the first part of this unit is to familiarise the student with the reality of the Spanish historical architectonic heritage. We will also analyse the meaning and the subsequent extensions of the concept of heritage and the understanding of different administrative procedures and tools of planning available for its preservation. We will also seek to expand their theoretical knowledge and teach them about conservation and heritage management. The students will learn how to use key tools for any intervention in restoration such as inventories and catalogues to learn how to classify, contextualise and evaluate said heritage. The second part of this subject will focus on the restoration of national heritage. To this end we will pursue an adequate knowledge of the main theories of intervention in historical architecture and the most remarkable uses of such theories in the past.

#### Course contents

Total classes, 24 hours theoretical and 24 hours practical.

#### Theory contents

First block: Methods of analysis and conservation of heritage

1. The historical formation of the patrimonial conscience.
2. Evolution of the theoretical definition of the concept of Heritage to the present.
3. Current legislation on heritage conservation.
4. Research and heritage cataloging.
5. New guidelines in the management of architectural heritage.

Second block: Theoretical criteria on restoration and architectural rehabilitation.

1. The restorative theory until the romantic time
2. Viollet and unit style
3. Ruskin and Boito Antireconstructing theories
4. The scientific restoration
5. Latest tendencies in restoration

The practical part will be developed as a proposal analysis workshop to apply what has been learned in the theoretical part in which will work by groups on the issue (s) or concrete cases (s) that are decided in each academic year.

#### Distribution of credits

Number of classroom hours: Total classes, 24 hours theoretical and 24 hours practical.

Number of hours of the student's own work: 102 hours of personal and group work including study hours, preparation of work, preparation of exams and continuous evaluation exercises and other activities, such as visits to monuments and exhibitions.

Total hours: 24 + 24 + 102 = 150 hours

## UVA – UNIVERSIDAD DE VALLADOLID

GRADE. 3rd Course. Mandatory.

### Urban rehabilitation and heritage (Rehabilitación urbana y patrimonio) (5 ECTS)

#### Situation / Direction of the Subject

This subject has as its purpose the urban interpretation of the consolidated city, for which it is important to recognize and understand both the processes of transformation of the urban space and the basic tools for intervention on existing fabrics. The subject will deal with these processes in regard to the study of the historical construction of the city (in particular the Castilla-León cities), with special attention to the operational tools applied in the transformation of the fabrics of old helmets and the "first peripheries" (reform of alignments, road openings and urban renovation, interior renovation, etc.). Knowledge from a historical perspective of these tools will be encompassed in an urban (ie, theoretical-practical) approach to intervention instruments on the consolidated city, both in its conceptual ("rehabilitation", "renovation", "regeneration", "Urban slums",

"vulnerable neighborhoods", "historic settlements", etc.) and prospective (planning: general, interior reform, historical centers...; rehabilitation programs and projects, renovation, regeneration...).

**Goals.**

- The student will obtain a particularized knowledge about the urban history of European cities in general and those of their particular environment.
- The student will be able to apply urban history to present situations, the basic concepts of urban traditions and their theoretical, technical, economic, social, aesthetic and ideological foundations. He will know the relationship between the different cultural patterns and the social responsibilities of the architect as an urban agent.
- The student will be prepared to conceive and develop urban projects, as well as exercise architectural criticism and urban planning. It will recognize the social, technical and environmental aspects at stake, with special sensitivity to the landscape and the urban and built heritage affected.
- The student will be provided with tools to design interventions on the existing city. Will know theories and techniques of protection planning, cataloging of monuments, urban complexes and urban landscapes. And will be able to develop environmental, landscape and social and urban studies, and will be able to write, apply and manage urban plans and urban norms and ordinances on existing fabrics.
- The student will be able to recognize the urban implications of any building project, especially in the urban scale and carry out basic property valuations, knowing the valuation techniques.

**Dedication of the student to the subject.**

PRESENT ACTIVITIES / HOURS

Theoretical classes / 15

Laboratory-Workshop / 30

Work-practice field / 5

Total attendance / 50

NON-PRESENT ACTIVITIES / HOURS

Study / 15

Bibliographic consultations / 10

Works / 50

Total in person / 75

**Contents.**

- Urban heritage and historic construction of the European and Spanish cities
- The "question of the historic center" and its development in Spain
- Real estate foundation of the processes of transformation of inherited urban fabrics
- Criteria, instruments, plans and policies for intervention on existing tissues: rehabilitation and urban renewal
- Emblematic urban rehabilitation practices

**Teaching methods**

Teaching methods will be used as lectures, seminar debates, field visits to cities and neighborhoods whose knowledge is relevant to the objectives of the subject, and workshop sessions for analysis or practice applied to case studies.

## 3.2. CHARACTERIZE THE FORM AND THE SCOPE OF CONTACT WITH THE PRACTICE OF HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES PROVIDED IN THE CURRICULA AT THE FACULTIES OF ARCHITECTURE

[e.g. summer internship for students, placements for students in design offices and companies, involvement in the projects, study visits, summer schools]

Make the critical assessment of these actions – their form and usefulness in teaching process

There is no contact in the practice with the world of work.

Only some visits and personal work camps and workshops.

Practical work-related projects beyond project-based work do not appear in official programs.

These practical contacts are usually in the form of field trips, within weeks marked by each center. Being outside the university, these are voluntary activities, outside of the evaluation because they can not be compulsory.

In many cases access to the practical part occurs through seminars, workshops, conferences..., own University or others. Although it possible to obtain ECTS credits, they have a clear link with the subjects taught in the race.

There are also some associations in university linked to the restoration of heritage subsidized by the University and coordinated by the students themselves with the help of teachers, but without any academic links.

## 3.3. PRESENT THE ALUMNUS PROFILE DESCRIBED IN THE DOCUMENTS OF STUDY PROGRAMME IN FIELD OF ARCHITECTURE IN THE SCOPE RELATING TO HERITAGE PROTECTION AND URBAN REGENERATION

Make a critical assessment of this profile.

After finishing studies of Bachillerato (high school), students must pass the Selectivity exam. Each year and each university offers the places with high marks. ETSAM has in general the highest marks.

There are general students without a special profile.

**Student entry profile:**

Architecture studies require a high work capacity; Interpersonal skills for teamwork; Qualities for organization and planning; Spatial vision and graphical ability; Analysis and synthesis capacity; critical thinking; Interest in culture; Motivation for quality; Mechanical intuition; And in general, curiosity and interest in knowing the world in which we live in the sense of its historical development, how it is lived, how it is constructed and how the territory is urbanized, as well as intellectual tension to intervene with creativity in the processes of its transformation.

It requires a willingness to study, research and work in very different fields of knowledge in the humanities, plastic arts, social and technological sciences, as well as the development of the ability to work from the thought of the complexity.

**Critical assessment of this profile:**

The studies of the faculty of architecture recognize the profile of generalist architect as the most adequate to equip the student with those knowledge and qualifications that enable him to perform the different types of attributions for which the law allows the profession of architect, at times of continuous uncertainties and professional redefinitions.

To assume the profile of generalist architect for the formation of degree, supposes to acquire a knowledge of patrimonial protection and revitalization of the basic city. Therefore it should be completed with postgraduate studies: masters, courses of specialization, etc.

In some subjects it is necessary to have previously passed previous subjects to be able to access the next one.

In postgraduate degrees may require specific qualifications or have overcome within the qualification number of ECTS credits related to the subject (usually linked to construction, planning, design…).

## 3.4. CHARACTERIZE THE CURRICULUM (AS A WHOLE) FROM THE POINT OF VIEW OF ITS SUBSTANTIVE CONTENT AND STRUCTURE (CONSISTENCY AND COMPLETENESS OF THE PRESENTED ISSUES, PROPER ORDER, COMPATIBILITY WITH OTHER COURSES)

Make a critical assessment of the program.

The curriculum has the following content:

- It systematically includes the acquisition of the professional skills required to solve real problems, to be solved by the graduates of the architecture faculties, since students cover full-time stays in professional settings under supervision
- It is based on the recognition of the competences that define the work of the architect and contemplates the new areas of application and professional training.
- It presents a strong link between theoretical and practical teaching.
- Teaching in most subjects promotes general and specific cognitive and methodological skills, necessary for the delimitation of problems in the disciplinary field.
- It has formal advisory mechanisms as part of the curriculum for thesis work that tackles the low titration rates.
- It considers the formative experiences necessary for the development of those personal and ethical characteristics adequate for the responsible and effective exercise of the profession.

There are no subjects related to equity until the last years.

The subjects involved in Heritage within the architectural plans are very specific subjects, with a very high level from the start, always linked to some previous knowledge (construction, design, urban, graphics...) that condition and “prejudice” approaches. (There are no subjects from the beginning of the curriculum that offer continuous learning).

As final conclusions:

- One semester is not enough to study some subjects
- There is a lack of compulsory subjects.
- There must be an appropriate order. It is not possible to do a subject without doing others before

## 3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS.

Separately specify a model programme in the field of architecture (when it is not a specialty in the field of revitalization of historical towns) and a model programme of specialty in field of revitalization.

*[list of curses, structure and sequence of these courses, the content of the courses, the scope and form of contact with practice]*

Including curricula best suited to current needs of labour market

The model curriculum has the following courses:

- Legal and administrative context of architectural heritage and historic cities.
- Cultural outline, and interdisciplinary approach to heritage intervention.
- Criteria, methods and techniques in projects of conservation or modification of historic heritage.
- The urban revitalization of historic cities. Criteria, methods and techniques.
- Historical interpretation and musealization.
- Historical heritage and cultural dynamics.
- Heritage research project: methodology.
- Patrimonial project of intervention: methodology.
- Internship in a company or architectural studio specializing in heritage.

*An example of a model programme might be:*

*Criteria and techniques of intervention in historic buildings (Criterios y técnicas de intervención en edificios históricos)*

### Justification

Data collection and representation of architectural heritage. Landscape.

Analysis of historical factories. Interpretation and representation of the construction processes.

Dissemination of Heritage.

Elaboration of historical morphological hypotheses and their interpretation.

Consolidation and restoration techniques.

Possibility of adaptation to the present.

### Compatibility

### Skills

**General Skills:**

CG 04. Ability of analysis and synthesis.

CG 05. Decision making.

CG 06. Imagination.

CG 08. Ability to organize and plan.

GC 10. Historical culture

CG 11. Critical reasoning

CG 12. Work in an interdisciplinary team.

CG 13. Teamwork.

GC 14. Ethical commitment.

CG 16. Mechanical intuition.

CG 17. Troubleshooting.

CG 19. Information management capacity.

**Specific Skills:**

EC 01. Ability to apply graphic procedures to the representation of spaces and objects.

CE 06. Adequate knowledge and applied to the architecture and urbanism of the graphic lifting techniques in all its phases, from the drawing of notes to scientific restitution.

EC 12. Ability to conceive, calculate, design, integrate in buildings and sets urban and building structures.

EC 14. Ability to design, calculate, design, integrate in buildings and assemblies urban and implement systems of enclosure, decks and other heavy work.

EC 15. Ability to design, calculate, design, integrate into buildings and assemblies and implement foundation solutions.

EC 17. Ability to apply technical and constructive standards.

EC 18. Ability to preserve building structures, the foundation and civil work.

EC 19. Ability to preserve finished work.

EC 21. Ability to conserve the thick work.

EC 25. Adequate knowledge of conventional building systems and their pathology.

EC 38. Ability to intervene and preserve, restore and rehabilitate built Heritage.

EC 40. Ability to practice architectural criticism.

EC 42. Ability to catalog urban and built heritage and plan its protection. Landscape.

### Learning outcomes

RA1. Identify the different theories of restoration and disciplines related to it.

RA2. To use concepts of urban planning and planning, respect architectural surroundings, historic buildings and landscapes.

RA3. Describe and represent the knowledge of buildings and the state of their physical consistency.

RA4. Perform two-dimensional and three-dimensional measurement and planimetry of buildings.

RA5. Select the construction system most appropriate to each intervention.

RA6. Graph the proposed construction systems and their details so that they respond to the requirements.

RA7. To manage a repertoire of criteria and techniques of architectural intervention.

RA8. Elaborate proper criteria that allow action from the point of view of analytical and critical view on the object and the constructive process.

RA9. To develop scientific reconstructive hypotheses of the architectural heritage and urban.

### Contents

Teaching units:

UD. 1 Criteria and intervention practices.

UD. 2 Methodology.

UD. 3 Intervention techniques. Foundations.

UD. 4 Intervention techniques. Works of factory.

UD. 5 Intervention techniques. Walls.

UD. 6 Intervention techniques. Covers.

UD. 7 Intervention techniques. Comfort and conditioning.

UD. 8 Examples of intervention.

### Methodological strategies.

Theoretical classes are offered in the form of lectures (theoretical-lectures, large group). Classroom presentation of the fundamental concepts and development of the proposed contents. Explanation of the thematic content of the large group by teachers or professionals invited specialists.

Practical classes: With those intended that students learn how to act from the application of acquired knowledge, develop individually or in small groups, depending on the practice. It will work on representative examples or on the proposed Intervention Project. The practices exposed in class by the teacher; then he is working in class, under the tutelage of Professor, and delivered the same day.

Tutorials: individual periodic or in small groups among teachers and students to guide, monitor and guide the various academic activities proposed meetings.

Seminars: Attendance at conferences, seminars, conferences, lectures on topics related to the field, causing debate and reflection on the students.

Individual non-contact activities: Autonomous work and individual study will consist of activities aimed at the study and development work as well as search, review and analysis of documents, databases, web pages, etc., all related to the subject matter, which in turn serve to support learning.

Group non-contact activities: The study and group work by developing throughout the course of an Intervention Project, which is the study, analysis and intervention proposal of a historic building, within a common context for all kind.

With respect to the labor market, these could be the different professional outings:

- Administration
- Particular
- Teaching
- Files
- Foundations

Characteristics of the current market: flexibility and lack of means and budgets.

This analysis of the curriculum offers the need to offer:

- Skills adjusted for shortcomings
- The instruments to the minimum budgets
- Capacities beyond needs
- To have a view of the units of time for protection according to the degree of deterioration of the Heritage. Permanent, constant, singular and ephemeral needs

# CONCLUSIONS

## /regarding the elaboration of model programme of teaching/

One of the most important things to know is the ability of analisying values. A sustancial covergence in the recognition of the respect for the historical and critical process of the new or rather of the contemporary for consolidation or for functional adaptation.

It is necessary to know how to choose best solutions of those possibles.

So to learn this, is necessary to employ some time. It is not possible to learn different and important things in a short time. It takes a time. And beginning from general to particular knowledge in an apropiate order.

# LEARNING GUIDE: HERITAGE

## CONTEXTUALIZATION

Justification: Data collection and representation of architectural heritage. Analysis of historical factories. Interpretation and representation of the construction processes. Dissemination of Heritage.Elaboration of historical morphological hypotheses and their interpretation. Consolidation and restoration techniques.

Possibility of adaptation to the present. Compatibility.

Descriptors: Restoration, Historic Buildings, Conservation, Construction, Documentation.

## COMPETITIONS

General skills: the set of general powers of egress title architect, developed in the framework of the subject in accordance with established units and experience in organizing and teaching subjects are as follows:

CG 04. Ability of analysis and synthesis.

CG 05. Decision making.

CG 06. Imagination.

CG 08. Capacity of organization and planning.

GC 10. Historical culture

GC 11. Critical reasoning

CG 12. Work in an interdisciplinary team.

CG 13. Teamwork.

GC 14. Ethical Commitment.

CG 16. Mechanical intuition.

CG 17. Troubleshooting.

CG 19. Information management capacity.

Specific skills: the set of specific powers of egress title architect, developed in the framework of the subject according to the teaching units established and experience in organization and teaching of subjects, grouped in skills and knowledge are the following:

EC 01. Ability to apply graphic procedures to the representation of spaces and objects.

CE 06. Adequate knowledge and applied to the architecture and urbanism of the graphic techniques in all its phases, from the drawing of notes to scientific restitution.

EC 12. Ability to design, calculate, integrate into buildings and urban complexes and execute building structures.

EC 14. Ability to conceive, calculate, design, integrate in buildings and urban complexes and execute systems of enclosure, decks and other coarse work.

EC 15. Ability to design, calculate, design, integrate into buildings and urban complexes and implement foundation solutions.

EC 17. Ability to apply technical and constructive standards.

EC 18. Ability to conserve building structures, foundations and civil works.

CE 19. Ability to keep the finished work.

EC 21. Ability to conserve coarse work.

EC 25. Adequate knowledge of conventional construction systems and their pathology.

EC 38. Ability to intervene in and preserve, restore and rehabilitate built heritage.

CE 40. Ability to exercise architectural criticism.

EC 42. Ability to catalog the built and urban heritage and plan their protection.

## LEARNING OUTCOMES

Learning outcomes specifically related to heritage, in accordance with established units and experience in organizing and teaching subjects are as follows:

RA1. Identify different theories as to the restoration or ny disciplines related to it.

RA2. Use notions of urbanism and planning, architectural environment, historic buildings and landscapes respect.

RA3. Describe and represent knowledge of the buildings.

RA4. Perform two-dimensional and three-dimensional measurement and planimetry of buildings.

RA5. Select the construction system most appropriate to each intervention.

RA6. Graphically represent the proposed construction systems and their details so that they respond to the requirements.

RA7. To manage a repertoire of criteria and techniques of architectural intervention.

RA8. Elaborate proper criteria, that allow to act from the analytical and critical point of view on the object and the constructive process.

RA9. Develop scientific reconstructive hypothesis of architectural and urban heritage.

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| DIDACTIC UNITS | | LEARNING OUTCOMES |
|---|---|---|
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| UD.2<br>WORK METHODOLOGY | Generalities.<br>Documentary study. Historical analysis. Legal analysis.<br>Physical study. Geometric survey.<br>Physical study. Material lifting.<br>Physical study. Mechanical lifting.<br>Stratigraphic study.<br>Damage maps.<br>Introduction to instrumentation. | RA2, RA3, RA4, RA9. |
| UD. 3<br>INTERVENTION TECHNIQUES. FOUNDATIONS. | Old foundations.<br>Concrete foundations.<br>Surface reinforcement. Deep Reinforcements.<br>Other interventions. | RA3, RA5, RA6, RA7, RA8. |
| UD. 4<br>INTERVENTION TECHNIQUES. MASONRY. | Elements of masonry.<br>Structural diagnosis.<br>Arches.<br>Vaults.<br>Domes.<br>Stairs. | RA3, RA5, RA6, RA7, RA8. |
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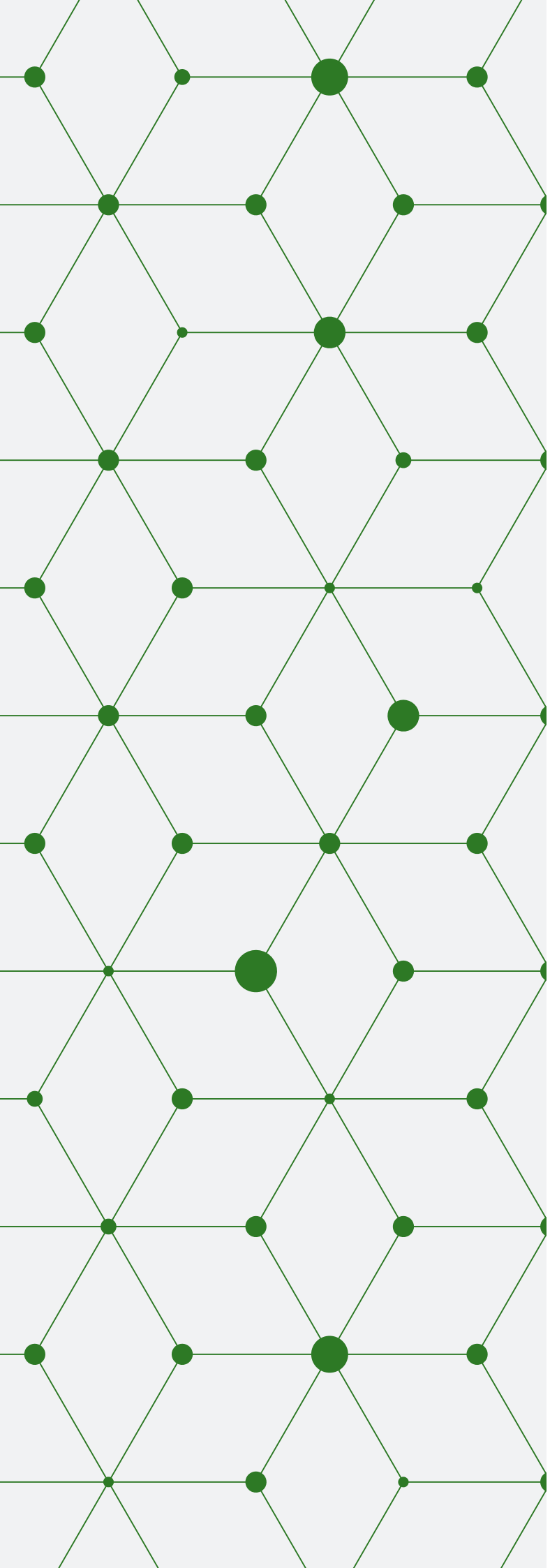
## METHODOLOGICAL STRATEGIES

| | |
|---|---|
| Theoretical classes | They are given in the form of lectures (theoretical-expository classes, large group). Presentation in the classroom of the fundamental concepts and development of the proposed contents. Explanation of the thematic content to the large group by the faculty or invited specialist professionals. |
| Practical classes | With which the student is expected to learn how to act from the application of the acquired knowledge, they develop individually or in small groups, depending on the practice. We will work on representative examples or on the proposed Intervention Project. The practices are exposed in class by the teacher; Then work in class, under the tutelage of the teacher, and delivered the same day. |
| Tutorials<br>Seminars | Individual or small periodic meetings between teachers and students to guide, supervise and guide the different academic activities proposed.<br>Attendance at conferences, seminars, congresses, talks on themes related to the subject, which provoke debate and reflection in students. |
| Individual activities | Autonomous work and individual study will consist of activities aimed at the study and development of works, as well as the search, review and analysis of documents, databases, web pages, etc., all related to the theme of the subject, Which in turn serve as support for learning. |
| Group activities | The study and work in group, through the development throughout the course of an Intervention Project, which consists of the study, analysis and proposal of intervention of a historical building, within a common context for the whole class. |



# 02

# THE TEACHING OF THE HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES AT THE FACULTIES OF ARCHITECTURE /IN THE FIELD OF ARCHITECTURE/ IN ITALY

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## INTRODUCTION

/INFORMATION ON THE AIM, SCOPE AND STRUCTURE OF THE REPORT; CHARACTERISTICS OF THE PARTICIPANTS COMPLETING THE QUESTIONNAIRES; OTHER RELEVANT INFORMATION/

In this report we will want to have a look related to the teaching of the heritage protection in Italy in the different universities.

The beginning of Architectural studies are marked with the birth of “Accademia di S. Luca” in Rome, during the Renaissance period.

Them, we have chosen some of them with different characteristics, some smaller and some biggest universities; all these chosen university are public.

Now in Italy we have the possibility of studying architecture, with old plan before Bologna process, and new program after this system, who has been introduced in all our universities from 1999.

For having this general information related the studies of architecture, we have worked close with some professors of these seven universities, in different geographical ares of our country, where can be learned Architecture.

Project team communicated with 20 recipient, from universities, public regional offices for conservation of monuments (soprintendenze), general director of Ministry, local offices for conservation (for example municipality of Roma). In Italy for some particular monuments exist specific conservation offices (such as Fabbrica di S. Pietro in Vaticano and many other principal monuments). The directors and head of offices told us that critical capability to understand monuments is best aim for our studies.

This report is organized in three parts were through the:

I presentation of the general characteristic of system of educating the architects in Italy;

II Determination of the qualifications and skills required in working with heritage protection and urban restoration, rehabilitation;

III Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating and training the architects.

# PART I

## General characteristics of the system of educating the architects (in particular country); issues of heritage protection and revitalisation of historical cities in the system of architectural education; formal qualifications and education required from the architects dealing with heritage protection and revitalization of cities.



### 1.1. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE ARCHITECTS (IN PARTICULAR COUNTRY)

/inter alia: statistical data regarding the number of faculties educating the architects; the structure of the studies in field of architecture, incl. the Bologna system; the required licenses for the designing/

Architects training in Italy has an ancient tradition[1], but the modern figure of architect starts in Renaissance period with the first editions of „Trattati di architettura"[2].

A particular Istitution that was founded to project architecture is „Accademia di San Luca", in Rome (1593).

But the first faculty was born in Rome:

From 1914, a first time, and then from 1919, when it was created by a group of academics and designers, in which was Gustavo Giovannoni (1873–1947), the „Regia Scuola Superiore di Architettura" (afterwords, in 1935 Faculty of Architecture) appears in an indipendent way in front of international ones.But from some unpublished documents appears that it was created before First World War.

It was born unifyining technical-constructive and scientific subject with historical and artistic ones, finishing a large process with so (many) different ways, with respect to the Giovannoni's career (engineer with a specialization in historic art).

The importance of teaching history is a singularity of this Faculty, which perhaps has not being understood, while it opens a rich third way, different from the Weimar's Bauhaus (born the same 1919), and even from the Fine Art school, where history was considered a catalogue of forms.

The matter of „Restauro", taught by Giovannoni for many years, seems close to urban history, drew attention to the significance of „minor architecture" in providing continuity to the urban fabric in a historic city, and this was to become an important theme in his activities as a planner of Rome. He was director of the School of Architecture in Rome from 1927 to 1935 and was instrumental in the creation of an indipendent faculty for architecture where he taught Restoration of historic monuments from 1935 to 1947.

In some of his writings since 1913, Giovannoni included ideas from Max Dvořák, and from Charles Buls,

1 In Middle age the rediscovery of ancient Vitruvius treatise in monastry and its diffusion trough religious orders contributed to the birth of architectural studies. Also free cities in this period had their own organizations to build and preserve main religious and civil buildings.

2 These treatises are in detail: Vitruvius (1490), Filarete (1461), L.B.Alberti (1442).

and the idea of „urban landscape" wich feeds with italian laws, and is reminded in the book „Vecchie città ed edilizia nuova" from 1931. Theories providing a basis for „restauro scientifico" and also the italian modern.

We must remind also Vincenzo Fasolo (1885–1969).

In next generation we must remember two important names as Guglielmo De Angelis d'Ossat (1907–1992) and Renato Bonelli (1911–2004).

Renato Bonelli defined restoration as „a critical process and then a creative act, the one as an intrinsic premise of the other", near to „idealistic thinking" of Benedetto Croce.

De Angelis, future Director general of antiquities and Fine Arts, and founder of the school for the restoration of historic buildings, at the University of Rome, is nearer to Giovannoni's ideas and defends regular maintenance and timely repairs, a methodical conservation of archeological sites and further more, it was proposed to forbid building in „historic styles" paying attention to the „distinguibility".

We must mention Saverio Muratori (1910–1973) who projected even urban areas, in cities such Rome and Venice.

We cannot forget Gaetano Miarelli Mariani (1928–2002) and Giovanni Carbonara (1942), who has done an important work in processing therminology with word such as (Conservation, restoration, new use for ancient building) and studying conservation of old towns without excluding new buildings, but with the knowledge of history in base.

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In Italy there are these faculties of Architecture (that are 24):

Bari , University of Basilicata in Matera, Bologna, Cagliari, Ascoli Piceno ( university of Camerino), Catania at Siracusa, Chieti and Pescara, Enna, Ferrara, Firenze, Genova, Milano Politecnico (with courses at Lecco, Milano, Mantova, Piacenza), Napoli Federico II and Luigi Vanvitelli at Aversa, Palermo, Parma, Reggio Calabria, Roma La Sapienza University of Rome, and Roma Tre, Sassari, Torino with Politecnico, Trieste, Udine, Venezia IUAV.

Since 1999, Italian university studies have been updated in order to meet the intents of the Bologna Process. The university system, and so the training course architects, is divided into three cycles. The main Italian securities have a degree (1st cycle), Master's Degree (2nd cycle) and a PhD (3rd cycle).

First cycle. It consists exclusively in ***Corsi di Laurea*** (Degree Courses). They are intended to provide students with an adequate command of general scientific methods and contents as well as specific professional skills. Italian law distinguishes between *Corsi di Laurea* (Degree Courses) in classes on the basis of common objectives and training activities to more degree courses. Classes bringing together different degree programs are defined by ministerial orders. Minimum requirement for access to the first cycle degree courses is the final secondary school diploma. For access to degree courses in class L-17 – ***Scienze dell'Architettura*** (Architectural Sciences), defined in accordance with Ministerial Decree n. 270/2004, it is necessary to pass a test examination for a restricted planned access.

Ministerial Decree of August 4th 2000 identifies the knowledge that graduates should have acquired at the end of the three years degree course: good knowledge of architectural history and construction, tools and forms of representation, aspects methodological – operational aspects of mathematics and other basic sciences and aptitude in use of this knowledge to understand and describe architecture and construction issues; adequate knowledge of methodological and operational aspects of typical areas of the course of study followed and competence in identifying, formulating and solving problems by use of architecture and construction methods, techniques and tools; adequate knowledge of features regarding technical and economic feasibility , cost calculation, production process and building products realization; be able to use the techniques and tools for design of building manufactured articles; be able to communicate effectively in written and oral form, at least in one European language other than Italian.

In order to achieve Degree title, the student must have acquired 180 credits (CFU), equivalent of the ECTS credits; it can be required an internship period and the thread of a thesis or the writing of a final dissertation.

The title of the First cycle Degree gives access to the ***Laurea Magistrale*** (MS Master of Science Degree) and to the other courses of the Second cycle.

Second cycle. Main courses of the 2nd cycle are *Laurea Magistrale* (MS Master's Degree) ones; They offer an advanced level training for operation of high-skilled jobs in specific areas. Access to the courses is subjected to holding a Degree or a comparable foreign degree; admission depends on the specific requirements established by each university. The courses have Biennale duration.

The architecture study programs were based on DIRECTIVE 2005/36/EC OF EUROPEAN PARLIAMENT AND OF THE EUROPEAN COUNCIL on the recognition of professional qualifications and its curriculum complies with Article 46[3].

The Ministerial Decree of 16 March 2007 determines Master's Degree classes and identifies the LM-4 Class – Architecture and Building Engineering-Architecture. In order to achieve the title of Master's Degree, the student must have acquired 120 credits (CFU) and have prepared and discussed a research thesis.

Some degree programs, including Architecture and Building Engineering-Architecture, are defined *Laurea Magistrale a ciclo unico* (MS Master of Science Degree in one cycle): admission requirement is a secondary school diploma or a comparable foreign degree; admission is subject to a screening test; curricula consist of 5 years. In order to achieve the title of Master Degree, students must have acquired 300 credits and have developed and discussed a research thesis.

The title Master of Science provides access to *Dottorato di Ricerca* (PhD) and other 3rd cycle courses.

Third cycle. Main 3rd cycle courses are those of the *Dottorato di Ricerca* (PhD); they have the purpose of Enganging correct methodology for advanced scientific research, adopting innovative methods and new technologies, providing internships abroad and frequency of research laboratories. Admission requires a Master's Degree (or a comparable foreign degree) and passing a competition; the duration is at least 3 years. The students must develop an innovative research thesis and discuss it during the final exam.

Other post graduate courses:

– Corsi di Master Universitario di primo livello (First-level university Master Courses corresponding to the seventh level in the descriptors of the European Qualifications Framework, EQF): courses belonging to the 2nd scientific specialization cycle or high permanent and recurrent training. It is accessed with a degree or a comparable foreign degree. The minimum duration is one year (60 credits);

– Corsi di Master Universitario di secondo livello (Second-level University Master Courses,corresponding to the eighth level in the descriptors of the European Qualifications Framework, EQF): belonging to the 3rd scientific specialization cycle or high permanent and recurrent training. It is accessed with a Master's Degree or a comparable foreign degree. The minimum duration is one year (60 credits);

  The University Master post graduate courses do not have a national teaching organization and the title is released under the independent responsibility of the individual universities.

– Corsi di Specializzazione (Specialization Courses in Restoration, corresponding to the eighth level in the descriptors of the European Qualifications Framework, EQF): 3rd cycle courses that aim to provide knowledge and skills for the exercise of professional high-skilled jobs. Admission requires a Laurea Magistrale (MS Master of Science Degree) (or a comparable foreign degree) and passing a competition; the duration of studies varies from 2 (120 CFU) to 6 years (360 ECTS) in relation to the subject area. The final title released is the Postgraduate Diploma.

  In Italy there are schools of specialization aimed at architects in different universities (Turin, Milan, Genoa, Florence, Rome, Naples, Bari).

The graduate (1st cycle and 2nd cycle) programs concerning the architecture macro sector are active in 41 universities distributed located the national territory, and more specifically in 47 cities. The data reported so far involve courses of studies of level I and II (degrees, Master degrees, Single Cycle and still active degree programs that refer to the old regulation) aimed at training architects, landscape architects, conservators of architectural and environmental heritage, and spatial planners. Students enrolled in these degree programs in the academic year 2015–2016 are to be 64918. *(Source: Bureau of Statistics MIUR – Ministry of Education, University and Research).*

In order to perform design activities in Italy, you must have a Bachelor's Degree or Master's Degree; you must enjoy civil rights and it is required registration to a Professional Register, that it is subjected to passing the State Exam.

The student in possession of a title of Degree in the class LM-17 – Architectural Sciences can access Examination of State and, following an over run of the exams, he acquires the title of Junior Architect.

The person in possession of a title of Master's Degree in the class LM-4 – Architecture and Building Engineering-Architecture can access Examination of State and, following he acquires the title of Architect.

3 Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualification and Regulation (EU) No. 1024/2012 on administrative cooperation through the Internal Market Information System (the IMI Regulation).

## 1.2. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE SPECIALISTS FOR THE HERITAGE PROTECTION AND REVITALISATION OF THE CITIES (IN PARTICULAR COUNTRY)

For this answer we have selected seven universities from different region of Italy from North to South.

The second reason has been the difference between the classical (ancient), and the new universities, after the Bologna process. In the universites that follow we can note, for each level of study, several different kindof degrees.

Related to these universities, it is evident the different methodological approach among the courses: conservation for pre-existent, restoration and "ripristine state".

Conservation means all the processes of looking after a place so as to retain its cultural significance, and retain present even reintroducing a new use. While restoration,the so-called restauro–critic theory, is based on a historical-critic evaluation of the object. It is a strictly conservative approach considering all significant historical phases, but it takes into account both historic and aesthetic aspect and allows for reintegration of a work of art under specific condition, if this can be achieved without committing an artistic or historic fake.

Abbreviatives used in following descriptions:

LT = Laurea Triennale; LM = Laurea Magistrale; LM CU = Laurea Magistrale a Ciclo Unico; MAST = Master; SPEC = Corsi di Specializzazione; DOTT = Dottorato di Ricerca.

DC = Degree Corses; MS = Master of Science Degree; MSOC = Master of Science Degree in one cycle; MAST = Master; SPEC = Specialization; PhD = Research fellow.

In Ascoli Piceno (University of Camerino), we have:

Degree Course in Architecture (3 years),with: Theory and History of Restoration (3rd year);

Degree Course in Architecture in Technology and detection for Conservation and Restoration (3 years),with: Museology and restoration for historic and artistic heritage (1st year), Laboratory for laser survey for cultural heritage (3rdyear), Laboratory of restoration (3rdyear), Laboratory for Chemical detection for cultural heritage (3rdyear);

Master of Science Degree in Architecture, with: Laboratory architectural restoration (1st year), Restoration (1st year).

In Catania-Siracusa, we have:

Master of Science Degree OC in Architecture (5 years), with: Tecnology for building refurbishment (3rdyear), Theory and History of Restoration (3rd year), Laboratory for restoration design (4nd year), Restoration (4nd year), Refurbishment and maintenance (5th year), Current technics for antiseismic proposal (5th year).

In Firenze, we have:

Degree Course in Architecture (3 years),with: Laboratory of Restoration (3rd year);

Master of Science Degree in Architecture and Landscape, with: Laboratory of Restoration (2nd year);

Master of Science Degree in Architecture, with: Laboratory of Restoration (1st year);

Master of Science Degree in Architecture (english course), with: Restoration Lab (1st year);

Master of Science Degree OC in Architecture (5 years), with: Laboratory of restoration 1 (3rd year), Laboratory of restoration 2 (4th year);

School of Specialization in Architectonical heritage and landscape (2 years);

Master for Documentation and management of cultural haeritage (20 ects – lessons 120 hours and apprentice 100 hours);

Ph.D. in Architecture, with: History of architecture and town, Structure and Restoration of cultural heritage.

In Milano Politecnico, we have:

Degree Course in Architectural design (in Milano) (3 years),with: Historical building conservation principal (1styear), Laboratory for interior architecture design (3rd year), Laboratory for historical building conservation (facultative) Historical building conservation;

Degree Course in Architectural design (in Milano – english course) (3 years), with: Heritage preservation fundamentals (1styear), Historical building preservation studio (facultative) (3rd year);

Degree Course in Architectural design (in Mantova) (3 years),with: Historical building conservation principal (1styear), Historical building preservation studio (facultative) (3rd year), Urban and natural landscape of historical sites (3rd year);

Degree Course in Architectural design (in Piacenza) (3 years), with: Historical building conservation principal (1styear), Historical building preservation studio (facultative) (3rd year), Gardens and historical buildings characters (3rd year);

Master of Science Degree in Architectural design and History (english course), with:

History and Architectural Heritage (1styear), Sustainability and the built environment (1styear), Architectural design in historical context studio (1styear), Planning in Historical context studio (2nd year), Heritage management (2nd year), Final workshop (2nd year), Diagnosis of historic structure (facultative) (2nd year), History of building technics (facultative) (2nd year), Museology and Museography (facultative) (2nd year), Interior design in historical building (facultative) (2nd year).

Master of Science Degree in Architecture (curriculum unique) with: Archaelogical restoration (1st year), Strenghtening of historical buildings (1st year);

Master of Science Degree in Architecture (curriculum architectural design) with: Laboratory of architectonic restoration (1st year);

Master of Science Degree in Architecture (curriculum architectural heritage conservation) with: Construction technics history (1st year), Theory and History of restoration (1st year), Laboratory of architectonical restoration (1st year);

Master of Science Degree in Architecture (curriculum architectural heritage conservation) with: Theory and technics of architectonical design and for 20th century architectural preservation (1styear), Laboratory for Urban planning (2ndyear), Design Laboratory (2nd year);

Master of Science Degree in Architecture (curriculum Architecture – english course) with: Architectural preservation studio (1st year);

Master of Science Degree in Architecture (curriculum Architecture of interiors – english course) with: Architectural preservation studio (1st year).

Master of Science Degree in Architectural Design (curriculum Architecture, Town and Landscape), with: Laboratory of Restoration (facultative) (1st year), Urban Restoration (1st year), Laboratory of Restoration 2 (facultative) (2nd year);

Master of Science Degree in Architectural Design (curriculum Architecture, Interior space, Architectural Design), with: Laboratory for interior design and building conservation 1 and 2 (facultative) (1st and 2nd year), Urban Restoration (1st year);

Master of Science Degree in Building and Architectural Engineering (curriculum Architectural Engineering), with: Conservation+Studio (1st year);

In Napoli, we have:

Degree Course in Architecture, with: Restoration Principales (3years);

Master of Science Degree in Architecture and Architectural design, with: Laboratory architectural restoration (1st year), Final laboratory for contemporary architecture (2nd year);

Master of Science Degree in Design for Built Environment, with: Laborartory for Exibiting and Museografy (2nd year);

Master of Science Degree OC in Architecture (5 years), with:

Theory and History of Restoration (4th year), Laboratory of Restoration (4th year).

In Roma La Sapienza, we have:

Degree Course in Architecture (3 years),with: Stilistic characters of historic building and restoration problems (3rd year);

Master of Science Degree in Architecture, with: Reinforcement of historic building and implants (1st year), Theory and technics of restoration (facultative) (1st year), Laboratory for Monument restoration 1 (2nd year), Laboratory for Monument restoration 2 (2ndyear), Management for restoration building site (facultative) (2nd year), Laboratory of restoration – Complements (2nd year);

Master of Science Degree OC in Architecture (5 years), with: Elements of restoration (Theory and technics for architectural restoration) (3rd year), Laboratory for restoration(4th year), Exibit and museografy (5th year);

School of Specialization in Architectonical heritage and landscape (2 years);

We have a Ph.D. with three different titles: in History, Survey and Restoration of Architecture.

In Torino Politecnico, we have:

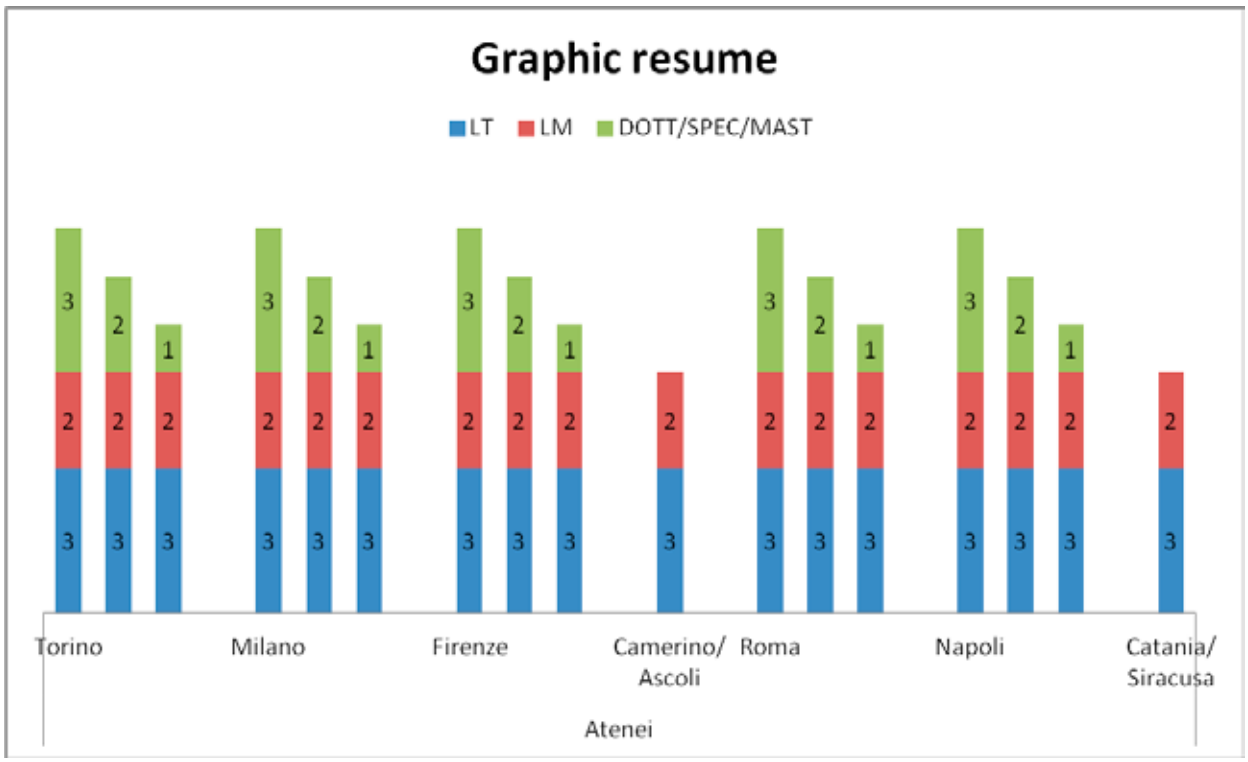
Degree Course in Architecture,with: Theory, History and Technics of Restoration (2nd year), Atelier Restoration and structure (3rdyear), Restoration Theory, History and Technics (english course – 2nd year);

Master of Science Degree in Architecture, construction and city (2 years), with: Restoration (1st year), Restoration and methodology for Conservation (1st year), Restoration (english course – 1st year);

Master of Science Degree in Green areas and Landscape, with: Laboratory for Green and Landscape Restoration (2nd year);

Master of Science Degree in Architecture for Restoration and Valorization of heritage, with: Atelier for proposal in Architectonical restoration (1st year), Atelier for Restoration and Valorization of heritage (2nd year);

Master of Science Degree in Architecture for Sustainable project, with: Atelier for Compatibility and Sustainabilityin Architectonical restoration (1st year), and Atelier for Compatibility and Sustainabilityin Architectonical restoration (english course – 1st year).




## 1.3. REQUIREMENTS/PERMISSIONS/ RESTRICTIONS ON CONDUCTING THE WORKS AND DESIGN BY ARCHITECTS AND OTHER PROFESSIONALS IN THE HISTORIC BUILDINGS

The first requirement, in Italy, is the degree (second level: 300 CFU).

Then it is necessary a qualification for the practice of profession.

The "Esame di Stato (Professional State Practice Exam) consist of two written test, practical and oral.

The State exam for access to section A (Architect) address the same topics planned for access to section B (Junior Architect), providing greater complexity related to light professional competence.

In order to undertake the profession of architect is not required by law an enabling internship. It is required only if we are requiring by the regulation of individual professional orders.

The architect in private practice will have to register for VAT and to subscribe to the mutual fund industry (INARCASSA). It is imposed by the law also obligation to insurance and to professional warnings.

From the Decreet of President of the Republic n.137 of 2012, art.7: "it is obligatory a professional adjournment with many guidelines".

The National Council of Architect has published the guidelines on 30 july 2013.

The architects have an exclusive competence for study and practice: survey, the historic-critic analysis and analysis of the deterioration, the programme of interventions on historic-artistic pre-existence, supervision and management.

But in some particularly cases, is necessary the presence of some specialist for technical knowledge and intervention proposals.

To study and high training is obligatory: consolidation, technical installations (climatisation),humidity (guide to the measurements of moisture content in materials which conform movable and immovable cultural heritage); procedures and instruments for measuring humidity...;for churches is necessary to know about liturgical adaptation, and indoor climate (churches, chapels and other places of worships) for museal conversion.

We must remember from Charter of Venice: the conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not changes the lay-out or decoration of the buildings. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.

In Italy, we have a specific law for evaluation and mitigation of seismic risk for cultural heritage with reference to technical rules for construction derived from the previously described cultural contest and are in compliance with the Ordinance of the Prime Minister n. 3274/2003 "first elements on the topic of general criteria for seismic classification on a territorial scale and standards for construction in seismic zone".

This Ordinance establish that the department of civil Protection should issue within six months of the Ordinance a scheduled program for assessing and identifying the typologies of buildings which need to be verified.

Appendix no. 2 of the Ordinance, "Technical rules for the design, evaluation and seismic assessment of building, and in particular Chapter 11 "Exisiting building" led to collaborate between the General Direction of Architectural Heritage and Landscape of the Ministry for Cultural Heritage and Activities, and Department of Civil Protection.

Appendix n.2 of this Ordinance, Technical rules for the design, evaluation and seismic assessment of building, explains: "for cultural heritage, it is in any case possible to limit strengthening interventions according to what is outlined in paragrafh 4 art. 29 of legislative decree no. 42/2004 "code for cultural heritage and landscape", and it is furthermore necessary to calculate the level of peak ground acceleration corresponding to the attainment of an expected ultimate limit state for the structural typology of the building, both before and after the trengthening interventions".

On the basis of these tools, on 23rd of May 2005 an inter-ministerial decree was prepared for the creation of a working group wich outline a document aimed at the issurance of Guidelines for application of the technical regulations linked to Ordinance no. 3274/2003 in the sector of cultural heritage.

From n.350, year 2001, Decreet from Republic President

Chapter III. Certificate of activity's beginning.

Art.22

Works in order to fix a certificate of activity's beginning.

1. May be realized by the certificate of activity's beginning in order with article 19, law number 241, from 7th August 1990, and in order with urbanistic instruments, and previsions, construction laws and discipline regulament in planning and construction:
   a) Straordinary maintenance works, from article 3, paragraph 1, letter b, works in the structure of the building.
   b) Works in restoration and conservative process from article 3, paragraph 1, letter c, when may be done in the structure of the building.

From Legislative Decreet n.50, 18th april 2016, art. 147 (Level and contents in projects)

Paragraph 2.

For working in heritage in reference with practical projects, may be done a technical schedule, in order to recognize the character and values of the building where works are going to take part, wich it must be done by the professional who has competence for doing these works.

Paragraph 6.

The director of the works, the technical support for the single responsible of the process and the director of the three years program, even the responsible of finish certificate may be a restorator with legal qualifications, or in dependence of the type of work, another professional from paragraph 9-bis from heritage and landscape bill, with more than five years of experience and specific competence with the work to be done.

## 1.4. REQUIREMENTS/QUALIFICATIONS FOR TAKING UP POSITIONS IN THE CONSERVATION SERVICES ADMINISTRATION

From the last announcement of a competitive examination of Ministry of Cultural Heritage and Tourism,

We have the clear rule for a taking up positions for architect and other professional figures in the field of conservation (archaeologist, librarian, restorer, historic o art….).

The law of 28 december 2015 is dedicated for these professional figures.

The requirements necessary are:

1. Master of Science degree, or degree law n.341 of 1990, in architecture, architecture and landscape,
2. Specialization Course after degree:
   a. Architectonic heritage and landscape
   b. Landscape heritage: park and garden, and enviromental and naturalistic system;
3. Phd,History, survey, conservation of architecture.
   Universitary Master II level (II years) inside in Conservation of the cultural heritage.
4. Professional State Practice Exam.

Simplifying from a local administration, may be take notice the one from Municipality of Rome:

Requirements for further Regional departments administrations and Civic departments administrations are: Bachelor degree, Master Degree, gained at public universities and also at legally appointed universities, related to architecture and urban planning. Other titles required are post-degree specialization or post-degree update studies courses gained at universities or other institutions and related to the professional practice profile in conservation, and these courses are gained after a final exam.

MICRO BIBLIOGRAFY:

*Methodical Approach to the Restoration of Historic Architecture*, edited by Calogero Bellanca, Firenze 2011.

*Conserving the authentic: Essays in honour of Jukka Jokilehto*, edited by Nicholas Stanley-Price and Joseph King, Rome 2009

# PART II

## Determination of the qualifications and skills required in working with heritage protection and urban rehabilitation /in light of the practical experience / based on the information gathered in the Questionnaires – Part I

### 2.1. WHAT ISSUES / PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

*[please list separately the particular issues and determine their scope, e.g. the theory of conservation, the legal basis for the heritage protection, monuments adaptation to modern functions, the design of new buildings in historical areas]*

One of the most important character that the architect should have is the capacity to analyse the historical – artistic, values, and the relationship of commemorative values... But it is necessary the capacity for architectural survey, the historical–critical analysis and another important point is the use of value. Physical life is a precondition for all psychic life and is therefore more important.

The former can, at least, prosper just as well without the higher form of psychic life but not vice-versa.

The fact that innumerable secular an ecclesiastic monuments (pre- existence) can still be put in practical use today, and are actually being used does not need to be proved. If they were out of use, substitutions would be required in most cases. This demand is so compelling that age value's counter claim to leave monuments to their natural fate, could only be considered if one intended to produce substitutions of at least equal quality.

The architects should have methodical approach, criteria, but restoration is not philosophy, it is not science, it is not technique, it is incarnated in architecture. We can insistedon the restoration which is defined as being critical, moves from the affirmation that every intervention constitutes a case to itself which cannot be framed in categories, ... not answering to prefixed rules or to dogmas of any kind, but which must be reinvented with originality, time after time, case by case, in its criteria and its methods.It will be the "oeuvre" itself, carefully investigated with historical–critical sensitivity and with technical competence, that will suggest to the restorer the correct path to embark on.

Hence restoration is an act of culture and is, simultaneously, highly specialistic. At the same time there is agreement with some authors..., who states the restoration finds its legitimate reasononly in the historical present, that is to say, on the oeuvre which time, with its marks. Delivers to us.

So, history and theory of conservation are the principal matters to be taught.

Conservation prevalently runs towards the arresting of the process of the oeuvre, as least when it is understood as pure conservation with the explicit aim of break any advance of aesthetic and critique itself.

Restoration that can be defined as 'critical' moves from the affirmation that every intervention constitutes a case in itself, it does respond to present rules or dogma of any kind, but should rather reinvented with originality, ...

So the architects must know the Principal Charters among heritage In Europe and in other contest, wichare:

Boito Document 1883–1884 (III Congress of Italian Architects and Engineers),Poland Charter 1909,Athens Charter 1931,Venice Charter 1964,Italian Restoration Charter 1972, European Charter of the Architectural Heritage , Council of Europe 1975, Declaration of Amsterdam 1975, Convention for the protection of the architectural heritage of Europe, Granada 1985, Nara Document of Authenticity 1994, UNESCO Universal declaration on Cultural diversity Paris 2001,ICOMOS Charter , Principles for analysis , conservation and structural restoration of architectural heritage, Victoria falls 2003,Recommendation on the historical urban Landscape, Paris 2011.

Finally, we hope are necessary: ... "The Standardisation on cultural heritage from the European Standardisation Committee CEN(TC 346)".

But it is necessary the historical-critic analysis, central nucleus of the study of architecture, the process continues with the architectural description of the ensemble of the construction and with direct analysis, at the appropriate metric scales, of the constructive features. This also takes through the opportune references to previous and coeval episodes in the history of the architecture and the artistic expression history of architecture, history of cities and town planning.

## 2.2. WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL CITIES?

*[please list separately the qualifications and describe them, e.g. knowledge of specific design programs, the ability to evaluate the technical condition of the historical building, the ability to analyse the historical values]*

The architects should have at least these qualifications and abilities:

Ability to analyse historical value, Artistic value,

Ability of analyse in its contest, historical iconography,

Ability for historical-critical analysis,

Ability to find references and analogies,

Ability of the stylistic and construction features,

Ability for analysis of masonries,

Ability in metrological analysis, (the layout diagrams of the possible architectural organism through time),

Ability to evaluate technical condition (analysis of the current state),

Ability to study the deterioration… (reading decay, materials, mapping of deterioration),

Ability in intervention proposal,

Ability in structural analysis, based on the schematization of the static functioning of the architecture and the analysis of the form of structural deterioration,

Ability in analysis of the form of deterioration of current state

Abiliy on the basis of the architectural survey, a mapping out the typologies of deterioration detected on the façade.

Ability in identify all the forms of deterioration present with the relative causes and some indications can be supplied for the restoration intervention with specific remedies for the various pathologies identified.

Ability in identification of the various types of plaster (daubing, rough cast, finishing cast), through the laboratory analysis; it is possible to identify the constituent and materials and hence better understand the mechanism of deterioration and the hypothesis of critical–conservative restoration for the surface. The critical–conservative intervention, with a more evident desire to conserve the image and the material in their critical process.

Ability to choose the best solution of those possible, compatible with its value.

Ability to choose the best intervention proposal and adaptation project, (compatibility, reversibility, less is more intervention).

Ability to choose a new use, for example museum adaptation with insertion to facilitate access for disabled people.

The planning proposal for restoration interventions or finishings and to facilitate accessibility are highlighted.

The pedestrian areas of urban spaces may be planned to facilitate its fruition by the residents and all solutions proposed for adaptation, compatible with the existing structures, with the improvement of the microclimatic conditions presented.

A particulary approach must be reserved to the colour of the historical town.

The issue of colour in the historical town has been tackled, for many years, since the end of the 1960s, exclusively from aesthetic perspective; the whole matter was reduced to very elementary indications within the Building Codes which supplied some general guidelines for the controlling of interventions on the facades of historical edifices.

Paul Philippot wrote: "To talk about the colours of a town means to deal with an extremely complex subject. The town is, effectivelya living body and thus, by definition, is in continuous interfering with one another: that of the individual edifice, the transformations of which in the passing of time entail frequent changes to the original colours, and the town-planning level of the transformation of greater or smaller complexes , which goes especially to unify the appearance of a group of buildings, in virtue of the variations in taste and the preference in colour".

## 2.3. CHARACTERISTICS OF THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[e.g. the traditional approach, which recognizes the primacy of heritage protection over contemporary needs; inadmissibility of procedures such as reconstruction, restoration; the admissibility of extensive interventions in the historical areas treated as a continuation of their development]*

The general approach to heritage protection and revitalization of historical cities may be with criteria and method.Will be necessary the general view. Nevertheless, it seems opportune to remember that, in these episodes between the end and the beginning of the new century, we can find lexical misunderstandings in the doctrinal terminology as well as in the directives of restoration, conservation and maintenance. Firstly, one must stress that "restoration, is not merely simple repristination, consolidation of a structure, functional repair, ...neither is it the more or less integral reconstruction of a artefact, ...nor is it the so-called reuse, with its derivates and analogies, such as revitalization and re-evalutation, reanimation, recycling or recovery, regeneration, conversion, innovation or modernization. Restoration is not safeguard, maintenance or prevention, either", all these are important interventions but they nonetheless remain in the field of conservation.

The enunciation of restoration underlines a substantial convergence in the recognition of the respect for the historical and critical process of the oeuvre and the insertion of the new, or rather, of contemporary for consolidation or for functional adaptation.

While Renato Bonelli states (1959), that "restoration is ...hence begun with a true critical process aimed at the qualification and characterisation of the monument", and Cesare Brandi, in 1963, stresses that "by restoration, one generally means any intervention aimed at returning to efficiency a product of human activity, restoration constitutes the methodological moment of the recognition of the work of art in its physical consistency and in the two-fold aesthetic–historical polarity, in view of its transmission to the future".

But in urban planning and heritage town the preservation of the fabric by beneficial use is the prime objective.

The historic centre is a constituent of a larger whole and should e studied as part of the present–day dynamic reality, not a static object of contemplation and tourist attraction.

The integrated conservation implies reconciling conservation requirements and town planning objectives, considering the values and interest of the existing historic fabric as equal in status to other factors in the general planning process.

One of the object of urban conservation is to control the rate of change in the urban system, were therefore need to comprehend the life forces of that system and the potential causes of its decay.

In the urban planning context, revitalization means the planning measures that are necessary to improve the social and economic activities of an historic area or an historic town, which has lost its origin use and functional vitality and as a consequence, historic buildings and urban spaces have become redundant and dilapidated. The aim of revitalization should be an appropriate balance between conservation and development.

Infill design, it is primary objective of conservation planning, particularly concerning to give strict priority to the conservation of existing historic architecture. The building of new structures should not be an excuse for demolishing old ones.

New construction may, however, be necessary to re-establish functional and architectural continuity, and in cases where empty lots, might be hazardous to us or further decay surrounding buildings. Requirements of contemporary citizen and urban evaluation, urban evolution theory and interventions examples, new definition of legal protection models in urban planning, people participation in urban planning.

## 2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES

*[e.g. lack of knowledge of the principles of revitalisation of the historical cities, lack of knowledge of the history of architecture, lack of respect for the historical architecture, a positive attitude towards the heritage protection]*

In these age, the society use and abuse many words without idea, without culture, only for fashion, and too much use of internet without study a direct knowledge. Many people go in some events because others have gone, only for an image...

These are the principal reasons for the crisis. Today the society of appearance is dominant, with lack of criteria, with a progressive level downstairs.

Through Positive remarks:

Sustainable advantages of ancient and traditional materials,

New materials improvement,

New techniques improvement in representation,

The obligatory of presence in some of the matters. But most of all, the passion and enthusiasm that professors transmit in some matters, are received from the students with interest.

The visit to monuments, to museums, to restoration works, the external contributes, wich complete the “ex catedra” lessons, and the individual exercises on study, restoration and adapatation of the remains.

Through Negative remarks:

Lack of common vocabulary among building and architectonic fields,

No people participation,

Usually students arrive at the University with a low level of knowledge. The organizations of the courses in semesters, instead of complete years, have reduced the capacity of study and learn. Specially in some matters wich needs the experience of reading in a historical-critical way, the different phases of a monument.

The students have lost the capacity of studing and searching in libraries and archives, and consequently have lost the capacity of reading the architecture reality.

But many students ask a great interest for the training, with the costant presence and attention to the conservation action.

# PART III

## Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating the architects /along with the examples of syllabi/ /based on the information gathered in the Questionnaires – Part II/

### 3.1. LIST AND DESCRIBE THE COURSES RELATING TO HERITAGE PROTECTION AND REVITALISATION OF MONUMENTS, TAUGHT AT THE FACULTIES OF ARCHITECTURE

- *[please specify the courses and include their detailed programmes;*
- *specify the structure of each course – division into lectures and design classes;*
- *describe the purpose and scope of these courses;*
- *make a critical evaluation – identify the courses considered to bethe best (to be used in a model programme)]*

This list of courses, that we present contributes to take notice of how important is the matter on Conservation of Heritage, in Italian faculties of architecture.

In the three courses degree and in the specialized in Conservation, the study of pre-existence and of use is essential.

We hope to enhance everywhere these improvements.

Camerino

This is a recent university, was founded in 1993. The Conservation, history and survey courses are at second and third years in degree of Science of Architecture; while in Master of Science Degree are at first and second years. The university presents a course in Degree course in Technology and detection for conservation and restoration, with other teaching at first year.

Catania/Siracusa

In this university (—). the courses are dedicated to History at first and second years; while the Conservation and Restoration, with antiseismic and city planning programs are at third, fourth and fifth years.

In Roma, Firenze, Napoli, Milano, Torino, other ancient and historical universities, it's possible to choose among a wide number of courses at each level of the studies inside a various kind of arguments. The theory and practice of Conservation, Restoration, Rehabilitation are present at every level of the degrees. More there are some Master aimed to particular branches of conservation.

But the heart of Italian system for training in Conservation, Restoration and Rehabilitation of cultural heritage, architecture and landscape are the Schools of Specialization in two years.

Abbreviatives used in following descriptions:

LT = Laurea Triennale; LM = Laurea Magistrale; LM CU = Laurea Magistrale a Ciclo Unico; MAST = Master; SPEC = Corsi di Specializzazione; DOTT= Dottorato di Ricerca.

DC = Degree Corses; MS = Master of Science Degree; MSOC = Master of Science Degree in one cycle; MAST = Master; SPEC = Specialization; PhD = Research fellow.

| UNIVERSITY OF ASCOLI-CAMERINO | | | | | | |
|---|---|---|---|---|---|---|
| FACULTY | DEGREE | NAME | TEACHING | ECTS | HOURS | YEAR |
| School of Architecture and Design Eduardo Vittoria | DC | Degree Corse SCIENCE OF ARCHITECTURE (L-17) | HISTORY OF ANCIENT AND MIDDLE AGE ARCHITECTURE | 8 | 80 | II |
| | DC | | SURVEY OF ARCHITECTURE AND TOWN | 6 | 60 | II |
| | DC | | HISTORY OF MODERN ARCHITECTURE | 8 | 80 | III |
| | DC | | THEORY AND HISTORY OF RESTORATION | 6 | 60 | III |
| | | | | | | |
| Scuola di Ateneo – Scienze eTecnologie | DC | Degree Corse IN TECHNOLOGY AND DIAGNOSIS FOR CONSERVATION AND RESTORATION (L-43) | CULTURAL HERITAGE LAW | 6 | 48 | I |
| | DC | | MUSEOLOGY AND RESTORATION OF HISTORICAL-ARTISTIC HERITAGE | 8 | 56 | I |
| | DC | | HISTORY OF ARCHITECTURE | 6 | 48 | II |
| | DC | | LABORATORY FOR CHIMICAL DETECTION OF CULTURAL HERITAGE | 15 | 49(L)+ 80(E) | II |
| | DC | | RESTORATION LABORATORY | 8 | 28(L)+ 40(E) | II |
| | | | | | | |
| School of Architecture and Design Eduardo Vittoria | MS | Master of Science Degree IN ARCHITECTURE (LM 4) | ARCHITECTURAL RESTORATION LABORATORY AR0042 | 12 | 50(L)+ 100 (E) | I |
| | MS | | HISTORY OF CONTEMPORARY ARCHITECTURE | 8 | 80 | I |

| UNIVERSITY OF CATANIA | | | | | | | |
|---|---|---|---|---|---|---|---|
| FACULTY | DEPARTMENT | DEGREE | NAME | TEACHING | ECTS | HOURS | YEAR |
| ARCHITECTURE | CIVIL ENGENEERING AND ARCHITECTURE DICAR | MSOC | ARCHITECTURE | HISTORY OF CONTEMPORARY ARCHITECTURE | 8 | 80 | |
| | | MSOC | | HISTORY OF ANCIENT AND MIDDLE AGE ARCHITECTURE | 8 | 80 | II |
| | | MSOC | | TECHNOLOGY FOR BUILDING REFURBISHMENT | 6 | 60 | III |
| | | MSOC | | THEORY AND HISTORY OF RESTORATION | 6 | 60 | III |
| | | MSOC | | LABORATORY FOR PROJECT 4 – RESTORATION | 15 | 180 | IV |
| | | MSOC | | RESTORATION | 8 | 80 | IV |
| | | MSOC | | ANALISYS OF URBAN AND BUILDING TYPOLOGY | 6 | 60 | V |
| | | MSOC | | MODERN TECHNICS FOR ANTISEISMIC DESIGN | 8 | 80 | V |
| | | MSOC | | HISTORY OF THE CITY AND TOWN PLANNING | 8 | 80 | V |
| | | MSOC | | REFURBISHMENT AND BUILDING MAINTENANCE | 6 | 60 | V |

| UNIVERSITY OF FIRENZE | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | ARCHITECTURE (DIDA) | DC | Degree Corse IN SCIENCE OF ARCHITECTURE (B008) | HISTORY OF ARCHITECTURE 1 | 8 | 80 | 1 |
| | | DC | | HISTORY OF ARCHITECTURE 2 | 8 | 80 | II |
| | | DC | | RESTORATION LABORATORY | 8 | 68 | III |
| | | | | | | | |
| ARCHITECTURE | ARCHITECTURE (DiDA) | MS | Master of Science Degree IN ARCHITECTURE AND LAN DSCAPE (B067) | HISTORIC CARTOGRAPHY FOR LANDSCAPE | 6 | 48 | II |
| | | MS | | RESTORATION LABORATORY (B015443) History of parks and gardens Restoration of historical gardens Urban enthomology Vegetal pathology of green areas | 15 | 120 | II |
| | | MS | | HISTORY OF ENVIRONMENT | 6 | 48 | II |
| | | MS | Master of Science Degree IN ARCHITECTURE (13076) Curriculum ARCHITECTURAL DESIGN In this course we have insame time english and italian teachings | RESTORATION LABORATORY (13018854) RESTORATION GEOMATIC FOR BUILT HERITAGE CONSERVATION STATIC AND STABILITY OF MASONRY STRUCTURES | 18 | 144 | I |
| | | MS | | HISTORY OF CONTEMPORARY ARCHITECTURE AND TOWN | 6 | 48 | I |
| ARCHITECTURE | ARCHITECTURE (DIDA) | MSOC | Master of Science Degree One Cycle IN ARCHITECTURE (B117) | HISTORY OF ARCHITECTURE 1 | 8 | 80 | I |
| | | MSOC | | HISTORY OF ARCHITECTURE 2 | 8 | 80 | II |
| | | MSOC | | RESTORATION LABORATORY 1 | 8 | 64 | III |
| | | MSOC | | HISTORY OF ARCHITECTURE 3 | 8 | 80 | III |
| | | MSOC | | RESTORATION LABORATORY 2 | 8 | 64 | IV |

| UNIVERSITY OF FIRENZE | | | | | | |
|---|---|---|---|---|---|---|
| faculty | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | SPEC | SCHOOL OF SPECIALIZATION IN CULTURAL HERITAGE AND LANDSCAPE | | 120 | | |
| | | | LABORATORY OF CITY HISTORY AND ENVIRONMENT | 10 | 50 | 1 |
| | | | LABORATORY FOR SURVEY | 6 | 30 | 1 |
| | | | LABORATORY FOR ANALISYS OF HISTORIC BUILDING | 8 | 40 | 1 |
| | | | LABORATORY FOR DETECTION | 12 | 50 | 1 |
| | | | LABORATORY FOR HISTORY OF ARCHITECTURE AND DECORATION | 8 | | |
| | | | LABORATORY FOR ENVIRONMENTAL CONSERVATION | 12 | 50 | 1 |
| | | | CULTURAL HERITAGE LAW | 4 | | |
| | | | LABORATORY FOR MUSEOGRAPHY | 10 | | |
| | | | LABORATORY FOR REFURBISHMENT | 14 | 70 | II |
| | | | ARCHITECTURAL RESTORATION LABORATORY | 14 | 70 | II |
| | | | LABORATORY OF ARCHAEOLOGICAL CONSERVATION | 8 | | II |
| | | | THESIS LABORATORY | 18 | | II |
| | | | | | | |
| **MAST**, MANAGEMENT OF CULTURAL HERITAGE, | | | | | | |
| ECTS 20, HOURS 120+100 | | | | | | |
| **MAST**, LANDSCAPE, ECTS 60 | | | | | | |
| **PH.D.**, DOCTORATE IN ARCHITECTURE, ECTS 180 | | | | | | |

| POLITECNICO OF MILANO | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| SCHOOL OF ARCHITECTURE URBAN PLANNING AND BUILDINGS ENGINEERING | DEPARTMENT OF ARCHITECTURE AND URBAN STUDIES (DASTU) | DC | Degree Course in ARCHITECTURE DESIGN (Mantua) | HISTORICAL BUILDING PRESERVATION STUDIO Principles of the conservation project of historical buildings Architectural Survey | 12 | 35(L)+ 15(E) | III |
| | | DC | | THE RENAISSANCE AND THEARTS | 4 | 22(L)+ 18(E) | III |
| | | DC | | HISTORY OF ARCHITETURE 1 | 8 | 44(L)+ 36(E) | I |
| | | DC | | FUNDAMENTALS OF CONSERVATION OF HISTORIC BUILDINGS | 4 | 19(L)+ 23(E) | I |
| | | DC | | HISTORY OF ARCHITECTURE II | 8 | 44(L)+ 36(E) | II |
| | | DC | | LABORATORY OF CONSERVATION OF HISTORIC BUILDINGS Fundamentals of design for historic buildings Urban Design | 12 | 56(L)+ 39(E) | III |
| | | DC | DegreeCourse in ARCHITECTURE DESIGN (Milan) Course delivered in english | HISTORY OF ARCHITECTURE 1 | 8 | 44(L)+ 36(E) | I |
| | | DC | | HERITAGE PRESERVATION FUNDAMENTALS | 4 | 19(L)+ 23(E) | I |
| | | DC | | HISTORY OF ARCHITECTUREII | 8 | 44(L)+ 36(E) | II |
| | | DC | | HISTORICAL BUILDING PRESERVATION STUDIO Principles of the conservation Project of historical buildings Materials of historical buildings | 12 | 75(L)+ 52(E) + 83 (DL) | III |
| | | DC | Degree Course in ARCHITECTURE DESIGN (Milan) | CONSERVATION OF HISTORIC BUILDINGS FUNDAMENTALS | 4 | 19(L)+ 23(E) | I |
| | | DC | | HISTORY OF ARCHITECTUREII | 8 | 44(L)+ 36(E) | II |
| | | DC | | LABORATORY OF CONSERVATION OF HISTORIC BUILDINGS Principles ofthe conservation project of historical buildings Architectural Survey | 12 | 56(L)+ 39(E) + 62 (DL) | III |
| | | DC | | HISTORY OF CITIES AND ENVIRONMENT History of modern urban planning History of urban and environment transformation | 12 | 44(L)+ 36(E) | I |
| | | DC | | HISTORY OF ARCHITECTURE AND CONSTRUCTION TECHNIQUES | 6 | 45(L)+ 11(E) | I |
| | | DC | | PRINCIPLES OF ANALYSIS AND DIAGNOSTICS OF BUILDINGS | 6 | 32(L)+ 32(E) | III |

| POLITECNICO OF MILANO | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| SCHOOL OF ARCHITECTURE URBAN PLANNING AND BUILDINGS ENGINEERING | DEPARTMENTOF ARCHITECTURE AND URBAN STUDIES (DASTU) | MS | ARCHITECTURE Curr. ARCITECTURAL DESIGN Cod. 1136 | THEORY AND HISTORY OFTWENTIETH CENTURY SECOND HALF ARCHITECTURE | 6 | 33(L)+ 27(E) | I |
| | | MS | | LABORATORY OF ARCHITECTURAL RESTORATION Cod. 093333 RESTORATION, ARCHITECTURAL SURVEY, HISTORY AND CRITICS OF CONSERVATION | 14 | 66(L)+ 46(E) + 73(DL) | II |
| | | MS | ARCHITECTURE Curr. CONSERVATION OF CULTURAL HERITAGE AND LANDSCAPE Cod. 1136 | STORIA DELLE TECNICHE DI COSTRUZIONE | 6 | 33(L)+ 27(E) | I |
| | | MS | | THEORY AND HISTORY OFCONSERVATION | 4 | 19(L)+ 23(E) | I |
| | | MS | | TWENTIETH CENTURY ARCHITECTURE DESIGN AND CONSERVATION Cod. 097758 THEORY AND TECHNICS FOR ARCHITECTURAL DESIGN, TWENTIETH CENTURY ARCHITECTURE CONSERVATION | 8 | 38(L)+ 46(E) | I |
| | | MS | | CULTURAL HERITAGE ECONOMIC ASSESMENT | 4 | 19(L)+ 23(E) | I |
| | | MS | | LABORATORY OF ARCHITECTURAL RESTORATION Cod. 093333 RESTORATION, STRUCTURAL REINFORCEMENT, DIGITAL SURVEY | 14 | 66(L)+ 46(E) 73(DL) | I |
| | | MS | | URBAN PLANNING LABORATORY Cod. 099553 URBAN PLANNING, ECONOMY FOR URBAN PLANNING AND DEVELOPMENT, RESTORATION | 14 | 65(L)+ 45(E) + 72(DL) | II |
| SCHOOLOF ARCHITECTURE URBAN PLANNING AND BUILDING ENGENEERING | DEPARTMENTOF ARCHITECTURE AND URBAN STUDIES (DASTU) | MS | | LABORATORY OF DESIGN Cod. 099555 INTERIOR DESIGN AND EXIBIT RESTORATION BUILDING PHYSICS AND ENERGETIC DESIGN | 14 | 66(L)+ 46(E) + 73(DL) | II |

| POLITECNICO OF MILANO | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| | | MS | ARCHITECTURE Curr. INTERIOR DESIGN Cod. 1136 | THEORY AND HISTORY OF TWENTIETH CENTURY SECOND HALF ARCHITECTURE | 6 | 33(L)+ 27(E) | I |
| | | MS | | LABORATORY OF RESTORATION Cod. 093369 RESTORATION BUILDING PHYSICS INTERIOR DESIGN | 14 | 66(L)+ 46(E), 73(DL) | I |
| | | MS | | HISTORY AND THEORY OF THE TWENTIETH-CENTURY ARCHITECTURE | 6 | 33(L)+ 27(E) | I |
| | | MS | | HISTORY AND THEORY OFARCHITECTURE | 6 | 33(L)+ 27(E) | I |
| | | MS | | ARCHITECTURAL PRESERVATION STUDIO Cod. 093384 ARCHITECTURAL PRESERVATION, ARCHITECTURAL ANALYSIS AND REPRESENTATION, MUSEOLOGY ART AND CRITICISM | 14 | 65(L)+ 45(E) + 72(DL) | I |
| | | MS | | ARCHITECTURAL PRESERVATION, SURVEY ADVANCED TECHNIQUES, RESTORATION METHODS AND PRACTICES | 14 | 65(L)+ 45(E)+ 72(DL) | I |
| | | MS | | ARCHITECTURAL PRESERVATION, ARCHITECTURAL ANALYSIS AND REPRESENTATION, RESTORATION METHODS AND PRACTICES | 14 | 65(L)+ 45(E) + 72(DL) | I |
| | | MS | ARCHITECTURE Curr. ARCHITECTURE OF INTERIORS (ENG LISH) Cod. 1136 | HISTORY AND THEORY OF THE TWENTIETH-CENTURY ARCHITECTURE | 6 | 33(L)+ 27(E) | I |
| | | MS | | HISTORY AND THEORY OFARCHITECTURE | 6 | 33(L)+ 27(E) | I |
| | | MS | | ARCHITECTURAL PRESERVATION STUDIO Cod. 097794 ARCHITECTURAL PRESERVATION, BUILDING PHYSICS, INTERIORS | 14 | 65(L)+ 45(E) + 72(DL) | I |
| | | MS | ARCHITECTURE Curr. TECHNOLOGICALAND ENVIRONMENTDESIGN Cod. 1136 | LABORATORY OF ARCHITECTURAL RESTORATION Cod. 093369 RESTORATION, DIGITAL SURVEY TECHNICS, HISTORICAL BUILDINGS ARCHITECTURAL TECHNICS | 14 | 66(L)+ 46(E) 73(DL) | II |

| POLITECNICO OF MILANO | | | | | | | |
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| faculty | department | degree | name | teaching | ects | hours | year |
| | | MS | ARCHITECTURE – ARCHITECTURAL DESIGN Curr. INTERIOR DESIGN Cod. 1018 | URBAN CONSERVATION | 4 | 35(L)+ 15(E) | I |
| | | MS | | HISTORY OF CONTEMPORARY ARCHITECTURE | 4 | 35(L)+ 15(E) | I |
| | | MS | ARCHITECTURE – ARCHITECTURAL DESIGN Curr. ARCHITECTURAL DESIGN Cod. 1018 | INTERIOR DESIGN AND PRESERVATION STUDIO 1 Cod. 099859 INTERIOR DESIGN, ARCHITECTURAL PRESERVATION | 12 | 60(L)+ 120(E) | I |
| | | MS | ARCHITECTURE – ARCHITECTURAL DESIGN Curr. ARCHITECTURAL DESIGN Cod. 1018 (ENGLISH COURSES) | RESTORATION DESIGN STUDIO1 Cod. 051066 MATERIALS FOR CULTURAL HERITAGE, ARCHITECTONICAL RESTORATION | 12 | 20(L)+ 40(DL) | I |
| | | MS | | URBAN RESTORATION | 4 | 20(L) + 40(DL) | I |
| | | MS | | HISTORY OF CONTEMPORARY ARCHITECTURE | 4 | 20(L)+ 40(DL) | I |
| | | MS | | INTERIOR DESIGN AND PRESERVATION STUDIO 2 Cod. 099860 INTERIOR DESIGN, ARCHITECTURAL PRESERVATION | 12 | 60(L)+ 120(E) | II |
| | | MS | ARCHITECTURE – ARCHITECTURAL DESIGN Curr. ARCHITECTURE, TOWN, LANDSCAPE Cod. 1018 | LABORATORY OF RESTORATION1 Cod. 099849 ARCHITECTONICAL RESTORATION, MATERIALS FOR CULTURAL HERITAGE | 12 | 20(L)+ 40 (DL) | I |
| | | MS | | URBAN CONSERVATION | 4 | 35(L)+ 15(E) | I |
| | | MS | | HISTORY OF CONTEMPORARY ARCHITECTURE | 4 | 35(L)+ 15(E) | I |
| | | MS | | LABORATORY OF RESTORATION1 Cod. 096602 ARCHITECTONICAL RESTORATION, HISTORICAL BUILDINGS STRUCTURES | 12 | 60(L)+ 120(DL) | II |
| | | MS | | LABORATORY FOR MONUMENTS CONSERVATION Cod. 099875 LABORATORY FOR MONUMENTS CONSERVATION ARCHITECTONICAL RESTORATION, SEISMIC ASSESMENT, BUILDING SURVEY | 12 | 20(L) 40(DL) | I |

| POLITECNICO OF MILANO | | | | | | | |
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| faculty | department | degree | name | teaching | ects | hours | year |
| | | MS | | ARCHITECTURE AND MATERIALS FOR CULTURAL HERITAGE Cod. 099877 RESTORATION THEORIES, MATERIALS FOR HISTORICAL BUILDINGS | 8 | 40(L)+ 80(E) | I |
| | | MS | ARCHITECTURE – BUILDING ARCHITECTURE Curr. BUILDING ARCHITECTURE Cod. 1017 | CONSTRUCTIONS HISTORY | 4 | 35(L)+ 15(E) | I |
| | | MS | | LABORATORY FOR MONUMENTS CONSERVATION Cod. 099890 ARCHITECTURAL DESIGN, ARCHITECTURAL RESTORATION, SEISMIC RESPONSE, TECHNOLOGICAL DESIGN, IMPLANTS | 30 | 150(L)+ 300(DL) | II |
| | | MS | ARCHITECTURE – BUILDING ARCHITECTURE Curr. BUILDING ARCHITECTURE Cod. 1017 (ENGLISH COURSES) | ARCHITECTURES AND MATERIALS FOR HISTORIC HERITAGE Cod. 099918 THEORIES OF RESTORATION, MATERIALS IN ARCHITECTURE | 8 | 40(L)+ 80(DL) | I |
| | | MS | | HISTORY OF BUILDING CONSTRUCTIONS | 4 | 35(L)+ 15(E) | I |
| | | MS | CORSO DI LAUREA IN ARCHITECTURAL DESIGN AND HISTORY (MANTOVA) Cod. 1086 (ENGLISH COURSES) | HISTORY AND ARCHITECTURAL HERITAGE Cod. 098523 HISTORY OF ITALIAN ARCHITECTURE (XV-XVIII CENTURY), THEORY OF PRESERVATION | 8 | 41(L)+ 41(E) | I |
| | | MS | | ARCHITECTURAL DESIGN STUDIO Cod. 097697 ARCHITECTURAL DESIGN, URBAN HISTORY, ARCHITECTURAL REPRESENTATION | 12 | 56(L)+ 39(E)+ 62(DL) | I |
| | | MS | | ARCHITECTURAL DESIGN IN HISTORICAL CONTEXT STUDIO | 12 | 65(L)+ 45(E)+ 72(DL) | I |
| | | MS | CORSO DI LAUREA IN ARCHITECTURAL DESIGN AND HISTORY (MANTOVA) Cod. 1086 (ENGLISH COURSES) | PLANNING IN HISTORICAL CONTEXT STUDIO Cod. 099632 URBAN DESIGN, LANDSCAPE ARCHITECURE | 12 | 56(L)+ 39(E)+ 62(DL) | II |
| | | MS | | HERITAGE MANAGEMENT Cod. 099636 CULTURAL HERITAGE LAW, ECONOMICAL APPRAISAL | 8 | 66(L)+ 54(E) | II |
| | | MS | | HISTORY OF CONTEMPORARY ARCHITECTURE | 8 | 44(L)+ 36(E) | II |
| | | MS | | FINAL WORKSHOP ANCIENT AND NEW Cod. 099643 ARCHITECTURAL DESIGN, ARCHITECTURAL PRESERVATION, SURVEY ADVANCED TECHNIQUES | 12 | 56(L)+ 39(E)+ 62(DL) | II |

| POLITECNICO OF MILANO | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| | | MS | | ARCHITECTURAL DESIGN, BUILDING TECHNOLOGY,INTERIOR DESIGN | 12 | 56(L)+ 39(E)+ 62(DL) | II |
| | | MS | | INTERIOR DESIGN, HISTORY OF ARCHITECTURE, LANDSCAPE PRESERVATION | 12 | 56(L)+ 39(E)+ 62(DL) | II |
| | | MS | | DIAGNOSIS OF HISTORIC STRUCTURES | 4 | 29(L)+ 19(E)+ 12(DL) | II |
| | | MS | | HISTORY OF BUILDING TECHNICS | 4 | 12(L)+ 18(E)+ | II |
| | | MS | | MUSEOLOGY AND MUSEOGRAPHY | 4 | 19(L)+ 23(E) | II |
| | | MS | | INTERIOR DESIGN IN HISTORICAL BUILDINGS | 4 | 19(L)+ 23(E) | II |
| | | MS | SUSTAINABLE ARCHITECTURE AND LANDSCAPE DESIGN (PIACENZA) Cod. 1085 (ENGLISH COURSES) | HISTORY OF ARCHITECTURE AND LANDSCAPE IN THE CONTEMPORARY AGE | 6 | 33(L)+ 27(E)+ | I |
| | | MS | | URBAN AND LANDSCAPE REGENERATION STUDIO Cod.097821 ENVIRONMENTAL TECHNOLOGY, LANDSCAPE AS HERITAGE, GENERAL ECOLOGY | 14 | 56(L)+ 39(E)+ 62(DL) | I |
| | | MS | | ITALIAN TERRITORIES AND LANDSCAPE TRADITION | 4 | 18(L)+ 22(E) | II |
| | | MS | URBAN PLANNING AND POLICY DESIGN (MILANO) Cod. 1098 (ENGLISH COURSES) | URBAN AND PLANNING HISTORY | 4 | 22(L)+ 18(E) | II |
| | | MS | CORSO DI LAUREA IN BUILDING AND ARCHITECTURAL ENGINEERING (MI, LC) Curr. ARCHITECTURAL ENGINEERING Cod. 1095 (ENGLISH COURSES) | HISTORY OF ARCHITECTURE | 6 | 32(L)+ 32(E)+ | I |
| | | MS | | CONSERVATION STUDIO Cod. 099742 CONSERVATION STUDIO, CONSERVATION | 9 | | I |
| | | MS | | REFURBISHMENT AND ENERGY RETROFIT + STUDIO Cod. 099763 | 12 | 40(L)+ 64(E)+ 60(LP) | II |
| | | MS | CORSO DI LAUREA IN MANAGEMENT OF BUILT ENVIRONMENT – GESTIONE DEL COSTRUITO (MI) Curr. ECONOMIC Cod. 1096 (ENGLISH COURSES) | VALORISATION OF HISTORICAL BUILDINGS + VALORISATION OF CULTURAL HERITAGE Cod. 099823 | 12 | | I |

| POLITECNICO DI MILANO | | | | | | |
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| faculty | department | degree | name | teaching | ects | year |
| SCHOOL OF ARCHITECTURE, URBAN PLANNING AND BUILDING ENGENEERING | DEPARTMENT OF ARCHITECFURE AND URBAN STUDIES (DASTU) | SPEC | SCHOOL OF SPECIALIZATION IN CULTURAL HERITAGE AND LANDSCAPE | ARCHITECTURAL CONSERVATION 1 | 2 | I |
| | | SPEC | | THEORY AND HISTORY OF CONSERVATION | 4 | I |
| | | SPEC | | ELEMENTS OF MODERN AESTHETICS HISTORY | 2 | I |
| | | SPEC | | METHODOLOGICAL ARCHITECTURE ANALYSIS FUNDAMENTALS Aims and methods of reading the built environment Tools and paths for analysis and diagnosis | 2 | I |
| | | SPEC | | CHEMESTRY APPLIED TO THE CONSERVATION OF MATERIALS | 4 | I |
| | | SPEC | | PHYSICS APPLIED TO THE CONSERVATION OFMATERIALS | 4 | I |
| | | SPEC | | GEOLOGY APPLIED TO THE CONSERVATION OFMATERIALS | 2 | I |
| | | SPEC | | PHYSICS APPLIED TO THE CONSERVATION OF THE ENVIRONMENT | 4 | I |
| | | SPEC | | MINERALOGY AND ARCHAEOMETRIC METHODS | 2 | I |
| | | SPEC | | ART OF BUILDING TREATIES AND MANUALS | 2 | I |
| | | SPEC | | ARCHIVAL AND HISTORICAL CARTOGRAPHY | 2 | I |
| | | SPEC | | MUSEOLOGY | 2 | I |
| | | SPEC | | PROJET EVALUATION AN ECONOMICS OF CULTURAL HERITAGE | 4 | I |
| | | SPEC | | THEORICAL BASIS OFESTIMATES | 4 | I |
| | | SPEC | | PROTECTION AND REFURBISHMENT OF HISTORIC CENTRES Urban Conservation Theory and techniques of intervention in the historical centres | 4 | I |
| | | SPEC | | INFORMATION SYSTEMS FOR THE MANAGMENT OF THE CULTURAL HERITAGE AND LANSCAPE | 2 | I |
| | | SPEC | | METHODOLOGY OF ARCHAEOLOGICAL EXCAVATION | 2 | I |
| | | SPEC | | CONSTRUCTIVE CHARACTERS OF HISTORICAL BUILDINGS | 4 | I |
| | | SPEC | | ARCHEOMETRY AND ARCHEOLOGY OF ELEVATIONS | 4 | I |
| | | SPEC | | ELEMENTS OF MEDIOEVAL AND MODERN ARCHEOLOGY | 4 | I |
| | | SPEC | | ADVANCED TECHNIQUESOR ARCHITECTURAL SURVEY | 4 | I |
| | | SPEC | | ARCHITECTURAL CONSERVATION II | 4 | II |
| | | SPEC | | BAUFORSCHUNG, STAGE | 2 | II |
| | | SPEC | | DEGRADATION AND DIAGNOSIS OF REINFORCED CONCRETE | 2 | II |

| POLITECNICO DI MILANO | | | | | | |
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| faculty | department | degree | name | teaching | ects | year |
| | | SPEC | | METHODOLOGICAL FUNDAMENTALS FORTHE ANALYSIS OF THE ARCHITECTURE | 4 | II |
| | | SPEC | | CHEMESTRY APPLIED TO THE CONSERVATION OFMATERIALS | 4 | II |
| | | SPEC | | PHYSICS APPLIED TO THE CONSERVATION OFMATERIALS | 4 | II |
| | | SPEC | | GEOLOGY APPLIED TO THE CONSERVATION OFMATERIALS | 2 | II |
| | | SPEC | | PHYSICS APPLIED TO THE CONSERVATION OF THEENVIRONMENT | 4 | II |
| | | SPEC | | MINERALOGY AND ARCHAEOMETRIC METHODS | 2 | II |
| | | SPEC | | ART OF BUILDING TREATIES AND MANUALS | 2 | II |
| | | SPEC | | ARCHIVAL AND HISTORICAL CARTOGRAPHY | 2 | II |
| | | SPEC | | MUSEOLOGY | 2 | II |
| | | SPEC | | PROJET EVALUATION AND ECONOMICS OF CULTURAL HERITAGE | 4 | II |
| | | SPEC | | THEORICAL BASIS OF ESTIMATES | 4 | II |
| | | SPEC | | PROTECTION AND REFURBISHMENT OF HISTORIC CENTRES Urban Conservation Theory and techniques of intervention in the historical centres | 4 | II |
| | | SPEC | | INFORMATION SYSTEMSFOR THE MANAGEMENT OF THE CULTURAL HERITAGEAND LANDSCAPE | 2 | II |
| | | SPEC | | METHODOLOGY OF ARCHAEOLOGICAL EXCAVATION | 2 | II |
| | | SPEC | | CONSTRUTIVE CHARACTERS OF HISTORICAL BUILDINGS | 4 | II |
| | | SPEC | | ARCHEOMETRY AND ARCHEOLOGY OF ELEVATIONS | 4 | II |
| | | SPEC | | ELEMENTS OF MEDIOEVAL AND MODERN ARCHEOLOGY | 4 | II |
| | | SPEC | | ADVANCEDTECHNIQUES FOR ARCHITECTURAL SURVEY | 4 | II |
| | | | | | | |
| PH.D., DOCTORATE: ARCHITECTURE, BUILT ENVIRONMENT AND CONSTRUCTION ENGINEERING | | | | | | |

| UNIVERSITY FEDERICO II OF NAPOLI | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | ARCHITECTURE (DIARC) | DC | Degree Corse IN SCIENCE OF ARCHITECTURE | HISTORY OF ARCHITECTURE 1 | 8 | 64 | I |
| | | DC | | HISTORY OF ARCHITECTURE 2 | 8 | 64 | II |
| | | DC | | ISTITUTION OF RESTORATION | 6 | 48 | III |
| | | DC | Degree Corse IN TOWN PLANNING, LANDSCAPE AND ENVIRONMENT UPTA | THEORY AND HISTORY OF URBAN PLANNING<br>History of modern town planning<br>Theory of urban planning | 12 | 90 | I |
| | | | | | | | |
| ARCHITECTURE | ARCHITECTURE (DIARC) | MS | Master of Science Degree IN ARCHITECTURE Curriculum ARCHITECTURAL DESIGN | ARCHITECTURAL RESTORATION LABORATORY<br>Restoration<br>History of architecture | 10 | 90 | I |
| | | MS | | LABORATORY FOR ENVIRONMETAL SYSTEM DESIGN<br>Technology<br>Culturale heritage law | 10 | 100 | I |
| | | MS | | LABORATORY FOR MODERN ARCHITECTURE CONSERVATION<br>Restoration<br>Architectural and urban design | 12 | 40 | II |
| | | MS | Master of Science Degree IN DESIGN FOR BUILT ENVIRONMENT | LABORATORY OF MUSEOGRAPHY<br>Exibit and Museography<br>Conservation for historic architecture | 12 | 120 | II |
| | | MSOC | Master of Science Degree One Cycle IN ARCHITECTURE | HISTORY OF CONTEMPORARY ARCHITECTURE<br>HISTORY OF ART<br>U0730 | 12 | 100 | I |
| | | MSOC | | HISTORY OF ARCHITECTURE | 8 | 64 | II |
| | | MSOC | | HISTORY OF CITY AND LANDSCAPE | 8 | 64 | III |
| | | MSOC | | THEORY AND HISTORY OF CONSERVATION | 6 | 48 | IV |
| | | MSOC | | RESTORATION LABORATORY | 8 | 80 | IV |

| UNIVERSITY FEDERICO II OF NAPOLI | | | | | | |
|---|---|---|---|---|---|---|
| faculty | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | SPEC | SCHOOL OF SPECIALIZATION IN CULTURAL HERITAGE AND LANDSCAPE | THEORY AND HISTORY OF CONSERVATION | 4 | 60 | |
| | SPEC | | RESTORATION TECHNICS | 5 | 50 | |
| | SPEC | | DETECTION FOR RESTORATION | 5 | 50 | |
| | SPEC | | ARCHITECTUREAND LANDSCAPE | 2 | 20 | |
| | SPEC | | HISTORY AND METHOD OF ARCHITECTURE | 6 | 60 | |
| | SPEC | | GEOLOGY FOR CULTURALE HERITAGE | 2 | 20 | |
| | SPEC | | STATIC AND STABILITY OF MASONRY STRUCTURES | 5 | 50 | |
| | SPEC | | ENVIRONMENTAL ASSESMENT | 6 | 60 | |
| | SPEC | | MUSEOLOGY | 2 | 20 | |
| | SPEC | | FISICS FOR CULTURAL HERITAGE | 2 | 20 | |
| | SPEC | | ARCHITECTONICAL RESTORATION LDESIGN | 4 | 40 | II |
| | SPEC | | URBAN CONSERVATION | 4 | 40 | II |
| | SPEC | | HISTORY OF MODERN ARCHITECTURE | 6 | 60 | II |
| | SPEC | | THEORY AND TECHNICS OF CONSERVATION IN HISTORIC CENTRES | 2 | 20 | II |
| | SPEC | | ARCHITECTURE AND LANDSCAPE 2 | 2 | 20 | II |
| | SPEC | | INFORMATICS FOR CULTURAL HERITAGE AND LANDSCAPE | 2 | 20 | II |
| | SPEC | | STRUCTURES | 5 | 50 | II |
| | SPEC | | CULTURAL HERITAGE LAW | 2 | 20 | II |
| | SPEC | | ARCHITECTURAL DESIGN | 5 | 50 | II |
| | SPEC | | TECHNICAL IMPLANTS | 2 | 30 | II |
| | SPEC | | ARCHAEOLOGICAL ESCAVATION | 2 | 20 | II |
| | | | | | | |
| PH.D., DOCTORATE IN ARCHITECTURE, ECTS 180 | | | | | | |

| SAPIENZA UNIVERSITY OF ROME | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | HISTORY, SURVEY AND RESTORATION (DSDRA) | DC | Degree Corse IN SCIENCE OF ARCHITECTURE (L-17) | HISTORY OF CONTEMPORARY ARCHITECTURE | 8 | 100 | I |
| | | DC | | HISTORY OF ANCIENT AND MEDIOEVAL ARCHITETURE | 8 | 100 | II |
| | | DC | Degree Corse IN SCIENCE OF ARCHITECTURE (L-17) Curr. Architecture | HISTORY OF MODERN ARCHITECURE | 8 | 100 | III |
| | | DC | | CARACTHERS OF HISTORICAL BUILDINGS AND PROBLEMS OF CONSERVATION | 8 | 100 | III |
| | | DC | | HISTORY OF MODERN ARCHITECTURE | 8 | 100 | III |
| | | DC | DegreeCorse IN SCIENCE OF ARCHTECTURE (L-17) | RESTORATION OF GARDENS AND LANDSCAPE Curr. Landscape | 8 | 100 | III |
| | MIBACT | DC | INDUSTRIAL DESIGN (1–4) | HISTORY AND THEORY OF CONTEMPORARY ART | 6 | 48 | I |
| | HISTORY, SURVEY AND RESTORATION (DSDRA) | DC | | HISTORY OF ARTS AND CRAFTS AND INDUSTRIAL DESIGN | 6 | 48 | II |
| | | DC | PROJECT MANAGEMENT (1–23) | HISTORY OF MODERN AND CONTEMPORARY ARCHITECURE | 8 | 64 | I |
| | | DC | | BUILDING REFURBISHMENT | 8 | 48 | II |
| | | DC | LANDSCAPE AND ENVIRONMENT DESIGN (1–21) | HISTORY OF TOWN AND LANDSCAPE (With University ofTuscia) | 6 | 48 | II |
| ARCHITECTURE | HISTORY, SURVEY AND RESTORATION (DSDRA) | MS | LANDSCAPE DESIGN (LM-3) | LABORATORY FOR RESTORATION AND LANDSCAPE | 9 | 72 | 1 |
| | | MS | ARCHITECTURE (CONSERVATION) LM4 | MONUMENTS RESTORATION – LABORATORY | 10 | 125 | 1 |
| | | MS | | URBAN REDEVELOPMENT AND CULTURAL HERITAGE LAW | 12 | 150 | II |
| | | MS | | MASONRY MATERIAL BEHAVIOR | 6 | 75 | II |
| | MIBACT | MS | | CONSERVATION OF LANDSCAPE | 6 | 75 | II |
| | HISTORY, SURVEY AND RESTORATION (DSDRA) | MS | | RESTORATION BUILDING SITE | 6 | 75 | II |
| | MIBACT | MS | | RESTORATION LABORATORY | 2 | N.D. | II |
| | | MS | | LABORATORY OF SCIENCE AND TECHNICS OF CONSTRUCTIONS | 2 | N.D. | II |

| SAPIENZA UNIVERSITY OF ROME | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| | | MS | ARCHITECFURE (CONSERVATION) – LM4 Curr. ARCHITECTURE english language | TOOLS AND METHODS FOR HISTORICAL RESEARCH (CONSERVATION) | 8 | 100 | I |
| | | MS | | STRUCTURAL ENGINEERING OF ANCIENT AND MODERN BUILDINGS | 8 | 100 | I |
| | | MS | | STRUCTURAL CONSOLIDATION AND HVAC PLANT IN HISTORICAL BUILDINGS Technical Systems Structural Reinforcement | 12 | 150 | I |
| | | MS | | THEORY AND PRACTICE OF CONSERVATION | 6 | 75 | I |
| | | MS | | TECHNOLOGICAL DESIGN FOR THE ARCHITECTURAL REQUALIFICATION | 8 | 100 | I |
| | | MS | ARCHITECTURE (CONSERVATION) – LM4 Curr. ARCHITECTURE (CONSERVATION) | TOOLS AND METHODS FOR HISTORICAL RESEARCH | 8 | 100 | I |
| | | MS | | TECHNICS OF CONSTRUCTION FOR ANCIENT AND MODERN BUILDINGS | 8 | 100 | I |
| | | MS | | STRUCTURAL REINFORCEMENT FOR HISTORICAL BUILDINGS AND IMPLANTS | 12 | 150 | I |
| | | MS | | THEORY AND TECHINCS OF CONSERVATION | 6 | 75 | I |
| | | MS | | BUILDING REFURBISHMENT | 8 | 100 | I |
| | | | | | | | |
| ARCHITECTURE | HISTORY, SURVEY AND RESTORATION (DSDRA) | MSOC | ARCHITETURE LM 4 | HISTORY OF CONTEMPORARY ARCHITECTURE | 8 | 100 | I |
| | | MSOC | | HISTORY OF ANCIENT AND MEDIOEVAL ARCHITECTURE | 8 | 100 | II |
| | | MSOC | | HISTORY OF MODERN ARCHITECTURE | 8 | 100 | III |
| | | MSOC | | ELEMENTS OF CONSERVATION | 6 | 75 | III |
| | | MSOC | | LABORATORY FOR RESTORATION | 10 | 125 | IV |
| | | MSOC | | BUILDING IN SEIMSMIC AREA | 8 | 100 | IV |
| | | MSOC | | MUSEOGRAPHY | 8 | 100 | V |

| SAPIENZA UNIVERSITY OF ROME | | | | | |
|---|---|---|---|---|---|
| faculty | degree | name | teaching | ects | year |
| Architecture | SPEC | SCHOOL OF SPECIALIZATION IN CULTURAL HERITAGE AND LANDSCAPE CURRICULUM A: RESTORATION OF CULTURAL HERITAGE AND LANDSCAPE | HISTORY OF ARCHITECTURAL TECHNICS | | I |
| | | | FREE HAND SURVEY | | I |
| | | | CONSERVATION OF MATERIALS AND CHEMICAL | | I |
| | | | FINAL RESTORATION BUILDING SITE | | I |
| | | | STRUCTURAL PROBLEMS FOR MONUMENTS AND HISTORICAL BUILDINGS | | I |
| | | | CULTURAL HERITAGE LAW | | I |
| | | | HEARTHQUAKE AND CULTURAL HERITAGE | | I |
| | | | LANDSCAPE CONSERVATION | | I |
| | | | PHYSICS FOR MONUMENTS | | I |
| | | | DESIGN LABORATORY FOR RESTORATION | | I |
| | | | MONUMENTS RESTORATION | | II |
| | | | DETAILED STUDY OF HISTORY OF ARCHITECTURALTECHNICS | | II |
| | | | EXECUTIVE DESIGN AND PROJECT MANAGEMENT FOR RESTORATION | | II |
| | | | URBAN CONSERVATION | | II |
| | | | REINFORCEMENT OF HISTORICAL BUILDING | | II |
| | | | SEISMIC ACTION ON MASONRY AND STRUCTURAL ENHANCEMENT | | II |

| SAPIENZA UNIVERSITY OF ROME | | | | | |
|---|---|---|---|---|---|
| faculty | degree | name | teaching | ects | year |
| | | | CULTURAL HERITAGE ECONOMY AND PROJECTS ASSESMENT | | II |
| | | | CALCULATION FOR RESTORATION PROJECT | | II |
| | | | TECHNICAL IMPLANT | | II |
| | | | ARCHAEOLOGICAL ESCAVATION | | II |
| | | | HISTORY OF CONSERVATION | | II |
| | | | HISTORY AND METHOD OF ARCHITECURE | | II |
| | | | MUSEOGRAPHY | | II |
| | | | LIGHTING DESIGN AND IMPLANTS FOR MONUMENTS | | II |
| | | | ARCHITECTURAL SURVEY | | II |
| | | | | | |
| | | SCHOOL OF SPECIALIZATION IN CULTURAL HERITAGE AND LANDSCAPE CURRICULUM B: RESTORATION OF PARKS, GARDENS AND LANDSCAPE | HISTORY OF GARDEN AND LANDSCAPE | 8 | I |
| | | | THEORY AND HISTORY OF CONSERVATION | 8 | I |
| | | | CONSERVATION OF HISTORICAL LANDSCAPE | 8 | II |
| | | | MORPHOLOGY AND MEANING OF GARDENS AND HISTORICAL PARKS | 6 | II |
| | | | GARDEN FUNITURE | 6 | II |
| | | | GREEN COMPONENTS | 6 | II |
| | | | REGULATIONS AND CHARTS FOR RESTORATION | 6 | II |
| | | | RESTORATION CONSTRUCTION SITE | 8 | II |
| | | | | | |
| PH.D., DOCTORATE IN HISTORY, SURVEY AND RESTORATION 0V ARCHITECTURE, ECTS 180 | | | | | |

| POLYTECHNIC UNIVERSITY OF TURIN | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | DEPARTMENT OF ARCHITECTURE AND DESIGN (DAD) SCHOOL OF ARCHITECTURE | DC | Degree Course IN ARCHITECTURE (Turin) | HISTORY OF CONTEMPORARY ARCHITECTURE | 6 | 60 | I |
| | | MS | | ATELIER: DESIGN AND HISTORY Design History of architecture and town | 12 | 84(L)+ 36(E) | II |
| | | DC | | THEORY AND HISTORY OF CONSERVATION | 6 | 80 | II |
| | | DC | | HISTORY OF MODERN ARCHITECTURE | 6 | 60 | III |
| | | DC | | ATELIER: RESTORATION AND STRUCTURES Structural rehabilitation Conservation | 12 | 84(L)+ 36(E) | III |
| | | DC | | HISTORY OF MEDIOEVAL ARCHITECTURE | 6 | 60 | III |
| | | DC | | HISTORY OF CONTEMPORARY ARCHITECTURE Course delivered in english | 6 | 60 | I |
| | | DC | | HISTORYANDDESIGNSTUDIO Architectural Design Archtecture and city history Course delivered in english | 12 | 120 | II |
| | | DC | | RESTORATION THEORY, HISTORY AN TECNIQUE Coarse delivered in english | 6 | 80 | II |
| | | DC | | HISTORY OF EARLY MODERN ARCHITECTURE Course delivered in english | 6 | 60 | III |
| | | DC | Degree Course IN DESIGN AND VISUAL COMUNICATION (Turin) | HISTORY 1 History of Contemporary architectare and Design 1 History of visual comunication and Design 1 | 12 | 120 | I |
| | | DC | | HISTORY2 History of contemporary architecture and Design II History of visual comunication and Design II | 12 | 120 | I |
| | | DC | Degree Course IN ENVIRONMENTAL PLANNING, URBAN AND LANDSCAPE PLANNING (Turin) | HISTORY OF TOWN PLANNING | 6 | 48(L)+ 12(E) | I |

| POLYTECHNIC UNIVERSITY OF TURIN | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| ARCHITECTURE | DEPARTMENT OF ARCHITECTURE AND DESIGN (DAD) SCHOOL OF ARCHITECTURE | MS | Master of Science Degree IN ARCHITECTURE, CONSTRUCTION, CITY (Turin) In this course we have in same time english and italian teachings | HISTORY OF ARCHITECTURE | 6 | 60 | I |
| | | MS | | CONSERVATION | 6 | 60 | I |
| | | MS | | HISTORY OF GARDEN AND LANDSCAPES | 6 | 60 | II |
| | | MS | Master of Science Degree IN ARCHITECTURE FOR SUSTAINABLE DESIGN (Turin) In this course we have in same time english and italian teachings | FACULTATIVE TEACHING OF HISTORY OF ARCHITECTURE/ DIGITAL HISTORY | 8 | 60(L)+ 20(E) | I |
| | | MS | | ATELIER: COMPATIBILITY AND SUSTAINABILITY OF ARCHITECTURAL RESTORATION Conservation New technologies for survey and drawings | 12 | 84(L)+ 36(E) | I |
| | | MS | | WORKSHOP „DIGITAL PHOTOGRAMMETRY AND 3D SCANS FOR THE SURVEY OF THE HERITAGE” | 8 | 64(L)+ 16(E) | I |
| | | MS | Master of Science Degree IN ARCHITECTURE FOR THE CONSERVATION AND THE VALORIZATION OF THE HERITAGE (Turin) | ANALYSIS AND VERIFICATION OF EXISTING STRUCTURES | 8 | 48(L)+ 12(E) | I |
| | | MS | | HISTORY OF ARCHITECTURE AND TOWN | 6 | 60 | I |
| | | MS | | ATELIER: CONSERVATION DESIGN Conservation Science and technology of the materials for the restoration Enivornmental control techniques and equipment in buildings | 18 | 130(L)+50(E) | I |
| | | MS | | URBAN SOCIOLOGY AND CULTURAL HERITAGE LEGISLATION | 4 | 60 | I |
| | | MS | | ATELIER: CONSERVATION AND VALORIZATION OF THE HERITAGE Urban and lansacape conservation Economic valorization | 12 | 84(L)+ 36(E) | II |
| | | MS | Master of Science Degree IN ARCHITECTURE FOR THE CONSERVATION AND THE VALORIZATION OF THE HERITAGE (Turin) | GIS AND DIGITAL MODELING FOR THE CULTURAL HERITAGE | 8 | 60 | II |
| | | MS | | URBAN HISTORY AND DIGITAL URBAN HISTORY | 6 | 19(L)+ 23(E) | II |
| | | MS | | WORKSHOP „DIGITAL PHOTOGRAMMETRY AND 3D SCANS FOR THE SURVEY OF THE HERITAGE” | 8 | 64(L)+ 16(E) | II |
| | | MS | | WORKSHOP „LIGHTING PROJECT” | 8 | | II |

| POLYTECHNIC UNIVERSITY OF TURIN | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| | | MS | Degree Course IN ENVIRONMENTAL PLANNING, URBAN AND LANDSCAPE PLANNING (Turin) | TERRIORIAL HERITAGE HISTORY AND CRITICISM | 6 | 60 | I |
| | | MS | | WORKSHOP DIGITAL PHOTOGRAMMETRY AND 3D SCANS FOR THE SURVEYOF THE HERITAGE | 8 | 64(L)+ 16(E) | I |
| | | MS | Master of Science Degree IN PLANNING OF GREEN AREAS AND LANDSCAPING Interateneo (Università di Genova – DSA Università di Torino – DISAF Politecnico di Torino – DIST Università di Milano Facoltà di Agraria) | LABORATORY FOR THE RESTORATION OF THE GARDENS AND LANDSCAPE Conservation of gardens Hydraulic engineering of historic gardens Pathology and rehabilitation of historic plants | 12 | 96 | II |

| POLYTECHNIC UNIVERSITY OF TURIN | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| ARCHITETJURE | DEPARTMENT OF ARCHITECTURE AND DESIGN (DAD) SCHOOLOF ARCHITECTURE | SPEC | SPECIALIZATION IN ARCHITECTURAL AND LANDSCAPE HERITAGE | ARCHITECTURAL CONSERVATION 1 | 4 | 16 | I |
| | | SPEC | | HISTORY History of architecture History and methods of analysis and architecture History of town planning | 8 | 32 | I |
| | | SPEC | | ARCHITECTURAL AND TERRITORIAL REPRESENTATION/GIS Representation of the land and the enivironment Territorial and landscape analysis and planning | 5 | 40 | I |
| | | SPEC | | DEGRADATION OF MATERIALS/HISTORIC BUILDING TECHNOLOGY | 4 | 16 | I |
| | | SPEC | | STRUTURALSYSTEMS TECHNOLOGIES/ CONSOLIDATION | 4 | 16 | I |
| | | SPEC | | ECONOMICS AND LAW Economic valutation Legislation and managment of caltural heritage | 3 | 24 | I |
| | | SPEC | | EQUIPMENT, INSTALLATION, MUSEOGRAPHY Information processing systems/cataloging Techniques of evaluation and control of the built environment | 4 | 32 | I |
| | | SPEC | | METHODOLOGIES FOR THE ARCHEOLOGICAL SURVEY | 4 | 16 | I |
| | | SPEC | | ATELIER I year | 8 | 32 | I |
| | | SPEC | | CONSTRUTION SITES, SITE VISITES, GUIDEDTOURS 1 year | 2 | 16 | I |
| | | SPEC | | STUDY DAYS AND CONFERENCES | 2 | 16 | I |
| | | SPEC | SPECIALIZATION IN ARCHITECTURAL AND LANDSCAPE HERITAGE | ARCHITECTURAL CONSERVATION II | 8 | 32 | II |
| | | SPEC | | HISTORY History of architectural criticism andliterature History of the cityand environment | 4 | 16 | II |
| | | SPEC | | TOOLS FOR THE ALASYSIS AND THE DESIGN OP LANDSCAPE | 8 | 32 | II |
| | | SPEC | | CONSERVATION OF MATERIALS IN HISTORIC BUILDINGS | 4 | 16 | II |

| POLYTECHNIC UNIVERSITY OF TURIN | | | | | | | |
|---|---|---|---|---|---|---|---|
| faculty | department | degree | name | teaching | ects | hours | year |
| | | SPEC | | TECHNOLOGIES OF STRUTURAL SYSTEMS II | 4 | 16 | II |
| | | SPEC | | ECONOMICS AND LAW Environmental economics and estimates New paradigms and instruments for the managment of bio-cultural landscape (Unesco Chair) Course delivered in english | 3 | 24 | II |
| | | SPEC | | TECHNOLOGIES FOR THE EQUIPMENTS | 4 | 16 | II |
| | | SPEC | | ATELIER II year | 16 | 64 | II |
| | | SPEC | | CONSTRUCTION SITES, SITE VISITES, GUIDED TOURS IIyear | 1 | 8 | II |
| | | SPEC | | STUDY DAYS AND CONFERENCES | 1 | 8 | II |
| | | SPEC | | TRAINEESHIP, STAGE | 4 | 120 | II |
| | | | | | | | |
| Ph.D.,DOCTORATE, ARCHITECTURE, HISTORY AND DESIGN | | | | | | | |

## 3.2. CHARACTERIZE THE FORM AND THE SCOPE OF CONTACT WITH THE PRACTICE OF HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES PROVIDED IN THE CURRICULA AT THE FACULTIES OF ARCHITECTURE

*[e.g. summer internship for students, placements for students in design offices and companies, involvement in the projects, study visits, summer schools]*

*Make the critical assessment of these actions – their form and usefulness in teaching process*

The Faculties of Architecture in Italy offer students activities designed to make a link between the study of architecture and practical activity.

We will analyze the activities proposed by 7 Faculties chosen as examples to describe the context of the italian universities.

### NAPLES, UNIVERSITY "FEDERICO II"

**1st cycle – Degree:**

**Architectural Sciences**

As well as seminars to be chosen by the student, which serve to characterize the study plan, and through which mature the so-called extra credits ("Attività a crediti Liberi"), in the Degree Course in Science of Architecture at the University of Naples Federico II are offered Traineeships and travel for students.

**Traineeship ("Tirocinio"):**

The Degree Course in Science of Architecture provides for a mandatory curricular Traineeship that should be done no earlier than the third year of the course.

The Traineeship requires 75 hours of activity of 3ECTS and can be done within a period of not less than one month and not more than three months.

The student can choose between the following types of Traineeship A1), A2), B), C):

A) **"Tirocinio Extramoenia**

A1 – "Tirocinio Extramoenia" to be held at Public agencies and Institutions affiliated with the University such as Municipalities and Ministries

A2 – "Tirocinio Extramoenia" to be held at private entities such as professional and service offices and societies, companies or associations affiliated with the University

The "Tirocinio Extramoenia" requires either the formulation of an educational project appropriate to the number of credits provided by the Course and to the respective working hours, and the choice of two tutors: one inside the University (that will be assigned at the time of the proposed Traineeship in the first activation meeting with Traineeship Committee) and one inside the host structure.

B) **"Tirocinio Intramoenia"** takes place at the facilities of the University Federico II on specific activities (academic research on applicative character, activities for third parties, conventions) coordinated by one or more teachers, who presented an educational project and indicated a tutor.

C) **"Tirocinio Interno"** to be held at the facilities of the University Federico II on any offers of Traineeship.

To activate aTraineeship is it is necessary the structure that hosts the student has an agreement with the University Federico II. The list of companies and affiliated organizations is available online. The agreement with the structure can be enabled, check the requirements, even after students ' proposals.

**Having regard to the mode of participation at the "Attività a crediti liberi" (seminars chosen by the students) and how to activate of the Traineeship, we can observe how the student can, as early as the first cycle of studies, decide to steer his training toward the subject of the protection and preservation of the historical heritage.**

The Faculty of Architecture of the University Federico II of Naples also promotes trips for students enrolled, but tours offered often concern the deepening of modern and contemporary architecture.

**2nd cycle –Master Degree:**

**Master Degree in Architecture – Architectural Design**

In the two-year course of Master Degree are activities chosen by the student; this can choose to attend "Attività a crediti liberi" or aTraineeship.

**"Attività a crediti liberi":** Activities in free credits allow to acquire, depending on their duration, 1ECTS, 2 ECTS, or 3 credits.

**Traineeship ("Tirocinio"):** the types of Traineeship and how to enable are the same ones identified for Traineeships offered for first cycle Degree Course in Architecture. The Traineeship planned for the Master Degree provide 100 hours of activity amounted to 4 credits; can be done within a period of not less than one month and not more than three months.

**Master Degree in Architecture – Five-year (in single cycle)**

During the five-year Master Degree (in single cycle) program includes activities in the student's choice.

**Types of activities:**

**Planned activities: The DiARC** – Department of Architectureof the University of Naples Federico II programs seminars and conferences in which the student can choose to participate.

**Unplanned activities:**

- **Activities promoted and coordinated by the teachers:** are activities of various types, visits to construction sites, visits to exhibitions, site visits, workshops, study tours, seminars, conferences, lectio, in-depth modules of the official courses.
- **Workshops and other practical/operational activities** (visits to construction sites, visiting exhibitions, site visits, workshops, study tours, etc.)
  - recognition of maximum 4 ECTS
  - 1 ECTS =15 hours of activity
  - the remaining 25 hours to complete the total hourly fee for each individual processing ECTS is dedicated to (agreed with the lecturer) and provides a final check that may consist of delivery of final works and discussion of reports and graphs
  - daily activity may not exceed 9 hours.
- **"Attività frontali"** seminars, conferences, lectio, in-depth modules of the official courses etc.)

**Free Activities:** the student may agree with a Tutor he contacted and proposing to the co-ordinator Course of in-depth individual program on topics of interest in architecture (conferences, seminars, book presentations, presentation of research, workshops, study tours, exhibitions, etc.)

**External certified activities:** certificates of language, computer courses, courses on security (1CFU)

**Traineeship ("Tirocinio"):** the five-year Master Degree (in single cycle) provides for a compulsory Internship 6 ECTS to play not before the fifth year of the course as required by the curriculum. The subjects which can accommodate Traineeship are: Public administrations, institutions, "Soprintendenze", ministries, companies, businesses, professional and service offices and societies, associations or structures of the University Federico II. Also in this case the Traineeship can be External or Internal **("Extramoenia o Intramoenia")** depending on whether the host organization is external or internal to the University. The Traineeship can be done abroad.

**Workshops**

The DiARC – Department of Architecture of the University of Naples Federico II, sponsors and promotes student participation in workshops focusing on different themes of architecture. Depending on the level of knowledge required workshops are targeted at students in Degree Programs, Master's Degree Programs, two-year or single cycle.

Are some workshops held at the Faculty of Architecture of the University Federico II of Naples concerning the issues of heritage protection, conservation and restoration of architecture:

International Workshop: URBAN REGENERATION AND ENVIRONMENTAL DESIGN IN THE MEDITERRANEAN TOWN

The topics of the workshop will focus on urban redevelopment in the historic center of Naples tackled environmental and urban scale, the neighborhood and the building in terms of redevelopment of urban areas in relation to settlement and aspects to environmental hazards. Will be considered lots and urban voids to control widespread sustainable development, including through the proposition of open spaces equipped with innovative proposals of systems and/or services, and the conversion and the ecodesign of unused buildings or particularly degraded.

International Design Workshop: PAUSILYPON, ARCHITECTURE AND ARCHAEOLOGICAL LANDSCAPE

Theme of the workshop site landscape enhancement Pausilypon organized by "Accademia Adrianea di Architettura e Archeologia" in collaboration with DiARC. The redevelopment of open spaces, provision of services and facilities for visitors, the study of temporary installations and protection to qualify the visit paths, are some of the themes that will be addressed to contend on the relationship between the architecture and the archaeological site.

## MILAN, POLITECNICO

### SCHOOL OF ARCHITECTURE, PLANNING, ENGINEERING, CONSTRUCTION

**1st cycle – Degree, 2nd cycle – Master Degree**

**Traineeship ("Tirocinio"):**

The School of Architecture and Construction Engineering of Politecnico di Milano provides for mandatory Traineeship to implement the credit plan. Students can also activate in addition one or more optional, up to a maximum of one year at each hosting institution, but that does not contribute to the acquisition of supplementary credits. Such training must be completed prior to the discussion of the thesis.

The School enables the mandatory Traineeship:-in the second year (second semester) and in the third year of the Degrees; -in the first or second year of Master's Degree programs.

Credits to be captured by the Traineeship vary according to different degrees and are defined within the different"Manifesti degli Studi".

To obtain the ECTS required for the mandatoryTraineeship the student can perform:

- **External Traineeship,** in Italy or abroad; the Traineeship can be carried out at public institutions, companies, studios (architecture, urbanism, landscape, engineering, etc.). Students can then choose where to apply his knowledge in practice from the first cycle of studies.

**Practical Internal Training (Internal Traineeship),** activity promoted by a professor that has as its subject a student's involvement exclusively in research to be carried out at a Department of Politecnico di Milano. The availability of practical activities is in flux; the student turning to a

- Professor as a reference, will choose the field on which to focus his practical activity.
- **A workshop or a vocational course** subject to the approval of the Board of the School ("Giunta della Scuola"). The workshops accredited by the School, that recognize academic credits in the framework of the training course, are continuously updated. Here are some workshops that deal with the theme of restoration and conservation of the architectural heritage: INTERNATIONAL WORKSHOP ON THE CONSERVATION AND MUSEALIZATION OF THE WORLD HERITAGE SITE OF BEIT She'arim (150 hours, reserved for students of master's degree); Heritage-Led Design Workshop – Xi'an China 2017 (100 hours + 184 hours in China, reserved for students of Master's Degree)

### Workshops

The workshops, accredited by the School recognize credits.

The credits earned through attendance at a workshop can: a) replace elective courses chosen by the student activities; b) validate codes activated as "Workshop" and integrated into the curriculum.

## TURIN, POLITECNICO

The Politecnico of Turin gives students the opportunity to activate an intern, evaluated in credits, where foreseen by the course of studies.

Post-graduate Traineeships are activated within 12 months of graduation and for a maximum period of 6 months.

### 1st cycle – Corsi di Laurea:

### Degree in Architecture

The "Manifesto degli Studi" of the Degreein Architecture at the Politecnico di Torino provides training activities, chosen by the student. The student will acquire a total of 12 ECTS called "Free Credits" choosing whether to play:-educational activities outside the Ateneo (6 ECTS); Internship (12 ECTS); the teachings offered by the University's catalog (12 ECTS); Research essay (6 ECTS).

**Educational activities outside the University:**

- teachings at Degree Courses in other Universities or Courses of Study,
- workshops
- other activities (activities that provide professional training credits, (the Italian definition is CFP); foreign language training; computer modeling courses; training courses organised by public or private insitutions; design competitions for students; a series of lectures held within the University)

**Traineeship ("Tirocinio"):** The learner can perform an internship at a professional firm or other public or private entity proposed by the Office Stage&Job of the Politecnico di Torino, at a studio or other public or private entity selected by the student himself, after entering the list drawn up by the Office Stage&Job and after verification of eligibility requirements.

### 2nd cycle – Corsi di Laurea Magistrale

### Master Degree in Architecture, Building, Cities

Are planned, even during the two-year Master's Degree program, "Free Credits" for training activities chosen by the student (8 ECTS). The student can choose to achieve them doing: – a critical historical research essay (4 ECTS); – "Third Unit" of Project or attending a further design studios (14 credits); -introductory workshop (3 ECTS); -educational activities outside the University (8 credits); -professionalizing workshop (8 ECTS).

**Introductory workshop:** the faculty offers several workshops that address different issues. In the list of courses for the year 2016/2017 we find a workshop that addresses the issue of preservation called it: "The practice of architectural restoration, from diagnosis to restoration." The workshop aims to deepen the degradation of building materials and their approaches to the restoration thereof, focusing in particular on the practical aspects of application, in terms of diagnosis, both at the level of intervention of structural reinforcement and restoration of surfaces. The workshop is organized through a series of lectures, visits and field exercises, conducted with a range of professionals who work in the field of restoration and conservation of cultural heritage and offering students a chance to get in direct contact with the practical application and issues with aspects of operations of restoration.

**Professionalizing workshops:** in the list of proposals for the year 2016/2017 we find: "Digital photogrammetry and 3d scans for the relief of cultural heritage". The workshop aims to present a panorama of the most up to date digital methodologies for the detection and the metric representation of cultural heritage, mainly terrestrial laser scanning technique digital photogrammetry, integrated and preventive use in an application that shows the employment opportunity. The course is to acquire skills in the point cloud processing and generation of 3D models continues, characterized by nature and multi-scale resolution.

### Extra-curricular Workshops

The student has the opportunity to acquire the credits provided for "Educational Activities Outside

the University" with extra-curricular workshops. Among those enabled by the year 2016/2017 we find, in the field of heritage conservation, one entitled: "Engineers, City, Fortifications (16th–18th centuries), understanding and appreciation of the fortified circuits (3 ECTS)". The fortifications were elements of influence the structure of the city and territory: the design of European cities is still strongly influenced by the walls built between the middle ages and the modern age. The city had to "adapt" to the demands of the war and, often, the decisions taken for military reasons are still visible within the layers and complexities of the contemporary city. The objective of the workshop is to build a path of knowledge between consolidated bibliography, archival inquiries, inspections, to the analysis of case studies recently restored or still awaiting exploitation.

**"Tesi in azienda", Post-Graduate Traineeship, Job Placements and Career Counseling**

The Politecnico di Torino helps students facing in the workplace by offering different services. Students can request to process the thesis, first cycle and second cycle at a company. Agreements between the University and some companies are expected for Post-Graduate Traineeship; they are paid a minimal fee of 300 euros per month for a maximum of 20 hours per week. Job Placement Service offers to graduate jobs in Italy and abroad, company presentations at University and career days and vocational guidance.

## FLORENCE, UNIVERSITÀ DEGLI STUDI

**1st cycle – Degree:**

**Degree in Architectural Science**

**Traineeship ("Tirocinio"):** the University of Florence for students enrolled in the Degree Course of Science of the Architecture provides, in the third year of studies, obtaining 5 ECTS through a Traineeship to be held at facilities outside the University as professional firms, companies, public and private, productive structures. The Traineeship can be replaced by alternative activities such as competitions open to students, seminars, workshops or international experiences linked to exchange projects and student mobility. The University offers partner companies at which enable the internship, but the student can still propose different solutions that will need to be assessed by the University. Students can activate the same procedures to perform an internship abroad.

**Seminars:** the student can ripen 12 ECTS foreseen for activities "In choice of students" attending the seminars enabled each year by teachers. They are activated by the Faculty seminars on themes of conservation ("The historic town between tradition and innovation. Surveying, conservation, valorization "12 ECTS," Preservation and structural safety of the built heritage. Brick architecture, on Earth and in traditional materials "8 ECTS). The student can decide also whether mature 12 ECTS claiming exams not expected from its curriculum.

**2nd cycle –Master Degree:**

**Master Degree in Architecture – Architectural Design**

**Traineeship ("Tirocinio"):** for the Master Degree in Architecture Design credits are provided by mature doing Traineeship (6 ECTS). Even in this case, however, the credits can be attributed through the conduct of other equivalent activities such as contests, reserved for students or in the form of collaboration with professional studies, seminars, workshops. The internship can be connected to the Master Thesis are planning a research project supported by businesses or design company.

**Seminars:** are planned in the curriculum of the Degree Course in Architecture tasks "on student choice" for total of 12 credits. The student can decide also whether mature 12 ECTS claiming exams not expected from its curriculum.

**Master Degree in Architecture – Five-year (in single cycle)**

Also for the five-year Master Degree (in single cycle) Programare scheduled tasks "on student choice" and an internship, the first for a total of 20 ECTS

and the second to 8 ECTS acquirable through the same conditions as those Degree and Master's Degree programs.

**Extracurricular Traineeship, Workshops e Summer School**

The University of Florence facilitates the students ' approach to employment and promotes practical extracurricular activities.

You can play an extra-curricular Internship in a company, a professional firm or a private or public entity if an agreement with the University. The internship provides for a minimum wage of 500 euros. It is activated within 12 months of graduation and for a maximum period of 6 months.

The workshops are seminars and/or study, aimed at learning about specific topics, through brief project experiences and can be arranged from teachers, from schools or other institutions not only college girls. The University and the Department of Architecture promotes workshops on the theme of conservation and restoration.

Active international partnerships with other universities and University offers students the opportunity to participate in Summer School, however no usable travel-up study on issues of patrimony.

## CAMERINO, UNIVERSITÀ DEGLI STUDI

**1st cycle – Degree:**
**Degree in Architectural Science**

**Training activities chosen by the student:** in the Degree Course in Science of Architecture of the University of Camerino 12 CREDITS that the student will accrue by participating in "Structured Activities", such as extracurricular lessons (enabled at the school of architecture and Design, or other schools of the university or other national or foreign Universities), courses, seminars, workshops organized by or in cooperation with institutes and University departments or research institutes, or "Unstructured Activities such as field trips, competitions, visits to museums, exhibitions, fairs, and participation in conferences.

**2nd cycle –Master Degree**
**Master Degree in Architecture**

**Training activities chosen by the student:** in the period of active Master's Degree Program at the University of Camerino are 8 credits that the student can achieve doing "Structured Activities" and "Unstructured Activities".

**Traineeship ("Tirocinio"):** there will be a second-year Master's Degree Program in Architecture 12 ECTS intended for training activities. The training course consists of a period of training carried out by the student in the University, or enclosures, although rarely, within structures of the University, only when engaged in practical application and agreements or contracts that are compatible with the path the student's curriculum. Every year in June, for the next Academic Year, it instituted a ban in the form of "Call"-addressed to companies and professional structures from at least 5 provincial territorial areas, who want to apply to host interns at its facilities.

**Stage and Placement**

The University of Camerino facilitates the entry of his students into work collecting and offering jobs to students in days. It is also a service of career guidance.

## ROME, UNIVERSITÀ DEGLI STUDI LA SAPIENZA

**1st cycle – Degree:**
**Degree in Architectural Science**

**Training activities chosen by the student:** the Degree Course in Architecture at the University of Rome La Sapienza provides that the student should accrue 12 ECTS over three years by choosing among the courses offered by the University. The learner can, however, choose teachings from those of other undergraduate and graduate courses activated in the Faculty, other than those provided for in its curriculum.

**Traineeship ("Tirocinio"):** delivering, in the third year, by 2 ECTS about Traineeship or other training activities can be achieved as well as a training course practicalinsights, enabled by the Faculty through workshops, seminars, institutional courses (at institutions and universities in Italy and abroad, of which may be required for recognition). The certificates will also be allowed to acquire computer skills or knowledge of a second language.

**2nd cycle –Master Degree:**
**Master Degree in Architecture (Restoration)**

**Training activities chosen by the student:** the student may choose, within the framework of courses in La Sapienza, a number of credits equal to 8.

**Master Degree in Architecture – Five-year (in single cycle)**

**Training activities chosen by the student:** 20 ECTS overall are expected to be chosen by the student. The student will formulate its selection among the teachings offered by the Master Degree Course, thus defining their education. The student may also choose courses at a different Faculty, after authorization by the Commission.

**Internships and Stage**

La Sapienza promotes and supports educational and vocational training activities in Italy and abroad for 18 months from enrolled students as well as graduates within the graduation. The purpose of the service is to accompany young people into the labour market and give companies and institutions accredited to the system www.jobsoul.it useful tools for finding qualified personnel. Soul (University Orientation System Work) was established by the agreement between Sapienza University of Rome, University of Roma Tre, Università degli Studi di Roma Tor Vergata University of Rome Foro Italico, Academy of Fine Arts, University of Cassino, University of Tuscia – Viterbo and LUMSA – Libera Università degli Studi Maria SS. Assunta of Roma. The service, provided by the portal JobSOUL, operates as a node in the network of public employment services in collaboration with other institutions, and with the main agencies involved in the implementation of measures in favour of young university students. In particular SOUL works through an advanced it platform and a series of career guidance services.

**Workshop (Bandi, Concorsi)**

The School of Architecture of the University La Sapienza of Romesponsors and promotes many activities.

In the field of conservation and restoration of the heritage workshop are activated, published tenders for the award of scholarships, advertised competitions and events and Summer programs.

Here are some examples of activities which took place in the last period, or still under way, at the Faculty of architecture at La Sapienza:

**First International Conference on Architecture, Urban Planning and Restoration. International Workshop on "Cities: the Future of the Past"**

Subject: The Architecture involves combining with the different sciences such as engineering, designing, psychology, sociology which has been inspired and transmitted from the countries to others, then, bridged them together and considered as the interaction and relations among the countries all over the world. In this regard, Hakhamanesh Pars Studies and Communication Institute (HPSCI) by the capacities of Iran's architecture and Italian architecture that is pioneer in this field, will organize the First International Conference on Architecture, Urban Planning & Restoration (19th January 2017) and Workshop on Cities: The Future of the Past (20th–21st January 2017) in cooperation with La Sapienza University, Islamic Azad University, Damghan branch as well as other institutions and academic centers in La Sapienza University of Rome, Italy on October 19th–21st 2017. We proudly invite scientific explorers, Professors, Students and researchers to attend in this event.

**International Design Workshop for the city of Viterbo. The project of the Centre**

Subject: The workshop is part of the agreement signed between the DiAP (Dipartimento di Architettura e Progetto) and the City of Viterbo for designing the masterplan for the historic center of the city. The masterplan aims to enhance the historic core of the city at the municipal scale as well at the territorial scale. In fact, Tuscia is an area of great qualities and potential in which Viterbo should aspire to become the main attractive polarity. In this frame, the workshop will be the main instrument to test, at the architectural scale, some of the strategic urban assumptions drowned up by the masterplan. The themes will concern five strategic areas identified in the masterplan, situated along the path of the city walls, to redraw the boundary line between the historic city and the modern city.

**Scholarship Announcement San Gemini**

Subject: call for applications for the award of scholarships for university students aimed at the acquisition of items and useful techniques for conservation and restoration of cultural heritage, as the excavation and cataloguing of archaeological finds, to be carried out under the programme in 2016 „San Gemini Preservation Studies.

## CATANIA, UNIVERSITÀ DEGLI STUDI

**2nd cycle –Master Degree:**
**Master Degree in Architecture – Five-year (in single cycle)**

**Training activities chosen by the student:** the five-year Master Degree (in single cycle) Program of the University of Catania provides a total of 20 ECTS from the second year for "Subjects chosen by the student." The choice can be made within the academic offer of the University and in the context of elective modules present in the training offer proposed by the SDS Special Architecture teaching structure of Syracuse.

**Workshops, Announcements, Contests**

The SDS Architecture organizes workshops, announcements, contests and trips that can be taken by students and contribute to the achievement of 20 ECTS „Subjects chosen by the student".

**Workshop CULTURA CREA, tourist and cultural heritage which Favorices development opportunities.**

The Ministry of cultural heritage and tourism (MiBACT) and Syracuse in a special workshop will illustrate the Invitalia three lines of action that articulates the culture programme CULTURA CREA, for the birth and growth of micro, small and medium enterprises, also in the third sector, cultural sector in regions Basilicata, Calabria, Campania, Puglia and Sicily.

**Educational and experimental construction site. Masonry restoration and reconstruction.**

**International Workshop of Architecture. Designing heritage tourism landscapes. Presso I.U.A.V. Venezia.**

**Traineeship ("Tirocinio"):** are planned for internships and placements in enterprises, public or private entities, professional associations required activities for 8 credits.

### 3.3. PRESENT THE ALUMNUS PROFILE DESCRIBED IN THE DOCUMENTS OF STUDY PROGRAMME IN FIELD OF ARCHITECTURE IN THE SCOPE RELATING TO HERITAGE PROTECTION AND URBAN REGENERATION

*Make a critical assessment of this profile.*

The student, who decide beguin a study in architecture in Italy, must pass an examination for access to the faculty. Generally, the student hasn't a particulary profile, but is preferred who have a diploma from "liceo classico, scientifico, o altro diploma di scuola secondaria".

Generally, the examination is fixed in a day for all country, but some time has been in different date,and this has permitted to the student different possibility.

Then the student can enter in some different courses, but the possibilities for changingis possible.

Architecture studies require a high work capacity, and generally all program are presented some month before in some days (open door in university), where the docent presence the different courses.

The student character must have: interpersonal skills for teamwork, qualities for organization and planning, graphical ability not only instruments but natural with ancient and traditional system.

There are important interest in cultural heritage, critical thinking, synthesis capacity, mechanical intuition, and in general a curiosity and interest in world in which we live,... in the sense of historical development. It requires a willingness to study, research in different library, in historic and ancient archivium the knowledge in Humanities, social and tecnological sciences.

## 3.4. CHARACTERIZE THE CURRICULUM (AS A WHOLE) FROM THE POINT OF VIEW OF ITS SUBSTANTIVE CONTENT AND STRUCTURE (CONSISTENCY AND COMPLETENESS OF THE PRESENTED ISSUES, PROPER ORDER, COMPATIBILITY WITH OTHER COURSES)

*Make a critical assessment of the program.*

The Changing society in the last period influences the conservation? Yes, because is fundamental the knowledge and examination of the basis precepts of heritage conservation. Under the general heading of human coexistence with the land and memory different themes are identified:

Movement of peoples' nomadism, migration, settlement modes of subsistence, technological evolution, under the general heading of human beings in society, three themes are identified: human interaction, cultural coexistence, spirituality and creative expression.

For this reason, is necessary the study of particulary curriculum in architectonic conservation and restoration of our past, because no future without memory, especially in our Europe.

In Italy, in all the faculties of architecture is obligatory the conservation program, and the exam of restoration is necessary for the degree. But now we have the semester, and generally for this reason isn't good.

In UE course: Laurea Magistrale a ciclo unico.

The student during the first and second year studies the history of architecture, survey, design, and technical and static.

For this reason in UE course, the students beguin from III year, with Elements of restoration, where the course has incentred from History and theory, with the survey for practical experience,... and then IV year continues with Laboratory of restoration for arriving to a project in conservation with restoration, new use, design for museum or liturgical adaptation or urban conservation...

In Architectural Conservation the program combines compulsory and optional courses, and is assessed through individual papers, group project and presentations, and report writing: culminating in a supervised dissertation.

The approach for conservation is a full immersion with a direct for a complete training, 3+2.

## 3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS

Separately specify a model programme in the field of architecture (when it is not a specialty in the field of revitalization of historical towns) and a model programme of specialty in field of revitalization.

*[list of curses, structure and sequence of these courses, the content of the courses, the scope and form of contact with practice]*

A proposal for a model curriculum in the field of heritage protection and revitalization of historical towns, may be:

a revision of Bologna process European High Education Area, and give the new guidelines for our Europe.

## ARCHITECTURE (CONSERVATION)

| FIRST MODULE | | |
|---|---|---|
| Denomination | ects | Hours |
| DESIGN STUDIO I | 10 | 125 |
| TOOLS AND METHODS FOR HISTORICAL RESEARCH. CRITERIA | 8 | 100 |
| STRUCTURAL ENGINEERING OF ANCIENT AND MODERN BUILDINGS | 8 | 100 |
| ARCHITECTURAL SURVEY | 8 | 100 |
| **SECOND MODULE** | | |
| Denomination | ects | Hours |
| STRUCTURAL CONSOLIDATION, HEATING VENTILATION AND AIRCONDITIONINGPLANT OF HISTORICAL BUILDINGS | | |
| – Technical systems in historical buildings | 6 | 75 |
| – Structural reinforcementofhistorical buildings | 6 | 75 |
| OPTIONAL GROUP | | |
| TECHNOLOGICAL DESIGN FOR THE ARCHITECTURAL | 8 | 100 |
| REQUALIFICATION | | |
| **THIRD MODULE** | | |
| Denomination | ects | Hours |
| CONSERVATION DESIGN STUDIO | 10 | 125 |
| URBAN REGENERATION AND CULTURAL HERITAGE REGULATORY | | |
| FRAMEWORK | | |
| – Rehabilitation and urban regeneration-Studio | 4 | 50 |
| – Town planning and cultural heritage regulatory framework | 8 | 100 |
| **FOURTH MODULE** | | |
| Denomination | ects | Hours |
| DESIGN STUDIO 2 | 8 | 125 |
| CONSERVATION DESIGN STUDIO | 10 | 125 |
| URBAN MORPHOLOGY AND PROFESSIONAL PRACTICE | 4 | 50 |
| – Urban morphology | 4 | 50 |
| – Professional practice and economic asessments | | |
| OPTIONAL GROUP | | |
| TEACHING STUDENT CHOICE | | |
| Students must choose one optional exam with at least 8credits (CFU).<br>In the latter case, students are obliged to obtain specific authorization which will be released on behalf of a motivated request.<br>In the latter case, students are obliged to obtain specific authorization which will be released on behalf of a motivated request. | 8 | 100 |
| INTERNSHIP-WORKSHOP | 2 | |
| FINALTEST | 12 | 180 |

# PROGRAM:

## DESIGN STUDIO I

The courses objective is to achieve, within the educational process of students, an overall and articulated experience in which converge the components of architecture disciplinary process. In addition to the essential morphological, technological, constructive and typological in-depth examinations, the course aims to take into account all the data concerning urban settings included construction in historical centers. The project issues, located in the urban fabric, will be therefore preferably analyzed and taken as case studies.

### TOOLS AND METHODS FOR HISTORICAL RESEARCH. CRITERIA

The course aims to provide students basic methodology of bibliographic, archivistic and direct research for what concern written and constructive "sources" in order to retrace the history of architectural phases of single building or urban areas aiming to the conservation and protection of historical architectonical heritage.

### STRUCTURAL ENGINEERING OF ANCIENT AND MODERN BUILDING

The main purpose of the course is to put in position the students, in order to know how to interpret the mechanical behavior of existing buildings (ancient and modern) and related materials under gravity and seismic stresses. The course also provides knowledge to the assessment of structural and reinforcing interventions while respecting the principles of restoration.

### ARCHITECTURAL SURVEY

The course provides students with the base and advanced knowledge about the role of architectural survey within the process of understanding of the environment and the architecture. Furthermore, it highlights the aspects of interpretation, compared with the project representation, with the 'reading' of historical buildings, with the mapping of the constituent materials and macroscopic forms of deterioration in order to evaluate the state of conservation of architectural structures. The course also makes specific reference to the latest automatic survey technology and georeferenced.

### STRUCTURAL CONSOLIDATION AND HVAC PLANT IN HISTORICAL BUILDINGS

The course aims to develop the capability to design the structural and functional recovery of historical and modem buildings developing the issues of structural safety and plant design with the purpose of conservation and enhancement of existing capacities.

– Structural reinforcement of historical buildings:

  This part of the course aims to develop a critical knowledge for the statement of opinion concerning the structural status of conservation of an existing building. Furthermore, the course gives instruments for the interpretation of structural reinforcement interventions, calibrated in accordance with the limitations of the "boundary conditions" of the problem.

– Technical systems in historical buildings:

  The course aims to focus the role of cooling, electrical, acoustic, lighting systems and renewable energy in buildings, in terms of the maximum design, installation and maintenance. In particular it will deal with peculiar plant aspects, as well as residential construction, historical buildings, museums and hospitals.

### THEORY AND PRACTICE OF CONSERVATION

The course aims to place the student in a position to know and to be able to use different materials and techniques for conservation/restoration and maintenance and new use works on the architectural heritage. The course is held alternately in laboratory studios, lectures on scheduled topics, practical applications and aided design and planning. Visit to construction sites will be also organized.

### TECHNOLOGICAL DESIGN FOR THE ARCHITECTURAL REQUALIFICATION

The course aims to provide theoretical and methodological tools needed to set up and develop appropriate renovation intervention aimed mostly at twentieth century architecture. The course consists of lectures and exercises, themes related to maintenance and building rehabilitation. It will be developed focusing on:

a) the survey of pre-existing buildings and urban fabric,
b) the project and organization of works,
c) the different typologies of building firms with different specializations,
d) the various stages of execution techniques (structures, roofs, plasters, dampness protection, thermal insulation, heating plant, electrical systems, plumbing etc.).

### CONSERVATION DESIGN STUDIO

The course aims to teach basic knowledge of the history and theory of architectural conservation, and to provide skills in analytical survey, historical research, reading and diagnosis of degradation and conservation works; inform the students about regulations and cataloguing; practice in the design of a restoration project. The aim of restoration is not only to conserve the integrity of the resources, but also to reveal its cultural values and to improve the legibility of its design. Restoration is a high specialization operation based on a critical-historical process of evaluation, and must not be based on conjecture.

### URBAN REGENERATION AND CULTURAL HERITAGE REGULATORY FRAMEWORK

The course aims to combine the knowledge of the instrument of urban development for the integrated conservation of old town centers, and a critical knowledge of current legislation of cultural heritage. Integrated conservation implies reconciling conservation requirements and town planning objectives considering the values and interests of the existing historic architecture. The minimum interventions at key points in time are best for the community.

The course aims to provide theoretical-methodological and operating tools for carrying out a planning process aimed at upgrading the existing city, with particular reference to degraded suburb contexts and potentially subject to significant changes. This purpose will be achieved both by checking the environmental, morphological, economic-financial and administrative flexibility, and by the choice of innovative tools flexible enough to ensure the triggering of virtuous processes of recovery and renewal by means of the involvement of individuals and private operators in actions of public interest.

By assuming as a theoretical premise, the formation reached during the "Building legislation and government of the territory" course of the first academic year, the course aims to provide students a basic critical knowledge of the current legislation in the field of protection of cultural heritage, with particular attention to monumental and architectural heritage and to the environmental and landscape issues.

## DESIGN STUDIO II

The course aims to convey to the students the theoretical and practice knowledge necessary to manage, with full awareness, the development of an architectural executive project of a limited space, to verify the compatibility of the formal intentions with the complex economic restrictions and functional, structural, technological and engineering solutions. In this context, the compliance of the construction project is systematically investigated, identifying the different components and checking the feasibility of design solutions.

### URBAN MORPHOLOGY AND PROFESSIONAL PRACTICES

The course objective is to provide analysis tools in the study of the building fabric and its historical transformations and in the interpretation of specific building activities in professional and economic aspects, as instruments aimed at expanding the design process control capabilities.

The course aims to provide necessary skills to prepare, in the professional practice, documents and drawings required in different steps of the production process, to explain the utility functions and expectations of a project, in terms of identified needs, starting from the planning phase of the intervention. Regarding the architect professional business both practical evaluation of estimates and operative activities, the procedure for implementing and verifying the procedures and rules for implementation of each project in different stages of its life cycle will be detailed, taking into account the opportunities and restrictions posed by the historical, territorial, settlement, regulatory, financing and of governance in which it fits.

Goal of the Urban Morphology course is to provide students with tools of analysis of built landscape aimed to the architectural design. The course is the phase of critical interpretation (reading) of the urban environment which coincides with the design choices and is complementary to that of Architectural design 2 course, held by a different teacher. Topic of the lectures will be mainly the study of the formative processes of architecture at its various scales, especially that of the building organism, and aggregative organism (urban fabric), closer to the design themes of the fifth year of the degree course in Architecture (Conservation).

### ORGANIZATION OF THE CONSTRUCTION SITE FOR RESTORATION

The course aims to teach basic skills in the organization of a restoration site at its different stages and in its various aspects. In specific, the different requests of a restoration site will be put into evidence: on one side productivity and optimization of the work, on the other the needs of a historical-critical comprehension of the building. On these premises, the course deals with the problems of a building site and, more specifically, those of a restoration work (in specific reference to the sequence of operations to be performed and to the knowledge of the building).

Two other more extensive examples from La Sapienza of Rome are:

**Elementi di Restauro Architettonico – Elements of Architectural Restoration**

**Aims**

The course will consist of lectures and exercises. The aim will be to bring out among students issues related to the study of architectonic organism and come througha historical-critical path to the preliminary intervention of restoration.

Each week will be dealt a single specific topic to get ready a plan for adjusting measures.

There will be a series of educational visits to be confirmed during the course.

**Exercises**

Weekly revisions.

**Examination scripts**

The works required for the exam, although calibrated on the specific nature of the topic chosen, will have to conform to the following general provisions:

– preparation of graphics on boards in A1 format (cm 59,4x84,1);
– execution of a reduction of the aforementioned boards in A3 size (cm 29,7x42);
– presentation, at the final exam, of a maximum number of 16–18 graphic tables (informat A1 and A3), because of the theme chosen and the consistency of the study group;

Drafting of a brief written report-on panels in A3 format, obtainedcombining, on each sheet, two A4 folders (cm 21x29.7) – that contains:

a) a concise description of the artefact (1 folder, 30 lines per 65 characters);
b) a chronology, with direct references to the bibliography and archival *regesto* (1–2 folders);
c) a historical and critical synthesis (2–3 folders);
d) a technical-critical memory on the characterization of materials and analysis issuesof degradation, conservation and restoration project (2–3 folders);
e) the archival-documentary *regesto*;
f) bibliography;
g) an essential photographic documentation (about 5–6 folders).

The report could be supplemented by optional appendices with archival documents (transcripts or photographic copies).

Study and development of written papers and drawings will be followed periodically byteaching staff. The examination will be much discussion on the boards in A1 size than onother in A3 format. These should not be bound, but it folded sheets,better if contained in a clear plastic bag.

The tables should be numbered consecutively and shall be entered, among other indications(University, faculty, laboratory, ...) the authors ' names in full.

The copy of the work in A3 format will be retained for archive of the course.

### Bibliography

It is contained within the course program, posted relatively to individualtopics covered in each lesson.

### Exam

The exam is divided into two parts: the first provides for the presentation of works made during the year in relation to the chosen theme; the second in a check on the preparation of each student on the theory, history and techniques of "Elements of architectural restoration."

Each week will be dealt a single specific topic of coming to know the architectural heritage, and to the elaboration of a preliminary restoration project.

The attached program has some bibliographical suggestions depth for each lesson.

## PROGRAM OF THE LESSONS

### First week

Introduction of the course of Elements of Architectural Restoration: aims and methods.

1) General issues: definition of Restoration and basic terminology.
2) From the monument to the cultural asset.
3) The theoretical foundation of the restoration, the most recent positions: *restauro scientifico* (scientific restoration), *restauro critico* (critical restoration), the theory of Cesare Brandi, *restauro critico-conservativo* (critical conservative restoration), the pure conservation.
4) the extension of the scope of the restoration, from the individual object to the territory.

### Second week

The restoration and the knowledge: the methodical study of monuments.

It will be presented a concrete architectural episode to exemplify the method of analysis.

After this presentation we invite students to choose a monument to "adopt"; it then will start the operational activities of the course.

It is believed in preferential line, to concentrate the exercises on no large size monuments, but stratified of Rome, Lazio and other centers to choose from with the teaching staff, but all accessible for the period necessary for the exam.

The course must be understood as a preparatory to the next Restoration Laboratory, year IV.

### Third week

Are reminded some other methodological examples relating to the study of the architectural heritage:

1) Standards for the preparation of graphics survey and restoration survey.
2) The methodical study of existing buildings: literature searches, historical archives, anddirect observation.
3) Attention is drawn to systematic use of graphic and photographic survey for the understanding of the architecture.

Any site inspection has to be agreed between the trainees.

The individual components of the course must submit the choices for exercises, then will start the verification tests that will have a weekly basis.

### Fourth and fifth week

These two weeks will be dedicated to the review of some fundamental concepts of theory andthe history of restoration.

1) The attitude on existing buildings in the Renaissance and in 600–700 centuries;
2) The nineteenth century in Europe*: restauro stilistico* (stylistic restoration) and revivals, Eugene E. Viollet-le-Duc and the parable of the restoration "in style";
3) The nineteenth century in Europe: *antirestauro* (anti-restoration) and romanticism, John Ruskin, William Morris and SPAB;
4) *Restauro filologico* (philological restoration) in the late nineteenth century and brief outline of Alois Riegl and Max Dvorak;
5) The season of *restauro scientifico* (scientific restoration), from Camillo Boito to the thirties of the twentieth century with particular reference to Rome: Gustavo Giovannoni and Antonio Muňoz;
6) Profiles of *Carte del Restauro* (1883–1972).

### Sixth week

1) General rules for the restoration of architectural heritage, bodies responsible for protection.
2) The ICCD'scatalog sheets (*Istituto Centrale per il Catalogo e la Documentazione*, Central Institute for Cataloging and Documentation)
3) The ICR's risk map (*Istituto Centrale del Restauro,* Central Restoration Institute). Bibliographical suggestions.

### Seventh week

Current state analysis intervention program.

It comes with some episode of study and restoration of the architectural heritage, Roverella palace in Ascoli Piceno and Palazzo Conservatori in Rome, the methodology to be applied operationally to the restoration exercises.

### Eighth week

Current state analysis and intervention program.

1) Exemplification of the defects of the architectural reality: the degradation of the materials andinstability of the structure.

   1a) Preliminary investigations for knowledge.
2) Analytical readings of the degradation of materials, NORMAL lexicon, genesis and processuality.
3) Exemplification of some cases of degradation and instability.

### Nineth week

The issue of the use of existing structures, adaptations and museology and museum design criteria. Landscape.

1) We will insists on the concept of the restoration understood as critical interpretation.
2) The restoration project, through the adaptation of preexisting buildings, theories and achievementsthrough the reading of some Italian and European events.

### Tenth week

The course presents a special episode for the study and restoration of a monument symbolizinghumanity. The Vatican necropolis, history, restoration and conservation.

### Eleventh and twelfth week

The historical-critical analysis.

The course aims to impart specific training in this specific field.

The system of doctrine leads us to consider the historical research as a central moment of the restoration and, consequently, to classify the whole process as a historical-critical process. The formation process is based on theoretical assumptions of the restoration and on the deepening of materials and traditional techniques as well as the methods of investigation and study of the monuments.

The historical-critical analysis of the architectural reality.

1) The iconography of the monument and the *regesto* of the sources.
2) The analysis of the constructive characters.
3) The analysis of the masonry equipment.
4) Analysis of architectural features in reference to other works.
5) The re-use of old elements in architecture, the *Spolia*.
6) The analysis metrology and proportional.
7) The reading of the architectural orders.
8) The time line of the architecture.

### Thirteenth week

Conclusion of the Course.

References to current trends in architectural and environmental restoration with some episodes.

ANOTHER COURSE MAY BE:

| Course | **„LABORATORIO DI RESTAURO”** |
|---|---|
| Contact Hours | 125 |
| Teaching objectives | Teaching objectives will be to emerge and mature among students the issues related to the study of the architectural heritage. Complete a historical-critical study started in the course of “Elementi di Restauro”. Draw up the restoration project, which provides the analysis of the degradation and the relevant proposals of interventions. Each week will be dealt with a single specific topic to get the drafting of a real restoration project executive. |
| Laboratory program and planning activities | Were call some basic concepts, linking the definitions of restoration and terminology. Current trends of Restoration: theoretical foundation of the restoration, the most recent positions, the critical restoration, critical-conservative restoration, pure preservation, maintenance-repair.<br>The season of the scientific and philological restoration by Corrado Ricci and Camillo Boito to thirty to forty years of the twentieth century with particular reference to Rome.<br>Are flection on the cultural context of Alois Riegl (1857-1905) and Cesare Brandi (1906-1988). These two characters have left a strong legacy in the way of understanding the conservation and restoration.<br>The archaeological restoration: reflection on some archaeological sites include pre-existing urban areas or across the territory; issues relating to the protection of sites, vulnerability, predictability and risk maps for their use and then some guidelines for the solution of technological systems.<br>Analysis of the current status and interventions with examples of the defects of architectural reality: the degradation of materials and geological instability of the structure, preliminary investigations for knowledge, analytical reading of the degradation of materials, vocabulary NORMAL, genesis and processuality, examples of some cases of interventions.<br>The collapses and related interventions of consolidation: foundations, elevated structures, the theme of the arc and the vaults, floors, roofs.<br>Particular attention is turning to temporary works and propping to be implemented on construction site sand in cases of emergency earthquake. The humidity: causes and remedies.<br>Adaptations and criteria of museology and museum: it insists on the concept of restoration is understood as critical interpretation; museum project: theories and achievements through the reading of some Italian and European episodes.<br>The liturgical adaptation.<br>The intervention in the historic city: the historic centers between conservation and innovation |
| Method of examination | The course will consist of lectures and tutorials.<br>The exercises will be followed throughout the course, in the working group.<br>There sults will be evaluated with an individual interview relating to the topics covered in class and contained in the bibliography and through the evaluation of drawings exercise |

PROPOSAL FOR LABORATORY
FOR CONSERVATION/RESTORATION

Proposal for Laboratory for Conservation / Restoration

### First week

**Inaugural speech of the Laboratory of Restoration: purposes and methods. The current trends in Restoration.**

***(Prolusione del Laboratorio di Restauro: fini e metodi. Le tendenze attuali del Restauro)***

1. We recall some basic concepts, so will be essential to reconnect to the definitions of Restoration and to the terminology.
2. The theoretical foundation of the restoration, the most recent positions: *restauro critico, restauro critico-conservativo, pura conservazione, manutenzione-ripristino* (critical restoration, critical-conservative restoration,the pure conservation, the maintenance-restoration).

### Second week

**Restoration in Rome from the XX century**

***(Il Restauro a Roma nei primi decenni del Novecento)***

This week will be dedicated to a resumption of some fundamental concepts of theory and history of restoration.

The season of the *restauro filologico-scientifico* (philological-scientific restoration) by Corrado Ricci and Camillo Boito.

Thirty to Forty-years of the twentieth century with particular reference to Rome.

The central topic of these lessons will be dedicated to the doctrinal reflection and operational activity of Gustavo Giovannoni and Antonio Muňoz.

We will address *Carte del Restauro* (Restoration Charters), the so-called first formulation of 1883, to *Carta di Atene* (Athens Charter) of 1931, and to Italian Charter of 1931, then the Instructions for the Restoration of Monuments of 1938.

### Third week

**Theory of conservation from Riegl to Brandi**

***(Teoria del Restauro da Rielg a Brandi)***

The purpose of this lesson is to present a reflection on the cultural context of Alois Riegl (1857–1905) and Cesare Brandi (1906–1988). These two characters have left a strong legacy in the way of understanding the conservation and restoration.

The Cesare Brandi theory manifest itself an implicit liability to Riegl's theoretical contribution but it feeds mainly of converging contributions on the themes of conservation. More specifically we will face some aspects of the restoration, in some quarters of Europe from the end of the first half of the twentieth century, then we will analyze some renovations conducted by the *Istituto Centrale del Restauro* (Central Institute of Restoration).

### Fourth week

**Archeological conservation**

***(Il Restauro archeologico)***

Reflection on some archaeological sites include urban areas or existing structures scattered in the territory. We will present a number of solutions Italian, European and outside Europe implemented over time. Today's reflection will try to show how respect for the ancient fragment and the set of information that its authenticity guaranteed, "Made us feel even more intolerable falseness of imitative restoration".

We will still show issues related to the protection of sites, the vulnerability; predictability and risk maps then to their use and some guidelines for thesolution of technological systems. They will also be mentioned the relationship between archeology and territory with interventions in archaeological contexts.

### Fifth week

**Restoration: Analys of Decay and Deterioration**

***(Il Restauro: Analisi dello stato attuale e interventi)***

We will present some examples of the defects of the architectural reality: the degradation of materials and some instability of the structure.

a) Preliminary investigations for knowledge;
b) Analytical reading of degradation of materials, the NORMAL lexicon, genesis and processuality;
c) examples of some cases of interventions;

The more specific issue addressed in this lesson deals with interventions on stone material.

### Sixth and seventh week

***Conservation Program***

***(Il Restauro)***

Analysis of the current situation and proposals for interventions. The destructions and related consolidation interventions

The foundations, the structures in elevation.

The theme of the arch and vaults.

The floors.

Roofing systems.

Particular attention is turning to temporary works from carry on construction sites and in cases of emergency seismic.

### Eighth week

***Humidity (Dampness)***

***(Il tema dell'umidita: cause e rimedi.)***

The water, physical deterioration factor, is presented in both the buildings and the environment. They have a few causes:

- capillary rise,
- infiltration,
- condensation.

They analyze some remedies:

- the horizontal beam,
- the physical and chemical processing,
- the arrangement of cavity and drainages,
- the heating tubes,
- bland electroosmosis.

### Nineth and tenth week

**New use for preesistance**

**Adaptation and criteria of museology and museography**

***(Il tema dell'uso delle preesistenze architettoniche e storico-artistiche. Adattamenti e criteri di museologia e museografia).***

1) It insists on the concept of restoration understood as critical interpretation.
2) The museum project: theories and achievements through the reading of some Italian and European events.

It is stated that: "The conservation of monuments is always facilitated by their use in functions useful to society: such use is therefore desirable but it must not change the distribution and appearance of the building..." from Carta di Venezia (Venice Charter), Art. 5.

### Eleventh week

***In Italy and in some countries in Europe is important the Liturgical adaptation***

***(L'adeguamento liturgico)***

For students preparing a restoration project for a church is deemed essential to provide the information related to the theme of the liturgical adaptations, in particular, in the recurrence of the 50th anniversary of Vatican II.

After a required introductory section, also of historical character, will address the issues related to the insertion of the altar, the ambo, the seat and the baptismal font.

It recalls the importance of the issues related to lighting systems, for different moments of the celebration, those of security and climate control.

### Twelfth week

***Historic centres and landscape***

***(L'intervento nella citta storica. Il Territorio)***

The historic centers between conservation and innovation. We will see how this axiom is always present within the restoration.

The restoration contributes to achieve the purposes for which its architecture, to define each with its own characteristics, the physical and expressive structure of human settlements in the environment.

Among the topics covered we will insist on the different operations carried out in the various European countries from the new addictions on the ancient, to the recoveries, to the theme of color finishes, the street furniture. We will present some reflections: the city as a museum of ancient monuments and works of art; the city as a museum of its history and its values.

### Thirteenth week

***Conclusion***

***(Conclusione del corso.)***

We recall briefly the topics covered during the semester.

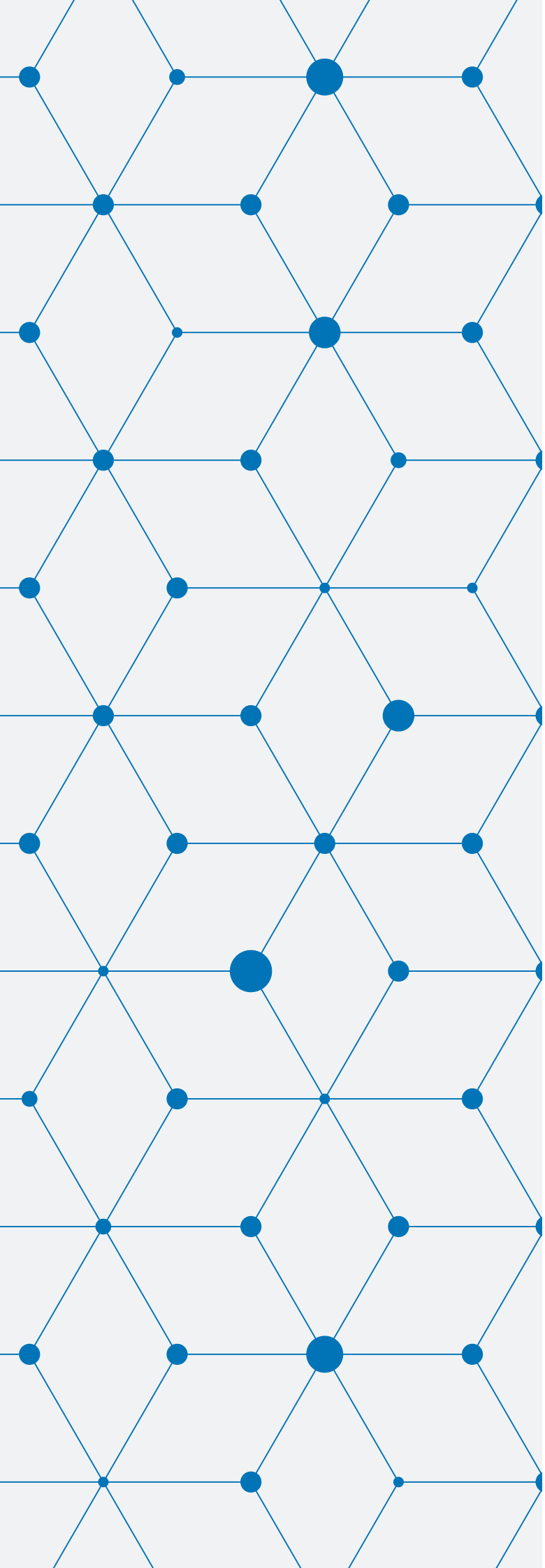
We will mention the issue of the restoration of modern and environmental design.

The architectural restoration laboratory has turned its attention on the teaching of the doctrine of cultural values, so to the conservation and restoration. The latter is understood as an act of culture in order to pass on to future generations our cultural and environmental heritage

# CONCLUSIONS

The rediscovery and the conservation of values must be one of the major issues of our society, one should endeavor not to indulgence only in commercialization and facilities, but to trasmit to young people the passion and respect for the memory and the past, so that it to be posterity.

The Authenticity of a work of art is a measure of truth fullness of the internal unity of the creative process and the phisical realization of the work and effects of its passege trough historic time.



# 03

# THE TEACHING OF THE HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES AT THE FACULTIES OF ARCHITECTURE /IN THE FIELD OF ARCHITECTURE/ IN LITHUANIA

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## INTRODUCTION:

### /INFORMATION ON THE AIM, SCOPE AND STRUCTURE OF THE REPORT; CHARACTERISTICS OF THE PARTICIPANTS COMPLETING THE QUESTIONNAIRES; OTHER RELEVANT INFORMATION/

The report on the WP1 was aiming to identify (re-identify) the relevant educational, public and private- professional bodies who would assist to SURE VGTU project team, while answering general question on educational status of the teaching of the rehabilitation of historic towns in Lithuania, and drawing critical guidelines for the background of the future vision of this topic.

With the assistance of those bodies report tries to provide the status of art of the character of architectural education, qualification and skills transferred and character of the courses in Lithuania in relation to the Rehabilitation of the Historic Towns.

The questionnaires for the opinion pooling, submitted by the project Leader to the VGTU project group, after the translation in to the Lithuanian language were sent to the selected threefold type of the recipients: i) educational, ii) public, iii) private- professional. This has been done because of the need to reach the multi angled level of answers, based on the involvement of these bodies in processes of education, practice and decision taking. The recipients were sought and selected with two levels, as it was requested by the project terms.

Project team communicated with 50 recipients, whom questionnaires and letters of intent were sent from October till end of the 2016. The replies were received from the 22 and completed questionnaires were received from 18 respondents.

Apologies can be expressed for the absence of the replies from the one of the biggest academic institutions in second Lithuania city of Kaunas (Kaunas University of Technology, department of the Architecture and Urbanism) and the number of the country municipal addressees, which would have been extremely valid for our common work. So in this report we used the data officially available about Kaunas Technologic University and replies from the major municipalities.

On the other side, local project group considered the scale and quality of the answers as rather substantial and informative one. The whole document is attached to this report as attachment No.1.

The report is structured in three parts were through the:

I presentation of the general picture of the architectural education in the country, it`s past and present and data on the demands by labor market and regulations by the professional requirements are presented,

II analysis from the answers in a questionnaires on the skills required in the field of desired qualification tom be achieved for the suiting the problems of the rehabilitation of the historic towns in the country, and

III characteristics of the teaching of heritage protection and revitalization of cities in the systems of education, with the attempt to draw the a proposal for a model curriculum in the field of heritage protection and revitalization of historical towns.

# PART I

## General characteristics of the system of educating the architects in particular country; issues of heritage protection and revitalisation of historical cities in the system of architectural education; formal qualifications and education required from the architects dealing with heritage protection and revitalization of cities.

### 1.1 CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE ARCHITECTS IN LITHUANIA

/inter alia: statistical data regarding the number of faculties educating the architects; the structure of the studies in field of architecture, incl. the Bologna system; the required licenses for the designing/

Architect training tradition in Lithuania started to take shape in the late XVIII century, when in the High School (1579–1781 known as the Vilnius Academy) of the Grand Duchy of Lithuania the Department of Architecture was established. This department was led by famous Lithuanian architect prof. Laurynas Gucevičius[1]. During this period, the architect training was rather fragmented.

The actual (current) education of architects in Lithuania began in 1922, when the architecture studies emerged in the Lithuania University (Architectural department[2] was established in the structure of Technical Faculty).

Over time, the process took place in Kaunas Polytechnic Institute (now it is Kaunas Technological University, KTU).

In 1971, some subdivisions of the Kaunas Polytechnic University was moved to Vilnius and there was established the Vilnius Civil Engineering Institute, the current Vilnius Gediminas Technical University (VGTU). The architect's' education took place in VGTU Faculty of Architecture.

The Art School founded in Kaunas in 1922 had evolved into Vilnius Art Institute (1944) that now is known as Vilnius Art Academy (VAA since 1990). There the architects also trained since 1944.

In 1995 the Kaunas Technological University (KTU) started to educate architects in the Faculty of Civil Engineering and Architecture.

Currently in Lithuania the three schools educate architects. The largest is VGTU Faculty of Architecture, then followed by KTU Faculty of Civil Engineering and Architecture, and VAA Department of architecture. The contemporary architectural studies in Lithuania emerged and started to develop during the interwar period (1922–1940), later continued the formation under the soviet regime (1944–1990) and now is in the third stage – period of Independent Lithuania (1990 – till now).

1 next to the Jesuits taught science as physics, metaphysics, mathematics and geometry the architecture course was introduced there according to Budreika E., Architektūros meno ir mokslo studijos Vilniuje, in Vilniaus architektūros mokykla XVIII–XX a. VDA darbai, 1993

2 The head of the Architectural department was prof. Mykolas Songaila; The subjects were taught there: Architectural forms, Orders, History of Styles, Systems of central heating and ventilation, draw and architectural design.

The evolution of architectural concept changes the content of architectural profession and determines the curriculum transformations. During the soviet period the architecture study programs were formed according the standard mandatory for the whole Soviet Union. The ideological dimension had a significant impact on the architect's education and training process. The study programs conformed the academic approach, as architecture was considered art, while the formal compositional principles arising from the classical tradition. Architect training concept was based on the thesis that the acquired scientific and technical knowledge are integrated in practice, in artistic creation. In order to gain the architect qualification, one need to study for 5 years.

When Lithuania became the part of EU, the high education system and study programs led to EU requirements. From 1994, the studies are organized on the basis of a two-level study system – 4 year undergraduate studies (Bachelor) and 2-year Master studies. Such structure of university studies complies with the European strategic documents (Bologna process). The architecture study programs were based on DIRECTIVE 2005/36/EC OF EUROPEAN PARLIAMENT AND OF THE COUNCIL on the recognition of professional qualifications and its curriculum complies with Article 46 of Directive and the 11 points for architect's qualification.

Since 2016, the integrated 5-year architecture study program (Master of architecture) started in Lithuania all three architecture schools in order to meet the changed requirements of the duration of the architect education in the revived Directive[3]. The renewed architecture study programs also follow the architectural knowledge, competencies and skills indicated in Article 46 of the Directive and in UNESCO/UIA Charter for Architectural Education. The study programs are prepared by making reference to national legislation[4].

Upon acquiring experience in preparing the design documentation under supervision of a certified architect, graduates may become certified architects when the Lithuanian Architect Chamber confirming that the applicant meets the qualification requirements to register as an architect.

## 1.2. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE SPECIALISTS FOR THE HERITAGE PROTECTION AND REVITALISATION OF THE CITIES IN LITHUANIA

The problem of city regeneration was became evident shortly after WWII, and as the result of that the Vilnius Old City Reconstruction Project was prepared in 1956. It was like the response to the Vilnius Master plan (1953), that was based on the "Soviet town planning methodology and experience" and provided the drastic plans for the demolition of the historic city. And even today this Vilnius Old Town reconstruction project from 1956 is seen as a precedent, which prompted the development of the similar projects throughout the Lithuania and even in the Soviet Union. In the project the division by quarters was proposed, reflecting the integrated approach to the city. Even today this attitude is used in preparing the planning and heritage preservation documents. [5]

In 1970–1974 Vilnius Old Town regeneration project was prepared[6] and it attempted to deepen the already undertaken research and to improve the solutions of the reconstruction project. The process of the city regeneration was continued by the correction of the Vilnius Old Town regeneration project, drafted in 1988–1992.

Projects had constantly balancing between the standards of socialist city and principles of heritage preservation. Such measures were planned: sanation (from lat.„sana",) or rehabilitation (rehabilitation was defined as "historical environmental health improvement; the old, inadequate building demolition, improvement of the aeration and insolation), relocation of industrial and commercial functions, widening and dissemination of the streets, and setting regulations for the new buildings.

3 Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation')

4 – The Law on Science and Studies of the Republic of Lithuania. 30 April 2009 No. XI-242, Vilnius;
– Government of the Republic of Lithuania "On approval of the Lithuanian Qualifications Framework" 4 May 2010. No. 535;
– Order No. V-501 of the Minister of Education and Science of the Republic of Lithuania "On approval of the description of general requirements for degree awarding first cycle and integrated study programmes" of 9 April 2010 and amendments thereof (Amendments approved by Order No. V-1190 of 15 July 2010).
– Order No. V-2212of the Minister of Education and Science of the Republic of Lithuania "On approval of the description of study cycles" of 21 November 2011;

5 Janušauskaitė V., Vilniaus senamiesčio apsaugos planai XX a. 6–9 dešimtmečiais (Vilnius Old Town Protection Plans during the 6–9 decades of the XXth century), 2014, http://www.archfondas.lt/leidiniu/en/node/237

6 The Regeneration projects were developed on the basis of different research data: historic and architectural research, techno-economic calculations, underground communication schemes, sociological research data.

The demand for professionals in urban reconstruction, regeneration, revitalisation was obvious in Lithuania since 1950th.

In Lithuania there was no special first cycle study program for educating specialist of heritage preservation or revitalization of the cities. In Kaunas Technical University (KTU) the bachelor study program "Preservation of Cultural Heritage"[7] was developed and launched, but it has been unsuccessful.

But there are few master study programs that aiming to develop the competencies of heritage preservation for the various professionals, such as historians, economists, sociologists, anthropologists, artists, architects, art historians and critics.

Vilnius University (VU) have the Master study program "Heritage Preservation"[8]. The aim of the program is to provide theoretical knowledge and practical skills to prepare graduate for self-employment in the field of heritage preservation (except interventional activities) and historical scientific research.

Kaunas Vytautas Magnum University have the Master study program "Cultural Heritage and Tourism" [9]. The study program aims to educate the specialists that can administrate the cultural heritage, to carry out investigations, foreground tourism, to achieve effective cultural heritage promotion and delivery for Lithuanian society, foreign tourists and professionals.

VAA (Vilnius Academy of Art) have master study program (with few specializations) for educating restorers of art pieces (sculpture, paintings, wall-painting/murals) and of architecture (Architectural Restoration)[10].

7 "Preservation of Cultural Heritage" study program was designed to prepare wide range heritage specialist, but not the architect.

8 VU magistro programa "Paveldosauga" http://www.vu.lt/studijos/apie-studijas/studiju-programos/magistranturos-studijos/programa/1239-paveldosauga

9 Magistro programa "Kultūros paveldas ir turizmas"" http://www.vdu.lt/lt/study/program/show/90/

10 VDA magistrantūros studijų programa "DAILĖS IR INTERJERO RESTAURAVIMAS" specializacija "Architektūros restauracija" https://web.liemsis.lt/vdais/stp_report_ects.card_ml?p_valkod=621W91001&p_year=2016&p_lang=LT&p_spec=330&p_fil=182

## 1.3. REQUIREMENTS/PERMISSIONS/ RESTRICTIONS ON CONDUCTING THE WORKS AND DESIGN BY ARCHITECTS AND OTHER PROFESSIONALS IN THE HISTORIC BUILDINGS

Requirements, permissions, restrictions on conducting works and design by architects and other professionals in historic building are determined by the national Law on Protection of Immovable Cultural Properties and bylaws approved by Minister of Culture or Director of State Department for Cultural Heritage. Requirements for architectural design project for listed architectural objects (buildings and their ensembles) or sites are described by Regulations for Conservation Works in Listed structures, PTR 3.06.01:2007, approved by Minister of Culture. Architects without these licenses may participate in architectural design project just in subsidiary position.

If property is owned by the State or municipality requirements for conducting architectural design are restricted by:

- Law for Public Purchase, 2006 (if property is owned by State or municipality),
- Law on Protection of Immovable Cultural Properties,
- Law on Construction, the Law on Spatial Planning,
- Other national laws and bylaws. Terms of conducting works for private object of cultural heritage are restricted by the same laws except of the Law for Public Purchase.

Works provided with listed buildings are divided into two groups:

- Conservation works, conducted in accordance of special technologies for safeguarding of authenticity. These works are regulated by Regulations for Conservation Works in Listed structures, approved by Minister of Culture.
- Construction works of listed buildings, applied for building elements not listed as cultural features.

Processes of architectural design:

A. Licensed architects prepare architectural design proposals in accordance with results of provided research and data of listing. Design proposals are to be prepared just if restoration works are planned. The proposals are examined and should be signed by both responsible institutions: local subdivision of State Department for Cultural Heritage and Municipality under their mutual collaboration. The architect may be asked to prepare architectural design proposals in other cases also (if these proposals may influence the terms for architectural design project).

B. Then the document of design terms is issued. This document determines concrete requirements

for conservation works, aiming preservation of authenticity and preservation of valuable features (or minimal changes of them in change of function). The terms cover research works if it is necessary.

C. Licensed architect in accordance issued document of design terms prepares project of conservation works.

D. Responsible institutions examine correspondence of the project to issued terms, valid laws and bylaws.

It should be noted, that this process includes no public participation in listing of cultural properties and preparation of design terms.

Licensing requirements for architects working in the field of protection of cultural values are determined by the orders of Minister of Culture or Director of State Department for Cultural Heritage. They are determined by two basic documents:

– "Description of licensing order of professionals, preparing documents of special planning for protection of cultural heritage", signed by Minister of Culture and Minister of Environment", 2006;
– The order of the Minister of Culture "About approval of licensing regulation and license form for specialists, implementing applied scientific invasion research of heritage preservation and guiding these works, guiding heritage protection (special) expertise, 2005.

Architects applying for license must submit evidence of:

– Higher architectural (or equal) education;
– No less as 3 years of practical experience in the field of immovable cultural heritage protection;
– Knowledge of laws and other legislation, restricting protection of immovable cultural heritage;
– Knowledge of history of Lithuanian architecture, principles of urban development;
– Knowledge and ability to explain trend of politics in Lithuanian landscape and principles of European Convention of Landscape;
– Knowledge of Regulations for Conservation of Cultural Heritage, 2005–2014, in the field of licensed activity;
– Ability to evaluate the features of value of object in relation with licensed activity;
– Submission of data of participation in no less as 3 special plans of territories for regulation of protection of cultural heritage;
– Knowledge of criteria for evaluation and selection of cultural properties;
– Knowledge and ability to explain principles for regulation of cultural heritage by special planning in the national law and bylaws in Lithuania.

Licensing is provided by the Licensing Commission at the State Department for Cultural Heritage. The procedure consists of:

– Evaluation of submitted documents of education and practical experience by examinee;
– Evaluation of results of 30 questions' test. Examinee with PhD in the field of applied licensed activity is taking examination just in legal principles for regulation of cultural heritage by special planning;
– Conversation with examinee.

Similar procedures are determined for architects seeking license in the field of:

– Applied scientific research (invasion) of heritage preservation,
– Guiding heritage protection works,
– Guiding expertise of heritage protection (special expertise).

Licensed specialists may obtain one of 3 available categories of qualification: first (lowest), second, third, expert license. Specialists of first category of qualification have right to work in (with) objects not registered as cultural heritage objects, but located in territories of registered cultural objects or protected areas. Second qualification category enables works in registered cultural heritage objects. Third qualification category specialists can work with monuments of culture (highest category cultural heritage objects). License of expert gives right to get permission of prepare expertise for all listed objects.

Few years before the requirements of Law on Protection of Immovable Cultural Properties were corrected regarding obligatory preparation of projects of special planning for all registered cultural properties under protection of State. It appeared as reaction to practical experience of Lithuanian State Department for Cultural Heritage and municipalities: bureaucratic procedures of planning inadequately enlarged expenses and time of planning (up to 8 years and more). At present the change of this plan by Individual Regulation of Cultural Property is allowable. This document is more effective. As the result of changes in possibilities to get contract popularity of Special Planning License for architects is diminishing during few last years.

## 1.4. REQUIREMENTS/QUALIFICATIONS FOR TAKING UP POSITIONS IN THE CONSERVATION SERVICES ADMINISTRATION

Taking up positions in conservation services administration processes are regulated by national laws and bylaws valid for each position in administration of state or municipal institutions. The specific requirements could be determined also. They are particularity tar-

geting obtained education of applicant. The preference for obtained architectural education could be included into description of officially published terms for required position.

Available jobs in conservation services administrations are concentrated in 10 local subdivisions of Department for Cultural Heritage (subdivisions in Lithuania), administrations of 60 municipalities, few other State institutions (State Commission for Cultural Heritage, Center for Cultural Heritage, etc.). Until nowadays many officials responsible for cultural heritage protection have no university degree in architecture. Because of lower salaries in comparison with local subdivisions of State Department for Cultural Heritage lower level of education and available competencies are typical for administrations of municipalities. This negative factor also diminishes role of municipalities in the process of heritage preservation.

Legal basis for heritage protection, monuments adaptation to modern functions, design of new buildings in historical areas of Lithuania is complicated, multilayered and sometimes contradictory. This multiplex system was actively developed during 26 years of State independence. It is aiming protection of cultural (including urban and architectural) values and targeting creation of balance of public and private interests. The basis of this system consists of:

– International conventions and charters of cultural heritage protection, ratified by Lithuanian state;
– National Law on Protection of Immovable Cultural Properties.

In accordance of National Law all cultural properties are divided into three basic groups from the point of view of their legal status:

1. monuments of culture;
2. listed properties;
3. cultural heritage (the whole of properties potential for listing).

Listed properties are subdivided into groups in accordance of their status, composition, level of importance, level of protection: protected by State and others. Conservation works including research expenses could be partly financed by State Department for Cultural Heritage of property is declared as protected by State.

# PART II

## Determination of the qualifications and skills required in working with heritage protection and urban rehabilitation /in light of the practical experience/; /based on the information gathered in the Questionnaires – Part I/



### 2.1. WHAT ISSUES / PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

*[please list separately the particular issues and determine their scope, e.g. the theory of conservation, the legal basis for the heritage protection, monuments adaptation to modern functions, the design of new buildings in historical areas]*

Providing excellence of heritage preservation and urban regeneration, the theoretical knowledge and practice must be combined. The master study program must be interdisciplinary and comprise various and diverse aspects of urban heritage preservation, taking into account:

- the understanding and identification of cultural values (analysis in interrelated fields: historical, architectural, sociological, economical, ...)
- knowledge of the methodology of heritage preservation,

knowledge of contemporary heritage preservation and sustainable development and understanding of their interrelations,

- knowledge of law regulations (international, and local),
- understanding the impact of sociocultural and economic issues on urban revitalization,
- understanding the importance of societal dimension in heritage preservation and urban revitalization process (communities, municipalities),
- knowledge of modern technologies in preservation of material authenticity of historic structures.
- knowledge on methods of heritage preservation (conservation, restoration, rehabilitation, ...) and skills of their application,
- competencies of preparing the design projects of urban revitalization, understanding the process of their legitimation and management,

### 2.2. WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL CITIES?

*[please list separately the qualifications and describe them, e.g. knowledge of specific design programs, the ability to evaluate the technical condition of the historical building, the ability to analyse the historical values]*

The architect qualification in urban heritage preservation must include :

- the ability to understand urban and social context of analized structure or site,
- the ability to assess main features of cultural values, to reveal main threats to cultural value and scientific methods to evaluate them.
- the ability to assess the area of architectural, spatial, functional, technical and social point of view,
- the ability to apply the planning and design regulations to historic cities,
- the ability to apply the principles of sustainable development in the process of urban revitalisation,
- the ability to analyze the heritage research data and to understand the formation peculiarities of historical urban structures,

## 2.3. CHARACTERISTICS OF THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[e.g. the traditional approach, which recognizes the primacy of heritage protection over contemporary needs; inadmissibility of procedures such as reconstruction, restoration; the admissibility of extensive interventions in the historical areas treated as a continuation of their development]*

The general approach, that will be the heart of the master study program must follow the idea of respect the heritage of using it in the present and maintain for the future generations,

The scope and character of interventions in the historical areas could be various, but always based upon open and thorough discussion of politicians, professionals and local communities.

According such approach in the study program there must be taught:

- traditional and liberal approach of heritage preservation, seeking for the harmonization of these approaches,
- to follow the problematic way of studying, by presenting the various viewpoints, enabling pluralistic attitude (positive and critical),
- to strive for the concord of the desire and will to preserve heritage values and adapt heritage to contemporary needs and requirements,
- to pursue for the harmonisation of contradictions of preservation and development, by the sustainable attitude,
- the revival of the historic city must be oriented to the social and human dimensions, by applying principles of sustainability.

## 2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES

*[e.g. lack of knowledge of the principles of revitalisation of the historical cities, lack of knowledge of the history of architecture, lack of respect for the historical architecture, a positive attitude towards the heritage protection]*

Architects in Lithuania are educated according the study programs, which target is to prepare the wide profile of an architect, to educate multi-faceted, versatile skilled architect. In this situation the competencies of heritage preservation and urban revitalization is not sufficiently emphasized.

- Architects usually lacking knowledge of history and development of heritage preservation and also the contemporary preservation methods, principles and trends of city regeneration.
- The main problem is the lack of a holistic approach to the historic environment.
- The main reason for the improper preparation of the architect for urban regeneration activities is the rather negative attitude of the architectural community to heritage protection as a fully-fledged architectural activity; we need to reduce the opposition of new and architecture and heritage, to bring together architects, that create the new architecture and who preserve and revitalize the historic architecture.
- It is needed to pay more attention to fostering the architect's empathy provision of community needs and interests, to shape the deep, flexible and adaptive understanding of the diversity of cultural heritage value.

# PART III

## Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating the architects /along with the examples of syllabi/; /based on the information gathered in the Questionnaires – Part II/

### 3.1. LIST AND DESCRIBE THE COURSES RELATING TO HERITAGE PROTECTION AND REVITALISATION OF MONUMENTS, TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[please specify the courses and include their detailed programs; specify the structure of each course – division into lectures and design classes; describe the purpose and scope of these courses; make a critical evaluation – identify the courses considered to be the best (to be used in a model programme)]*

| TITLE OF THE COURSE | ECTS | COURSE STRUCTURE | STUDY METHOD | STUDY LEVEL |
|---|---|---|---|---|
| VAA | | | | |
| Project of the public object in the historic environment | 12 ECTS, | *theory 20 h, course project 140 h, individual work 160 h* | design project | BA |
| Architectural Heritage Research | 3 ECTS, | theory 36 h, practice 12 h, individual work 24 h | theory + exercise | BA |
| Basics of Heritage preservation | 3 ECTS, | theory 36 h, individual work 44 h | theory | BA |
| Research Methodology | 3 ECTS, | *theory 32 h, practice 32 h, individual work 16 h* | theory + exercise | MA |
| Urban spatial scale | 6 ECTS | *theory 75 h, practice 15 h, individual work 60 h* | theory + exercise | MA |
| Forming and protection of cultural landscape | 4 ECTS | *theory 50 h, practice 10 h, independent work 40 h* | theory + exercise | MA |
| Correlation of modern architecture and heritage | elective, 4 ECTS | *theory 31 h, practice 12 h, independent study 58 h* | theory + exercise | MA |
| Contextuality of the Architecture | elective, 4 ECTS | *theory 31 h, practice 12 h, individual work 58 h* | theory + exercise | MA |
| Iconography of Urban Landscape: history, photography and archivistics | elective, 4 ECTS | *theory 18 h, practice 18 h, independent study 67* | theory + exercise | MA |
| “Architectural research and building restoration 1” | 7 ECTS | theory 70 h, practice 30 h, independent work 80 h | theory + course work | MA |
| “Regeneration of historic cities 1” | 8 ECTS | theory 80 h, practice 38 h, independent work 95 h | theory + course work | MA |
| “Architecture and interior restoration practice” | 6 ECTS | theory 40 h, practice 47 h, independent work 72 h | report | MA |
| “The new design in the historic environment 1” | 8 ECTS | theory 80 h, practice 36 h, independent work 90 h | theory + course work | MA |
| “Non-destructive research and preservation” | š ECTS | theory 50 h, practice 37 h, independent work 72 h | theory | MA |

| VGTU | | | | |
|---|---|---|---|---|
| Basics of Urban Design and Sociology | 5 ECTS, | theory – 45 h, practical work 30, individual work 58 h | theory + exercise | BA |
| Development Project of Small Town | 9 ECTS, | theory – 15 h, practical work 105 h, individual work 120 h | design project | BA |
| Renovation Design of an Architectural Object | 9 ECTS, | theory – 12 h, practical work 108 h, individual work 115 h | design project | BA |
| Regeneration Project of Urban Residential Structures | 9 ECTS, | theory – 12 h, practical work 108 h, individual work 115 h | design project | BA |
| Protection of Monuments and Regeneration | 3 ECTS, | theory – 36 h, individual work 44 h | theory | BA |
| Physical Recourse of Territory and Landscape Protection | 6 ECTS, | theory – 30 h, practical work 15 h, individual work 114 h | theory + course work | MA |
| Protection of Immovable Cultural Heritage | 6 ECTS, | theory – 45 h, individual work 113 h | theory | MA |
| Architecture and Contexts 1 | 12 ECTS, | theory – 20 h, practical work 80 h, individual work 212 h | design project | INT |
| Architecture and Contexts 2 | 12 ECTS, | theory – 20 h, practical work 80 h, individual work 212 h | design project | INT |
| Architecture and Heritage | 15 ECTS, | theory – 15 h, practical work 75 h, individual work 300 h | design project | INT |
| Protection of Immovable Cultural Heritage | 6 ECTS, | theory – 45 h, practical work 15 h, individual work 96 h | theory + exercise | INT |
| KTU | | | | |
| Harmony of old and new in architecture | 6 ECTS, t | theory – 32 h, practical work 16 h, individual work 112 h | theory + seminars | MA |
| Urban Sociology | 6 ECTS, | theory – 32 h, practical work 16 h, individual work 112 h | theory + seminars | MA |
| Preservation of cultural heritage | 6 ECTS, | theory – 32 h, practical work 16 h, individual work 112 h | theory | MA |
| Means and methods of heritage conservation | 6 ECTS, | theory – 32 h, practical work 16 h, individual work 112 h | theory | MA |
| Methods of architectural renovation | 6 ECTS, | theory – 32 h, individual work 128 h | theory | MA |
| Cultural Heritage | elective, 6 ECTS, | theory – 48 h, practical work 32 h, individual work 80 h | theory + course work | INT |

## VAA ARCHITECTURE BACHELOR STUDY PROGRAM :

**Project of the public object in the historic environment** (12 ECTS, theory 20 h, course project 140 h, individual work 160 h); Common knowledge on formation of new architecture in the historic environment, their composing methods and heritage protection regulations. Knowledge of the typology of public building. The ability to apply the method, how to make a desing in the historic context. The competence to solve the issues of new architecture in the historic complex, to combine the artistic intention with rationality, functionality and to meet the requirements of construction and spatial planning regulations. The team approach is encouraged[11].

11 https://web.liemsis.lt/vdaisr/stp_report_ects.mdl_ml?p_kodas=MB0231&p_year=2016&p_lang=LT&p_stp_id=1536

**Architectural Heritage Research** (3 ECTS, 6 semesters, theory 36 h, practice 12 h, individual work 24 h). The specific knowledge on the types of architectural heritage research are delivered: history and art history, polychrome, broader architectural applied research, as well as engineering-constructive and archaeological. The correlation of research data with the history of architecture as well as their practical application[12].

**Basics of heritage preservation** (3 ects, theory 36 h, independent work 44 h). Introduction to the concept of cultural heritage, material heritage; movable and immovable; heritage-historical developments in Europe and Lithuania. The current management of the heritage protection laws in Lithuania. Introducing basic techniques: preservation, restoration, rehabilitation, adaptation and their possible application.

## VAA ARCHITECTURE MASTER PROGRAM[13]

**Research Methodology** (3 ECTS, theory 32 h, practice 32 h, individual work 16 h). Basic organizational skills of scientific work is fostered: to compose the bibliography for research, students learn theoretical and practical means and principles of research work, while studying literature and other sources, making its grouping and selection. The students learn to define and narrow the problem area, to articulate and focus on the problem, set goals and objectives, scientific-based logic.

**Context of the Architecture** (elective, 4 ects, theory 31 h, practice 12 h, individual work 58 h). This course will help to achieve the organic connection of new architecture with the environment, preserve and enhance urban structures character and uniqueness. The ability to analyze their own and other works in context will enable motivated criticism and deflect criticism of other professionals, to keep their architectural ideas while presenting the projects for the public and customers.

**Iconography of Urban Landscape: history, photography and archivists** (elective, 4 ects, theory 18 h, practice 18 h, independent study 67).

Subject aims to familiarize the world's townscape iconography evolution, to reveal relations of architects and photographers, to introduce the most relevant architectural and townscape heritage iconography, to explain how photography and iconography can determine the development of the architecture and can influence the contemporary design context.

**Urban spatial scale** (6 ects, theory- 75 h, practice- 15 h, individual work- 60 h)

The course covers the essential aspects of urban spatial composition, that cause the phenomenon of urban scale; the specific of scale manifestation in urban spaces, and the its programming techniques and methods.

**Forming and protection of cultural landscape** (4 ects, theory 50 h, practice 10 h, independent work 40 h) To introduce the development of cultural landscape in Lithuania and other countries. To discuss the natural and cultural diversity of Lithuanian landscape, to find out the key elements that have shaped it. To explore the legislation, that regulate the nature heritage sites and protected areas. It is also important to discuss modern trends of landscaping and the effect of new technologies on the development and cognitive function.

Correlation of modern architecture and heritage (elective 4 ects, theory 31 h, practice 12 h, independent study 58 h). To acquaint students with the processes of the new architecture emergence in historic contexts, the creative possibilities to act in different types of cultural heritage sites. To review the appropriate and inappropriate development examples in the different types of protected areas. Examine dissonance opportunities to change the heritage and discuss the most important RL legal and administrative tools, limiting new architectural development in protected areas. Deliver local identity, traditions and innovative ideas for dialogue.

## VAA "ARCHITECTURE RESTORATION" MASTER STUDY PROGRAM"[14]

**"Architectural research and building restoration 1"** (7 ects, theory 70 h, practice 30 h, independent work 80 h).

Knowledge about objects of architectural object, their groups and historic development; theoretical knowledge of architectural heritage objects research, management, methods of conservation-restoration and application of them. Knowledge about Building conservation and restoration methods, a variety of solutions. Competence in shaping the building rehabilitation conception, based on survey data and preparing

12 https://web.liemsis.lt/vdaisr/stp_report_ects.mdl_ml?p_kodas=MB1210&p_year=2016&p_lang=LT&p_stp_id=1536

13 https://web.liemsis.lt/vdais/stp_report_ects.card_ml?p_valkod=621K10003&p_year=2016&p_lang=LT&p_spec=&p_fil=241

14 https://web.liemsis.lt/vdais/stp_report_ects.card_ml?p_valkod=621W91001&p_year=2016&p_lang=LT&p_spec=330&p_fil=182

the heritage preservation project.

**"Regeneration of historic cities 1"**(8 ects, theory 80 h, practice 38 h, independent work 95 h).

Provide the knowledge of Lithuanian urban heritage and its protection (research, evaluation).

Knowledge of Lithuanian cultural heritage sites; the urban heritage development studies, analysis methods of their spatial structure, the process of the heritage assessment and articulation of the heritage values. The analysis of the development of historic city built structure is prepared.

**"Architecture and interior restoration practice"** (6 ects, theory 40 h, practice 47 h, independent work 72 h). The aim of the practice is to consolidate the practical skills of heritage research and application of rehabilitation (preservation) methods. During this practice, the students monitor the investigations, the application of heritage treatment methods, and if possible, participate in the activities of the heritage preservation activities. The report must be prepared.

**"The new design in the historic environment 1"** (8 ects, theory 80 h, practice 36 h, independent work 90 h). Knowledge and theories about the the design of a new architecture in the historical environment, getting skills in application of these knowledge. The design results and samples of the new architecture in historic environment in Lithuania and abroad, highlighting the methodological solutions. The course project will be prepared.

**"Non-destructive research and preservation"** (6 ects, theory 50 h, practice 37 h, independent work 72 h).

To introduce students to the research and conservation methods of works of art, their diversity and approaches; study methodical literature on conservation, benefit from analysis and comparison methods; deepen knowledge while monitoring already restored objects or in restoration workshops,; to associate materials' conservation with the art and architectural heritage maintenance.

## VGTU ARCHITECTURE BACHELOR STUDY PROGRAM:

**Basics of Urban Design and Sociology** (5 ECTS, theory – 45 h, practical work 30, individual work 58 h)

Course aim is to give the basic knowledge of town planning and urban design, to develop the elements of town planning skills.

Main topics of the course: Functional, spatial organisation of city and social, ecological, economical sides of it's existence. Essence and sense of town planning and urban design. The contemporary tendencies of town planning. Social, ecological and economical problems of city development. Compact city. Principles of zoning, organisation of social, technical infrastructure, communication system seeking the sustainability of city development. Townscape, methods of aesthetical city organisation, protection of culture heritage. Housing morphology.

**Development Project of Small Town** (9 ECTS, theory – 15 h, practical work 105 h, individual work 120 h) Course aim is to provide knowledge and develop abilities to solve tasks of a town's/small town's integrated development, to understand significance of the results of urban planning and designing for the society and local communities. To develop abilities to assess social development processes and use them in towns'/small towns' designing.

Introduction of methods and principles of integrated planning and designing of a town/small town. Developing of practical skills of urban planning and designing: urban analysis of a chosen Lithuanian town/small town is performed (1); based on the evaluation of the town's problems and potential variants of development are proposed, the conception of development is selected and the master plan is drawn (2); the part of the town's territory is detailed, compositional tasks of urban pattern designing are solved, the detailed plan is drawn (3).

**Renovation Design of an Architectural Object** (9 ECTS, theory – 12 h, practical work 108 h, individual work 115 h) Course aim is to survey the rules and possibilities of renovation of contemporary architectural objects. Combining theoretical lectures with exercises the programme of conversion project of complex urban structures is composed. The design project is prepared in a real situation, taking into account the value of the existing object and the social, artistic and technical requirements.

**Regeneration Project of Urban Residential Structures** (9 ECTS, theory – 12 h, practical work 108 h, individual work 115 h) Course aim is to improve student's consummation in the process of the housing development in the historical parts of the town. Student must carefully select the structural type of house according the existing social needs. The central part of the town in the urban structure of the historical town. The structure of the functions and their concentration. The coordination of social, architectural and urban requirements in the process of the housing development. The types of the habitable system and the formation principles. The spatial structure of the quarter and it's spatial scale, functional use and engineering preparation of quarter's territory. Parking system in the residential and urban structures. The project schemes of the block of flats and it's architectural expression.

**Protection of Monuments and Regeneration** (3 ECTS, theory – 36 h, individual work 44 h) Course aim is to

broaden the erudition of the future architect, provide the knowledge on fundamentals of humanities, social and physical science on architectural history and its peculiarities needed for the development of the crateful methods and the aesthetic attitudes, enabling to work with the objects of the cultural heritage and their groups.

The study subject presents Fundamentals of the historic development in the field of protection of the cultural heritage, present trends for safeguarding and use of the cultural monuments (emphasizing the sectors of immovable cultural and natural heritage) and their groups on the basis of scientific research and professional practice. The study module introduces the subject of international and local/country's political and organizational systems of protection of the cultural heritage. Presents the ways and methods for safeguarding, saving and regeneration of multi-layer substances of the cultural heritage. The problem of the relation between the modern infill's and the separate monuments, their groups and larger protected urban complexes- historic old towns is presented. Understanding of the importance of the saving and researching the Tradition is underlined along with the impact by newcomers- cultural tourism and local community.

## VGTU ARCHITECTURE MASTER STUDY PROGRAM

**Physical Recourse of Territory and Landscape Protection** (6 ECTS, theory – 30 h, practical work 15 h, individual work 114 h). Course aim is to introduce with the landscape assessment methodology, its practical application and the main tools of landscape protection and planning

Students are introduced to landscape assessment research, practice and landscape protection tools, integrated landscape assessment, showing how the analysis of physiognomic profile of the landscape character, illustrated by natural and cultural features and presented as a result of landscape planning, is combined with analysis of a landscape character as an object of human perception and evaluation. Students gets the knowledge and cognition of landscape character assessment process: analysis of natural and cultural features, landscape perception, landscape classification, landscape sensitivity, landscape capacity.

**Protection of Immovable Cultural Heritage** (6 ECTS, theory – 45 h, individual work 113 h).

Course aim is to present the contemporary methods of architectural heritage protection and preservation. The protection requirements of architectural heritage: sites, buildings and their complexes. The principles established by the international, foreign and Lithuanian cultural heritage protection documents.

## VGTU ARCHITECTURE INTEGRATED STUDY PROGRAM[15]:

**Architecture and Contexts 1** (12 ECTS, theory – 20 h, practical work 80 h, individual work 212 h), Course aim is to educate thinking and empathetic personality, who will be able to evaluate and dispose building' contextual aspects of a place and a time, reflecting realities and challenges of today life.

This is a research module discussing the problem of relation between Building and it's Contexts. The Contexts appear as Place and Time. Principles of sustainability needs to be employed in the research. This module will develop student' ability to look at a building not as to a volume, but rather to a potential space through a human natural needs, will develop an empathetic architectural thinking. It will be strengthen through autonomous research and complexity project led by lectures, seminars and paper work.

**Architecture and Contexts 2** (12 ECTS, theory – 20 h, practical work 80 h, individual work 212 h),

The aim of course is to provide students with the knowledge of urban structures and complexes design principles in historic, contemporary cities and reconstructed urban environment, taking into ac-count various contexts.

Design principles of new architectural objects and urban complexes are analyzed, taking into account the various cultural, geographical contexts and the existing structure. After assessing the various context influences and examining the social potential of the public urban spaces, the concept of the spatial system in the urban structure is formed, the building complex is designed, the function of object is determined and the consequence to the visual identity of the urban fabric is evaluated. The spatial structure of an object forms, adds to context of the spatial structure and revitalizes the social content.

**Architecture and Heritage** (15 ECTS, theory – 15 h, practical work 75 h, individual work 300 h),

The aim of the course is foster architect professional abilities to regenerate the urban fabric and renovate the existing buildings, taking in to account the evalu-

15 https://medeine.vgtu.lt/programos/programa.jsp?sid=F&prog=279&rus=U&fak=1&klb=en

ation of historically developed urban structure, values of architectural objects and different social need are educated.

The combination of theoretical knowledge and practical workshops are addressed to solve the regeneration of urban structures and building renovation tasks. The abandoned or devoured blocks of the towns' central parts as well as the conversion industrial areas or the Soviet residential areas wastelands are selected for the course project. The aim of the projects urban design part is a new urban design quality of the historic environment and harmony without violation of the existing or new spatial structure creation in wasteland. The aim of the project architectural part is a renovation project of a real building in the present situation, which is being prepared in consideration of the existing property values and new social, artistic and technical requirements arising during the renovation process.

**Protection of Immovable Cultural Heritage** (6 ECTS, theory – 45 h, practical work 15 h, individual work 96 h),

The course aims to train the expert abilities of students in the field of contemporary problems of immovable cultural heritage protection. To provide the knowledge on the identification of the architectural styles of the objects of the architecture and the ability to apply them.

Protection requirements of architectural heritage buildings, their complexes, sites, and cultural landscape, are presented, interrelation of their evaluation and treatment with problems of urban development are analyzed. The principles of safeguarding, established by international, foreign and Lithuanian cultural heritage protection documents and projects, are revealed. The targets of recording and preservation of buildings and sites under restoration or rebuilding are analyzed in situ. The development of the structural elements of the architectural styles and their architectural forms is analyzed through the resources of iconography and historiography as the fundamentals for the identification of the architectural styles.

## KTU ARCHITECTURE MASTER STUDY PROGRAM:

**Harmony of old and new in architecture** (6 ECTS, theory – 32 h, practical work 8 h, individual work 120 h) to gain knowledge of old and new harmonization aspect, develop the capacity to assess innovation in the historic environment. Knowledge of tradition and innovation interaction problem and its possible solutions. Ability to understand the harmonization of inter- temporal, intermodal and other different value of the elements in the environment.

**Urban Sociology** (6 ECTS, theory – 32 h, practical work 16 h, individual work 112 h). Knowledge of urban sociology evolution, theories, and social phenomena in the contemporary city.

**Preservation of cultural heritage** (6 ECTS, theory – 32 h, practical work 16 h, individual work 112 h). To acquire knowledge about the concept of cultural heritage, its study, evaluation, management and organization of its protection.

Knowledge of heritage preservation in Lithuania and abroad. Acquired skills to organize the activities of study, use, management and protection immovable cultural objects.

**Means and methods of heritage preservation** (6 ECTS, theory – 32 h, practical work 16 h, individual work 112 h). Gaining knowledge about the heritage law, heritage preservation activities, methods, tools; knowledge about sustainable use and management of protection of cultural and nature heritage. Knowledge of concept and objectives, methods and trends of heritage preservation; meaning of authenticity and the heritage value; to learn and adapt for planning the activities of heritage measures: restoration, renovation, reconstruction, preservation of the value.

**Methods of architectural renovation** (6 ECTS, theory – 32 h, individual work 128 h). Knowledge of the architectural renovation techniques, methods, tools and materials used. Learn how to use different ways and means of renovation of cultural heritage in a changing social, cultural and economic environments. Knowledge and ability to use renovation methods, techniques, tools for the objects of different function, the value, age, physical condition and scale.

## KTU ARCHITECTURE INTEGRATED STUDY PROGRAM:

**Cultural Heritage** (elective, 6 ECTS, theory – 48 h, practical work 32 h, individual work 80 h).

Gain in-depth knowledge of the concept, circumstances of formation, types, dissemination and the value of cultural heritage. Get acquainted with accounting and protection of heritage, the legal framework of Lithuania heritage preservation, also focusing on rural building traditions and regional peculiarities.

Specific objectives: to learn how to determine the social, and cultural and landscape value of immovable cultural heritage; to develop capabilities for detection and evaluation of immovable cultural heritage, for preparation of the necessary documentation for heritage legal registration, management, and conservation.

Summarizing the overview of the courses, taught in the various study level programs (Bachelor, Master, Integrated), that educate the architects in Lithuania, can be stated that:

- in the Architecture Bachelor programs, the students get very little and only the very basic knowledge on heritage and its preservation, and it is not stressed and not highlighted, that architectural heritage preservation is the full-fledged and rather important part of architectural excellence and activity. The knowledge, competencies and skills of architecture revitalization is delivered rather weak, fragmentary and inconsistent in undergraduate architecture studies. In some cases, some aspects of heritage preservation can be included in academic study projects, or in the issues on architectural research, critical assessment, or while solving some problems of only technical renovation of buildings.
- In the Master study programs can be seen more as theoretic courses, intended for the research methodology, issue of the context in the architecture, urban scale and aspects of cultural landscape. Almost each of the Lithuanian school, that educate architects, in the master study program have some courses, that deliver the knowledge about the concept of cultural heritage preservation, its development, the legal regulation, research methodology, types and methods of the heritage preservation, and some competencies and skills how to prepare the heritage preservation design project. There was noticed that in the problem of architecture heritage preservation in study programs are divided into the building preservation and the urban structure preservation (and almost the cultural landscape preservation).
- As an exclusive phenomenon is a specialized master's program "Architecture restoration", that is specifically formed to develop the architect who would work exclusively in the field of heritage, would be competent to operate successfully in the preparation and implementation of architectural heritage management projects. The course of this program can be the basis or the starting point for the master program on "Sustainable Urban Revitalization".
- The recently formed (in 2016) and already ongoing Integrated Architecture study programs (5 years) in all Lithuania the concept of cultural heritage and its protection has not acquired greater importance in the program, than it was in bachelor of master programs. In the VGTU study program three course are devoted to the heritage theme: one theoretical with basic information on heritage concept, development, principles and methods of its protection, legal regulations. 2 course projects, that have some connections with the architectural heritage "Architecture and Context", "Architecture and Heritage".

## 3.2. CHARACTERIZE THE FORM AND THE SCOPE OF CONTACT WITH THE PRACTICE OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES PROVIDED IN THE CURRICULA AT THE FACULTIES OF ARCHITECTURE

*[e.g. summer internship for students, placements for students in design offices and companies, involvement in the projects, study visits, summer schools]*

*Make the critical assessment of these actions – their form and usefulness in teaching process*

None of that kind of activities are ongoing in the field of academic level of the Heritage protection at present.

## 3.3. PRESENT THE ALUMNUS PROFILE DESCRIBED IN THE DOCUMENTS OF STUDY PROGRAMME IN FIELD OF ARCHITECTURE IN THE SCOPE RELATING TO HERITAGE PROTECTION AND URBAN REGENERATION

*Make a critical assessment of this profile.*

VGTU Architecture bachelor study program aims to develop full-scale architect's erudition, fundamental knowledge in humanitarian, social and physical sciences, conceptual knowledge in architecture and fine arts historical development and its peculiarities is provided. The aesthetic viewpoints are formed, and opportunity to acquire a certain creative method is provided.

The study results that mostly are concerned with architect competencies of heritage protection and revitalization of historical cities are:

- Competence in identifying and defining a problem related to architecture, naming the research goals, tasks and raising hypotheses; collection and analyzing of data, summarizing and interpretation of the research results while formulating conclusions.
- Competence to analyze and evaluate the environment and interpret the results of such analysis in the design process.

– Competence to understand the complex character of designing process in architectural creation; to coordinate all functional, technical, aesthetic, social, economic, ecological, etc. requirements in passing professional solutions and applying original solution methods.
– Competence to satisfy properly the society requirements in architectural creation and to respect the public interests.
– Competence to work in a group, associate with colleagues and specialists in contiguous areas;

**VGTU Architecture Master study program aim to** provide up-to-date, specialized knowledge of professional and scientific activities which made the background for original thinking and innovative artistic creation; to foster the ability to substantiate the creative works with applied research covering the critical interface between different fields of knowledge and understanding.

The study results, that mostly concerned with architect competencies of heritage protection and revitalization of historical cities are:

– Knowledge of the principles of the architectural and structural renovation of buildings and complexes and the impact of engineering solutions on the architecture of the object being renovated.
– Knowledge of the methodology of the integrated research of the existing condition of city and region territories, planning of complex urban systems, and assessment of the impact of urban spatial formation and design as well as of solutions on the environment.

**VGTU Architecture integrated study program**[16] has indicated the aim to train a socially responsible, continually improving his/her skills architect of great erudition, who in cooperation with specialists from other fields would be able to carry out architectural activities holistically, rationally and in creative way, while solving complex problems of physical space shaping in global and constantly changing environment.

The study results, that mostly concerned with architect competencies of heritage protection and revitalization of historical cities are:

– Able to monitor and analyze continuously environmental phenomena and trends of it shaping, and to make creative and innovative application for architectural works.
– Able to substantiate architectural activities by the results of self-conducted applied research
– Ability to creatively, innovatively and responsibly deal with complex architecture, urbanism, landscape and heritage policy issues and challenges shaping the physical environment in unfamiliar and constantly changing context
– Ability to work in a group, to communicate and collaborate in an interdisciplinary team.
– Able to meet general and specific needs of different social groups, to respect the public interest, assume responsibility for the architectural performance impact on the welfare of society, understanding the role of the architect profession.

**VAA Architecture master program's**[17] has the aim of developing high professional and scientific level architectural masters, who are able to independently implement complex tasks in accordance with principles of sustainable development, adapting innovative ideas in the historical environment and being aware of its role as the creator, cultural and social responsibility towards the society.

The study program also provide the knowledge of heritage, landscape architecture, sociology, and other sciences, will deepen the existing knowledge in philosophy, history, ethnology and art.

Will be able to properly evaluate the features of the area, and selecting one of the priority theme (traditional, aesthetic, and philosophical-notional) and to implement the results and conclusions of the research.

The student will be able to make a design of urban heritage, or protected nature areas, in professional and creative way.

Ability to understand and interpret the expectations and needs of individuals, social groups for space planning and design, conservation and exploitation of architectural heritage, and protection of natural balances.

**VAA "Architecture restoration" master study program**[18] aims to develop the professional of cultural heritage preservation, who can work like restorer, who is able to analyze, evaluate an object, choose the appropriate conservation methods and to apply them in practice,

16 https://medeine.vgtu.lt/programos/programa.jsp?sid=F&prog=279&rus=U&fak=1&klb=en

17 https://web.liemsis.lt/vdais/stp_report_ects.card_ml?p_valkod=621K10003&p_year=2016&p_lang=LT&p_spec=&p_fil=241

18 https://web.liemsis.lt/vdais/stp_report_ects.card_ml?p_valkod=621W91001&p_year=2016&p_lang=LT&p_spec=330&p_fil=182

be able to prepare the heritage object conservation and rehabilitation project, taking into account the existing heritage legislation, policy and methods in Lithuania.

**VAA "Architecture" integrated study program** has indicated the aim to train a qualified architect and a creatively-minded artist. The programme seeks to develop students' abilities to anchor their professional architect's practice on the outcomes of research, to acquire practical experience in developing designs of buildings and their complexes, to build skills in computerized design and the traditional means of graphic rendition.

The study results, that mostly concerned with architect competencies of heritage protection and revitalisation of historical cities are:

- Ability to conduct applied research, formulate reasoned conclusions, and according to them, prepare design programs, plan and organize the design process.
- Ability to analyze research data, identifying and assessing the social, artistic and economic priorities of the research is based on the general cultural (art, architecture) phenomena.
- The ability to work, communicate and collaborate with other experts, the ability to think critically and self-critically, to understand the collective and individual responsibility to society.
- To perceive great professional responsibility, the ability to anticipate consequences and understand the moral responsibility for their activities and their results on the environment and social welfare, cultural and economic development.

**VVA "Architecture and Urban Design" integrated study programme** is designed to prepare qualified architects who would be able to apply professional knowledge in practice, and to independently develop the knowledge obtain. Such specialist must be able to perform methodologically based architectural – urban research in a constantly changing natural and anthropogenic environment, and to apply conclusions of research properly in his/ her professional activity.

**KTU Architecture integrated study program** is a dynamic, innovative and practical together. The exclusiveness of the program is the historical, cultural, theoretical and philosophical critical analysis of existing typologies that are associated with aesthetic prototyping while integrating design, fabric, mechanical, ecological and economic research.

*SUMMARY*

*The bachelor and integrated Architecture study programs declare the development of universal creative architects who are able to create architectural designs. The acquired knowledge, competencies and skills very poorly meet the special requirement of the professional of heritage preservation and urban revitalization. Only some of them can refer to heritage protection specialist:*

- *to monitor and analyze continuously environmental phenomena*
- *to creatively, innovatively and responsibly deal with complex architecture, urbanism, landscape and heritage policy issues and challenges shaping the physical environment in unfamiliar and constantly changing context*
- *to work in a group, to communicate and collaborate in an interdisciplinary team.*
- *to meet general and specific needs of different social groups, to respect the public interest,*
- *to assume responsibility for the architectural performance impact on the welfare of society.*

The more specialized study programs are available only on master level. The alumni of **"Architecture restoration"** master study program are the professionals of cultural heritage preservation, can work like restorers, able to analyze, evaluate an object, choose the appropriate conservation methods and to apply them in practice.

## 3.4. CHARACTERIZE THE CURRICULUM (AS A WHOLE) FROM THE POINT OF VIEW OF ITS SUBSTANTIVE CONTENT AND STRUCTURE (CONSISTENCY AND COMPLETENESS OF THE PRESENTED ISSUES, PROPER ORDER, COMPATIBILITY WITH OTHER COURSES).

*Make a critical assessment of the program.*

Architecture programs (bachelor and integrated) are not focused on the architect, who exclusively will deal with urban and architectural heritage. These programs provide basic understanding of the heritage and give some practical skills (or even understanding) of its preservation.

The master study program **"Architectural restoration"**[19] can be attributed to the program, that educates architect- preservationist- revitalizer.

Master study program **"Architectural Restoration"**

19 This study program started in 1997 in Vilnius Academy of Arts. https://web.liemsis.lt/vdais/stp_report_ects.card_ml?p_valkod=621W91001&p_year=2016&p_lang=LT&p_spec=330&p_fil=182

| TITLE OF THE SUBJECT | | COURSE TYPE | ECTS |
|---|---|---|---|
| *1 semester* | | | |
| Architektūros tyrimai ir pastatų restauravimas 1 (MM0076) | Architectural studies and building restoration 1 | CSS | 7 |
| Paminklinis interjeras ir moksliniai tyrimai (MM0038) | Heritage interior and research | CSS | 9 |
| Piešimas 1 (MM0175) | Drawing 1 | CSS | 5 |
| Teorinio darbo metodai (HM0021) | Methods of theoretical work | CSS | 6 |
| Magistro baigiamojo darbo tiriamasis raštas 1 (HM0030) | Master's thesis research notes 1 | FW | 3 |
| *2 semester* | | | |
| Architektūros tyrimai ir pastatų restauravimas 2. Seminaras (MM0041) | Architectural research and building restoration 2 (Seminar) | CSS | 9 |
| Istorinių miestų regeneravimas 1. (MM0042) | Regeneration of historic cities 1 | CSS | 8 |
| Piešimas 2 (MM0176) | Drawing 2 | CSS | 4 |
| Magistro baigiamojo darbo tiriamasis raštas 2 (HM0031) | Master's thesis research notes 2 | FW | 3 |
| *elective courses/free choice* | | | |
| Šiuolaikinė estetika ir meno filosofija 2 (HM0090) | Modern aesthetics and philosophy of art 2 | ELE | 6 |
| Konceptualus menas (HM0088) | Conceptual art | ELE | 6 |
| Reklamos psichologija (SM0001) | Advertising Psychology | ELE | 6 |
| Šiuolaikinės meno teorijos (HM0036) | Contemporary Art Theory | ELE | 6 |
| Rytų ir Vidurio Europos šiuolaikinė dailė (HM0016) | Modern art of Eastern and Central European | ELE | 6 |
| *3 semester* | | | |
| Architektūros ir interjero restauravimo praktika (MM0182) | Architecture and interior restoration practice | PR | 6 |
| Istorinių miestų regeneravimas 2. Seminaras (MM0043) | Regeneration of historic cities 2 (Seminar) | CSS | 7 |
| Naujų pastatų projektavimas istorinėje aplinkoje 1 (MM0039) | The new building design in the historic environment 1 | CSS | 8 |
| Nedestruktyvūs tyrimai ir konservavimas (MM0077) | Nondestructive research and conservation | CSS | 6 |
| Magistro baigiamojo darbo tiriamasis raštas 3 (HM0032) | Master's thesis research notes 3 | FW | 3 |
| *4 semester* | | | |
| Naujų pastatų projektavimas istorinėje aplinkoje 2 (MM0040) | The new building design in the historic environment 2 | CSS | 9 |
| Magistro baigiamasis darbas (MM0048) | Master's thesis | FW | 18 |
| Magistro baigiamojo darbo tiriamasis raštas 4 (HM0033) | Master's thesis research notes 4 | FW | 3 |
| *CSS – compulsory study subjects; FW – final work ELE – elective study courses, PR – practice* | | | |

*The logics of this program is clear and simple:*

- *to start from the theoretical information about the concept of heritage preservation, history, principles and methods; later provide the knowledge on methodology and various kinds of research;*
- *introduce to the restoration of the heritage building, by preparing the restoration architectural project;*
- *introduce to the regeneration of the historic cities, by preparing the regeneration project*

*The very important subject in the program is the "Architecture restoration practice, but it must be more connected to the practical participation on the students in the restoration activities, nor only visiting building sites and observing the works.*

*In the master study program some doubts can raise the drawing subjects, but it can be seen as the specifics of the school (Academy of Arts).*

*The program is lacking more attention for the identification of the heritage value (structure and process) and also more focus on the social dimension in the heritage preservation.*

## 3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS.

Separately specify a model programme in the field of architecture (when it is not a specialty in the field of revitalization of historical towns) and a model programme of specialty in field of revitalization.

*[list of courses, structure and sequence of these courses, the content of the courses, the scope and form of contact with practice] Including curricula best suited to current needs of labor market*

After project team discussed the outcome of the collected answers by recipients, and expressed their own attitudes, it was agreed to point out few principles of such model program.

I It its necessary to not limit heritage preservation teaching it only to architectural MA level of studies. Students have to be elaborated enough in BA degree too, in order to reach necessary levels of fundamentals and be prepare for the ensured scientific (even initial scientific) level of the research to be done and design exercises to be executed in the start of MA studies. This means, that also BA levels of studies have to be altered in the relation to the heritage preservation disciplines.

II Such a MA programme must have the final, achievable target/aim formulated and agreed up on, which would assure that the MA graduates are ready to solve complex of issues of the different parameters of quantity and quality (different complicatedness of the challenges and different availability to apply professional skills and the solutions proposed to solve the emerging problems in a successful, long term result based way).

III Program modules, even if the final target and title of programme such as the Rehabilitation of Historic Towns is overall, must include set/range of specific disciplines, which apart of classical set up of teaching modules are very important for the durability of the results of educational process.

IV The incorporation of the social (communal/societal) level in to the educational process of the MA studies have been seen as necessity of contemporary life. The need of this particular element of the program is not only to check and be sure that the solution proposed and planned results are matching the range of the needs and expectations of those who will maintain the results of the rehabilitation afterwards- local communities.

The program could consist of three blocks:

Problematic:

1) Tangible and intangible values of the heritage in the concept of education (based on the heritage protection philosophy); *the ability developed to get the right guidance of the solution when facing the particular problem and seeking the specific methods for problem solving. Also this scope of knowledge and skills would make the arguing techniques much more developed.*
2) Values and the range of detection techniques and methods (theory) on the tangible heritage; *ability to foresee, distinguish and present findings, formulate conclusions on the content of the values of object/block/area of Town etc.*
3) Practical dynamic set of skills to apply to the techniques of revitalization/reconstruction/conversion /new architectural insertion/infill, *in practice on the different complicatedness of assets of the heritage objects, larger areas and historic parts of the towns.*

Practical execution of this set of modules, which could serve as the background for the desired program creation, must include practical application of the solutions generated to the particular real case with obligatory to test/correlate of the prognosticated results on the opinion of the local levels (also politics and decision makers) of the inhabitants and to evaluate the equilibrium between the regulations of heritage protection and vitality of the contemporary needs.

# CONCLUSIONS

/regarding the elaboration of model programme of teaching/

*Apart what was described in previous section of the report:*

- *It would be vise to stick with the more or less traditional approach: start from the history of preservation movement and its development, when continue with philosophy, theory and end up with continuously growing and more advanced level in practice, introducing contemporary elements to the courses of teaching (like sustainability, ecology, health of the environment, cultural identity, valorization of the historic environment and so on).*
- *The analysis of the modern development techniques and experiences in the field of the Real Estate, as confronting part, would be worth to be familiar with; the classical approach and scope of the subjects while teaching the conservation of the cultural heritage, might be considered as a good background to know the confronting part of the heritage protection and revitalization. Also, fundamentals of the public relation in selling/spreading the messages and ideas of the sustainable rehabilitation/revitalization to the neighborhoods and communities has to take part in curricula.*
- *The continues study modules in the desirable programme must have the practical point of checking the preliminary solutions on the particular problem on site, with the end users of the result of the project, and correlated, if necessary, in order ensure the durability of the results and acceptance of those to the actual receivers.*

## ATTACHMENTS:

/syllabi; alumnus profiles/

*The architect qualification and competencies in urban heritage preservation/revitalisation must include:*

- *the ability to understand urban and social context of analized structures or sites,*
- *the ability to assess main features of cultural values, to reveal main threats to cultural value and scientific methods to evaluate them.*
- *the ability to assess the area of architectural, spatial, functional, technical and social point of view,*
- *the ability to apply the planning and design regulations to historic cities,*
- *the ability to apply the principles of sustainable development in the process of urban revitalisation,*
- *the ability to analize the heritage research data and to understand the formation peculiarities of historical urban structures,*
- *knowledge and understanding of intercultural dialogue, diversity of cultural expressions, sustainability of cultural heritage preservation and exchange of values;*
- *understand the architects role in mobilisation of local communities as important actors of the urban revitalisation process;*
- *the ability to interact with experts from other fields of expertise: law experts, political administrators, historians, sociologists, economists, material scientists, restorers, ect.*

*The curriculum best suited to current needs of architect as urban revitaliser can consist of three main domains: heritage as assumption for sustainability; architecture and urban planning; society and heritage.*

A. *Suggestion for the study module "heritage and sustainability" or "sustainable heritage":*

*The aim of this module is to educate, to develop and to strengthen the architect's competence in heritage as the sustained phenomenon and heritage preservation as the sustainable activities.*

*This module will be more theoretical, but also will include seminars and some practical tasks.*

*The module include the courses that must provide the information and knowledge about the sustainability in general: the concept, definitions, the emergence of this idea, the manifestation of some aspects (social, environmental, economic), and the importance of sustainability as way of thinking, way of living and how it influence the development of the society, affects it's future.*

*The other part of the module would deal mostly with the concept of heritage, its phenomenon, history, development, structure, values and importance for the society and detects, highlights the assumptions and possibilities to be sustained. It includes both types of heritage: tangible and intangible. The students will get clear understanding and obvious awareness, that heritage is the real and proper actor of the sustainable development of the humankind.*

*Few courses must provide knowledge of how heritage and sustainability correlate. There can be displayed the detailed analyses of few case studies that can expressively reason the idea and relevance of sustainable heritage. The case studies can involve object of the cultural and natural heritage.*

*The last part of the module is devoted to the architectural heritage (urban heritage) and its preservation as the sustainable activity. The students will be provided with information of special aspects of built environment and knowledge of the complexity of the sustainable heritage preservation that comprises the various attitudes, legislation, social expectations, economic logic and requirements of environmental protection.*

*Structure of the module "Sustainable Heritage"*

- *sustainability – in general: concept, history, aspects, relevance*
- *heritage – in general: concept, history, structure, values, aspect and features to be sustained*
- *sustainability and heritage – correlation: case studies to display and reason the sustainability*
- *architectural heritage preservation – complex sustainable action*

*B. Suggestion for subject of,,sustainable architectural and urban planning":*

*Contemporary problems of architectural and urban heritage preservation require integration of academic education with practice of architectural and urban planning. Real challenges of sustainable urban rehabilitation could be reflected by evident social dimension of the content of the program.*

*The subject of architectural and urban planning could consist of three main blocks:*

- *lectures, individual work, and seminars aiming development of ability to analyze urban architectural values*
- *case-study based on assessment of cultural properties on site (in situ),*
- *practical work at the institution for preservation of architectural and urban heritage, local subdivisions of state department for cultural heritage, urban planning department of municipality, etc.*

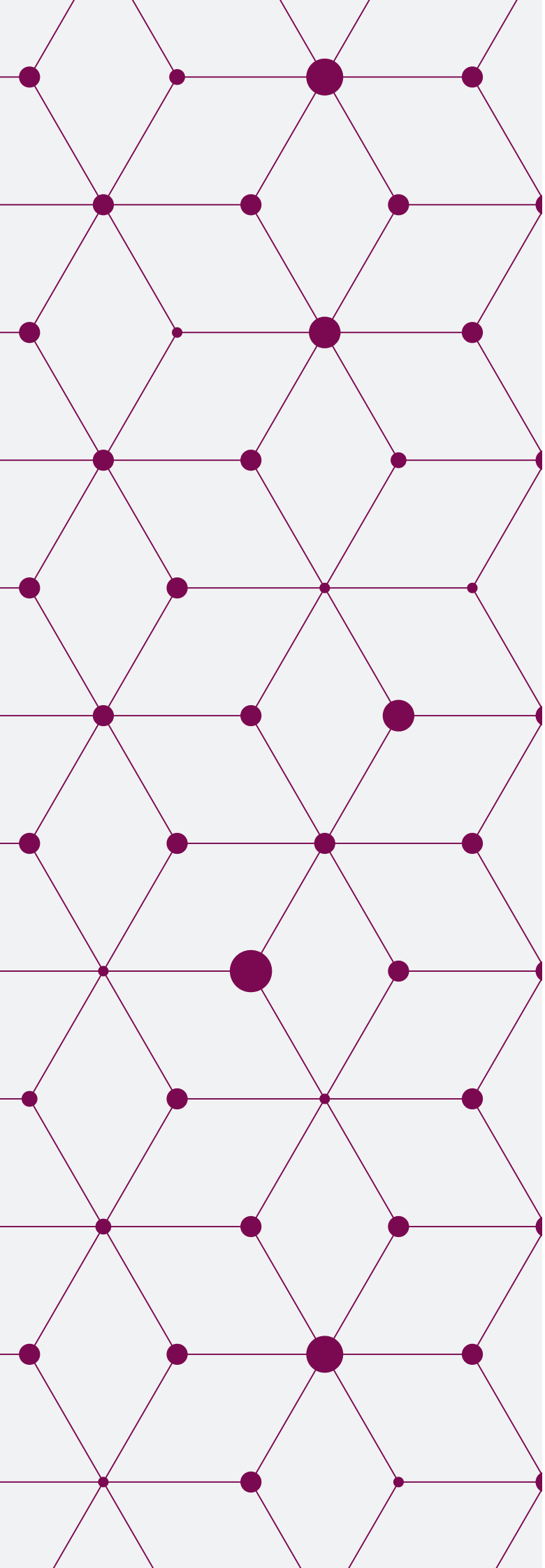
*The set of the topics for the modules architectural and urban planning:*

- *cultural heritage as basis of sustainable environment*
- *principles of integral preservation of cultural value in architectural and urban planning*
- *implementation of theory of heritage protection in practical work of architectural and urban preservation.*

*C. Suggestion for the,,heritage and society":*

*By examining methods of the advertisement and promotion used in the commercial markets, establish capabilities of the future specialists in effective gathering and dissemination of the information on the values of the cultural and natural environments and the recovery of the acknowledgement in the field of the historic and traditional use of the building materials and technology.*

- *methods of promoting the heritage values*
- *eligible methods of the urban research and dissemination of the results to the society segments*
- *innovative ways of the area based design and advices straight to the consumers-local communities.*



# 04

# THE TEACHING OF THE HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES AT THE FACULTIES OF ARCHITECTURE /IN THE FIELD OF ARCHITECTURE/ IN POLAND

PROF. BOGUSŁAW SZMYGIN, KATARZYNA PAŁUBSKA, PHD.

## INTRODUCTION

### /INFORMATION ON THE AIM, SCOPE AND STRUCTURE OF THE REPORT; CHARACTERISTICS OF THE PARTICIPANTS COMPLETING THE QUESTIONNAIRES; OTHER RELEVANT INFORMATION/

The preliminary stage of preparing the best practices handbook drawn up within the framework of SURE consists in gathering and analysing information about the job market and identifying the practical needs in the fields of architecture, spatial planning and cultural heritage protection (conducted by non-academic partners), and to analyse curricula in the subjects of Architecture, Urban Planning and Cultural Heritage Protection in Poland, Italy, Spain and Lithuania (conducted by academic partners) with the aim to check the compliance of these curricula with the current requirements of the job market.

The good practices handbook is going to be complied based on an analysis. One of its chapters will present the good practices and experience of some UE universities in the scope of architecture, spatial planning and heritage protection. One chapter contains an analysis of the job market needs and practical needs related to architecture, spatial planning and heritage conservation.

After such analysis is conducted, the process of compiling the handbook is going to include gathering a number of examples illustrating the best practices, i.e. the curricula which best respond to the current needs of the job market. The handbook will also feature a discussion and presentation of guidelines for adapting curricula to the current market needs.

The results of the analysis will serve as a basis for creating a high-quality curriculum compliant with the SURE model, so it is possibly best suited to the real needs and to the current requirements of employers and the economy.

The best practices handbook titled “Contemporary situation and needs of sustainable urban rehabilitation” may serve as a useful tool for universities that are ready to adapt their curricula in architecture, spatial planning and heritage protection to the needs of the job market

and to the practical needs of architecture, urban planning, spatial planning and heritage protection.

"Contemporary situation and needs of sustainable urban rehabilitation" will be published both in print and online in Open Educational Resources, so that it is widely available for all interested parties. The handbook will be freely accessible on the project's website and websites of all partners involved in it.

### Aim of surveys

The Polish National Committee ICOMOS has commenced a project aiming to prepare a **model for teaching protection and revitalisation of historic sites as part of education in architecture**. The project is conducted within the framework of Erasmus +, by a research consortium made up of seven partners coming from four European countries (Poland, Italy, Spain and Lithuania). The resultant teaching model is to serve as an example and support in historic sites protection and historical towns revitalisation education programmes run in the countries participating in the project.

### Scope

The first stage of the project was to collect information about the teaching concept related to educating students of architecture in the scope of protection and revitalisation of heritage and the needs related to this scope. The research was supported with a questionnaire, which was also completed by a broad selection of specialists in several countries. The next stage involves preparation of detailed curricula and academic scripts.

Below is a summary of the survey which was to diagnose the teaching systems related to the subject of protection and revitalisation of historic sites in the Polish universities and the needs identified as necessary in this process.

The report is structured in three parts:

I Presentation of the general picture of the architectural education in the country, its past and present and data on the labour market demands and professional requirements are presented,

II Analysis from the answers in the questionnaires on the skills required in the field of the desired qualification to be achieved in order to cater for the problems of rehabilitation of historic towns in the country,

III Characteristics of the teaching of heritage protection and revitalization of cities in the analyzed systems of education, with an attempt to draw a proposal for a model curriculum in the field of heritage protection and revitalization of historical towns.

A template of the questionnaire was distributed via email to approximately 100 specialists, members of Polish National Committee ICOMOS who deal with education in the field of historic sites protection, asking them to fill in the questionnaire. Teams from different schools received 15 questionnaires, out of which 10 filled them in completely:

1. prof. ndz. dr hab. arch inż. Piotr Molski – Faculty of Architecture Warsaw University of Technology
2. dr hab. inż. arch. Jan Salm – Institute of Architecture and Urban Planning Technical University of Lodz
3. dr hab. inż. arch. Krystyna Kirschke, prof. at Technical University of Wrocław, Faculty of Architecture
4. prof. dr hab. inż. arch. Rafał Czerner – Technical University of Wrocław, Faculty of Architecture (specialisation in *Architecture and Protection of Historic Monuments*)
5. dr hab. inż. arch. Grzegorz Bukal – Technical University of Gdańsk, Faculty of Architecture
6. dr inż. arch. Bartłomiej Kwiatkowski and mgr inż arch Michał Dmitruk – Building and Architecture Faculty at Lublin University of Technology
7. dr inż. arch. Izabela Kozłowska – Faculty of Building and Architecture at West Pomeranian University of Technology Szczecin
8. prof. dr hab. Jadwiga Łukaszewicz – Copernicus University in Toruń
9. dr inż. arch. kraj. Katarzyna Pałubska – landscape architecture at University of Life Sciences in Lublin
10. dr inż. arch. Małgorzata Korpała – Institute of Architecture at the University of Applied Sciences in Nysa (specialisation in *Conservation and Protection of Historic Monuments*).

# PART I

/General characteristics of the system of educating the architects (in particular country); issues of heritage protection and revitalisation of historical cities in the system of architectural education; formal qualifications and education required from the architects dealing with heritage protection and revitalization of cities/

## 1.1. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE ARCHITECTS IN POLAND

/inter alia: statistical data regarding the number of faculties educating the architects; the structure of the studies in field of architecture, incl. the Bologna system; the required licenses for the designing/

### 1.1.1. Educating architects in Poland

In the Polish system of tertiary education, which was shaped after WW2, architects were educated at technical universities. Graduates from such technical universities were conferred the title of *magister inżynier* (MSc.) in a particular faculty. For architecture, a one-cycle programme lasting 5 years was completed by obtaining a diploma of *magister inżynier architektury* (MSc. Architect). Up until the change of the Polish political system in 1989, the only tertiary education system available had been the national one, with 12 technical universities, out of which only 7 had architecture faculties.

One effect of the system changes in Poland was the development of higher education consisting in the emergence of private-run schools. An important stage on this way was the introduction of two-cycle programmes, or the so-called Bologna system (since 2000, see below).

At present, there are about 34 higher education schools in Poland which educate architects[1], out of which 13 are state-run. According to ministerial regulations, all of them offer two-cycle programmes. Moreover, all of them are authorised to confer the professional title of *inżynier architekt* (BSc. Architect), yet only 19 can confer *magister inżynier architect* (MSc. Architect). This means that alumni at 15 of these institutions must enrol in second cycle programmes in other universities, if they wish to obtain construction licenses in the specialisation of architecture.

1 http://www.izbaarchitektow.pl/pliki/uczelnie_ksztalcace_na_kierunkach_architektonicznych_w_polsce.pdf

**Table 1.** State universities educating architects.

| Lp. | University | Faculty | City | Year of establish | Website |
|---|---|---|---|---|---|
| | Technical University of Gdańsk | Faculty of Architecture | Gdańsk | 1945 | www.arch.pg.gda.pl |
| | Technical University of Poznań | Faculty of Architecture | Poznań | 1950 | www.architektura.put.poznan.pl |
| | Technical University of Wrocław | Faculty of Architecture | Wrocław | 1945 | www.arch.pwr.wroc.pl |
| | Warsaw University of Technology | Faculty of Architecture | Warszawa | 1915 | www.arch.pw.edu.pl |
| | Silesian University of Technology | Faculty of Architecture | Gliwice | 1977 | www.polsl.pl/Wydzialy/RAr |
| | Technical University of Rzeszów | Faculty of Civil Engineering, Environmental Engineering and Architecture | Rzeszów | 2008 | http://wbisia.prz.edu.pl/ |
| | Technical University of Krakow | Faculty of Architecture | Kraków | 1954 (1945) | www.pk.edu.pl |
| | Lublin University of Technology | Faculty of Construction and Architecture | Lublin | 2007 | http://wbia.pollub.pl/ |
| | Technical University of Łodz | Institute of Architecture and Urban Planning, Faculty of Building, Architecture and Environmental Engineering | Łódź | 1976 | www.tajfun.bais.p.lodz.pl |
| | Technical University of Bialystok | Faculty of Architecture | Białystok | 1975 | www.wa.pb.edu.pl |
| | Poznan University of Art | Faculty of Architecture and Design | Poznań | 2003 | uap.edu.pl/uczelnia/wydzialy/wydzial-a-i-w/ |
| | University of Technology and Life Sciences in Bydgoszcz | Faculty of Civil Engineering, Architecture and Environmental Engineering | Bydgoszcz | 2007 | wbis.utp.edu.pl/ |
| | West Pomeranian University of Technology in Szczecin | Faculty of Building and Architecture | Szczecin | 1947 | www.wwbia.zut.edu.pl/ |

The system of Bologna assumes that higher education is split in two cycles. It is therefore possible for a university to conduct education in the first cycle only. This is paramount especially in the case of private schools, which undertake to educate students in new faculties yet without sufficiently developed team of scholars. Slackened formal requirements related to the number of academics needed for first cycle programmes means that it is much easier for a school to compile a team of academics. This also means that majority of first cycle alumni must change their school to complete education in the second cycle.

The system of Bologna also provides for the third cycle, understood as doctorates. Currently, there are 5 schools in Poland that can confer Ph.D. in the faculty of architecture: the Warsaw University of Technology, Technical University of Kraków, Technical University of Wrocław, Technical University of Gdańsk, Technical University of Lodz.

According to a ranking of higher education schools, as far as the faculties of architecture and construction is concerned, the best ones are: the Warsaw University of Technology, Technical University of Wrocław, Silesian University of Technology, Technical University of Kraków and Technical University of Poznań[2]. Non-state universities came last in the ranking, which may unfortunately be indicative of the low quality of education in this sector[3].

Each year, all schools educating architects produce about 3,500 alumni. Among them around 2,000 graduate with the engineer title, and about 1,500 are conferred MSc.[4]. Several dozen obtain their PhD's in architecture.

It is expected that in the years to come the number of graduates from the faculty of architecture in Poland will be decreasing. Due to demographics, saturation of the market and the economic crisis, the number of candidates to the faculties of architecture is continuously dropping. Universities limit the recruitment, and some will even be forced to abandon educating architects altogether[5].

2 http://www.perspektywy.pl/RSW2016/ranking-kierunkow-studiow/kierunki-techniczne/architektura-i-urbanistyka

3 http://www.perspektywy.pl/RSW2015/ranking-kierunkow-studiow/kierunki-techniczne/architektura-i-urbanistyka

4 Estimation for 2012 based on a table prepared by the Polish Chamber of Architects RP – http://www.izbaarchitektow.pl

5 From 33 schools educating architects (presented in the report by the Polish Chamber of Architects), two have already terminated first cycle recruitment. It should be expected that architecture faculties will first be closed in smaller universities who run only first cycle programmes.

In Poland, the number of people who graduated from architecture is significantly larger than the number of people who actually pursue their profession based on formal licenses. According to an estimation by the Chamber of Architects, there are around 30 thousand people in total who graduated from architecture in Poland, but approximately 6 thousand have obtained architect licence[6]. Polish diploma in architecture is now recognised in all EU states[7].

### 1.1.2. Implementation of the Bologna system in Poland

The system of Bologna was established in 1999 by signing a document known as the Bologna Accord. The Bologna Process is a general European undertaking which aimed to create the European Higher Education Area (EHEA) by 2010, which as a result of agreeing on common framework of education (EQF – European Qualifications Framework) ensures broad access to high quality education and appropriate conditions supporting student, alumnus and academic mobility. The establishment of EHEA also made it far easier for architecture graduates to have their qualifications internationally recognised. Based on EQF, in Poland between 2009–2010 the National Qualifications Framework (Krajowe Ramy Kwalifikacyjne – KRK) was created8. Formally, KRK was introduced into the Polish higher education system on 18 March 2011 by amendment to the act on Higher Education Law, and then by issuing the appropriate ordinances9. In the academic year of 2011/2012, universities designed

6 https://extranet.iarp.pl/lista/

7 Council Directive 85/384/EEC on the mutual recognition of diplomas, certificates and other evidence of formal qualifications in architecture, including measures to facilitate the effective exercise of the right of establishment and freedom to provide services

8 The framework allows to establish a diploma or licence at a proper level of education, but at the same time does not require the content of education to be uniform. The framework of qualifications is a description of qualifications obtained as part of higher education in a given country that is comprehensible both in the national and international contexts. The term "qualifications" is understood as a tile, degree or licence being effectively the same as a diploma it concerns, issued after completion of a certain stage of education. Such document, issued by an authorised institution (university) certifies that certain learning outcomes have been obtained, in: Ewa Chmielecka, Proces boloński i krajowe ramy kwalifikacji dla szkolnictwa wyższego, Studia BAS No. 3(35) 2013, p. 107–134.

9 Act of 18 March 2011 on amendment to – Higher Education Law, Act on Scientific Degrees and Titles and on Scientific Degrees and Titles in Art and on amendment of some other acts, Journal of Laws [Dz.U.] no. 84, item 455. Ordinance of the Minister of Science and Higher Education of 2 November 2011 on the national framework of qualifications for higher education, Journal of Laws [Dz.U.] no. 253, item 1520.

new curricula adapted to the new regulations, and in 2012/2013 the schools began to implement the curricula according to the new rules of the higher education framework. In the context of higher education, KRK is characterised by the proper level, student workload expressed in ECTS credits, as well as learning outcomes10.

Learning outcomes within the Polish framework are described in view of knowledge, skills and social competences, and students obtain qualifications at three levels. In this mode of education, higher education is divided into: first cycle, which in technical faculties is completed with the title of *inżynier* (BSc.), and second cycle, which completes with obtaining the tile of *magister* (MA). Within the framework of this system, educating an architect engineer takes 7–8 semesters (depending on the school), while for an MA architect this takes 3–4 semesters[11].

The learning outcomes for first cycle technical sciences are defined for two profiles: general academic and practical. The learning outcomes for second and third cycles are defined only for the general academic profile.

Every faculty in first and second cycle programmes had a set of requirements established concerning:

- length of programme,
- ECTS credits ascribed to groups of learning outcomes,
- form and number of classes,
- communication in foreign languages,
- length and type of internships,
- form of diploma thesis,
- form and scope of diploma exam.

In the case of full time courses arranged by semesters, the length of cycles should be no less than:

- first cycle – 7 semesters (210 ECTS credits) in general academic type of courses or 8 semesters (240 ECTS credits) in courses with a practical/professional profile,
- second cycle – 3 to 4 semesters (90-120 ECTS credits) for graduates of first cycle programmes with at least 210 ECTS credits; 4 semesters (120 ECTS credits) for graduates of first cycle programmes with 180 ECTS credits,
- third cycle – unspecified. It is assumed that every semester covers at least 15 weeks of classes (excluding exam session)[12].

### 1.1.3. Polish standard of educating architects (KRK)

A uniform standard for educating an architect was established by the Minister of Science and Higher Education Ordinance of 29 September 2011 on education standards for veterinary and architecture faculties in the first and second cycle programmes[13].

The profile of an alumnus graduating from the faculty of architecture as presented in the ordinance is compliant with European Union regulations[14] and with the general academic education standard. The standard of education is presented separately for first and second cycle programmes, defining the general requirements, alumnus qualifications, the content of courses and learning outcomes (including ECTS) for sets of basic courses and specialisation courses for first cycle and specialisation courses in second cycle, including the scope of internships. Issues related to history and protection of historic sites are defined as part of the specialisation courses and are discussed in detail in Chapter 3.3.

a) profile of an alumnus in first cycle architecture programme:

10 The notion of learning outcomes boils down to defining what the learner should know, understand, and be able to do after completion of a period (process) of education. The learning outcomes may be connected with a full cycle programmes and the relevant diploma, with an educational module (curriculum) or course, in: Ewa Chmielecka, *Proces boloński i krajowe ramy kwalifikacji dla szkolnictwa wyższego,* Studia BAS No. 3(35) 2013, p. 107–134.

11 In the Polish system of higher education there are some exceptions to the two-cycle approach, e.g. medical schools educate physicians in one-cycle. Architect also postulate that a single-cycle education should be implemented, but so far this remains only a proposal. The advantage of one-cycle system is the fact that both cycles must be completed in order for an architect to be able to obtain their professional licenses.

12 Bohdan Macukow, Ogólne zasady Krajowych Ram Kwalifikacji istotne dla kierunków technicznych, w: http://www.mini.pw.edu.pl/~macukow/wspolne/KKB.pdf

13 Minister of Science and Higher Education Ordinance of 29 September 2011 on education standards for veterinary and architecture faculties in the first and second cycle programmes (This Ordinance within the scope of its regulation implements Directive 2005/36/EC of the European Parliament and Council of 7 September 2005 on recognition of professional qualifications (Official Journal UE L 255 of 30.09.2005, p. 22, as amended))

14 Directive 2005/36/ EC of the European Parliament and Council of 7 September 2005 on recognition of professional qualifications (Official Journal UE L 255, 30/09/2005 P. 0022 – 0142, http://www.izbaarchitektow.pl/pliki/dyrektywa_uzna_kwalifikacji.pdf

**Table 2.** General overview of education in first cycle architecture.

| INGREDIENTS OF EDUCATION | Hours/ECTS |
|---|---|
| A. GROUPS OF BASIC CONTENT<br>Course content: | 150/15 |
| 1. Mathematics | 45 |
| 2. Descriptive Geometry | 45 |
| 3. Building Physics | 30 |
| 4. Mechanics of the building | 30 |
| B. GROUPS OF CONTENT DIRECTIONS<br>Course content: | 690/68 |
| 1. Principles of architectural design | |
| 2. Urban planning | |
| 3. History of architecture and urban planning | |
| 4. General construction and materials science | |
| 5. Construction structures | |
| 6. Construction | |
| 7. Fine arts and workshop techniques | |
| 8. Economics of the investment process | |
| 9. Organization of the investment process | |
| 10. Construction law | |
| 11. The ethics of the profession of architect | |
| TOGETHER (A+B) | 840/83 |

- general requirements: first cycle programme may not be shorter than 7 semesters. The number of teaching hours should be at least 2,500. The number of ECTS credits should be no less than 210. At least 50% of classes should take the form of either seminars, or recitation classes, laboratory and design classes. Practical classes should constitute at least 50% of the teaching hours defined in curricula.
- alumnus qualifications: The alumnus should have knowledge in: history and theory of architecture and urban planning, art, building and building technologies, construction, building physics as well as architectural and urban design. He/she should know the technical and building regulations, methods of organising and procedure of an investment project. The alumnus should have the ability to gather information, shape the human environment in accordance with his needs, this including the disabled, and to create designs meeting the aesthetic, practical and technical requirements. The alumnus should be familiar with the building law, economics, investment project and design work organisation in his/her country and EU member states. The alumnus should know a contemporary foreign language at least at CEFR B2. They should be ready to begin professional life as an auxiliary employee and in workmanship or building supervision in scope of urban planning and designing architectural objects together with their surroundings. The alumnus should be ready to begin the second cycle programme,

- internship: the internship should be at least 4 weeks. The rules and form of internship is to be established by the school body in authority of education.
- other requirements: curricula should cater for physical education, 60 hours which can be ascribed up to 2 ECTS credits; foreign languages, 120 hours ascribed with 5 ECTS credits; IT, 30 hours ascribed with 2 ECTS credits. IT knowledge to be taught: information technology basics, text processing, calculation sheets, databases, manager or presentation graphics, telecommunication network services, obtaining and processing information – should at least be compliant with the relevant subset of information defined in modules required to obtain the ECDL (European Computer Driving Licence). Curricula should provide subjects related to humanities in the quantity of at least 60 hours, and ascribed with at least 3 ECTS credits. Curricula should contain classes in protection of intellectual property rights, work safety and ergonomics. For preparing and submitting a diploma project (engineer's design) and preparing for the diploma exam the student obtains 15 ECTS credits.

b) profile of an alumnus in second cycle architecture programme:

**Table 3.** General overview of education in second cycle architecture

| INGREDIENTS OF EDUCATION | Hours/ECTS |
|---|---|
| GROUPS OF CONTENT DIRECTIONS | 300/30 |
| Course content: | |
| 1. Architectural design | |
| 2. Urban planning | |
| 3. Conservation of monuments | |

- general requirements: second cycle programme lasts at least 3 semesters. The number of teaching hours should be no less than 900. The number of ECTS credits should be no less than 90. At least 50% of classes should take the form of either seminars, or laboratory and design classes. Practical classes should constitute at least 50% of the curriculum hours,

– alumnus qualifications: The alumnus should have the knowledge and skill in the following:
  - architectural, urban and conservation design, and spatial planning;
  - history and theory of architecture, theory of urban planning, art, technical sciences and humanities;
  - shaping human environment with consideration of the interactions between people and architecture and the surrounding space;
  - application of procedures concerning designs for architectural objects with consideration of social aspects;
  - solving problems of functional, practical, building, construction, engineering and technological nature in a degree sufficient to ensure the safety and comfort of using buildings, also for disabled persons;
  - implementing regulations and procedures concerning technical-building considerations, economics of design, erection and use of a building as well as organisation of the investment process and integration of plans with urban planning designs both locally and in other EU member states.

The alumnus should comprehend the role of an architect in the society and the influence they have on the quality of environment. The alumnus should follow the principles of professional ethics.

The alumnus should be prepared to:

- undertake creative activities in scope of architectural and urban design;
- obtain the professional licenses required by law;
- perform individual functions in building processes;
- prepare designs and supervise building work within the architectural specialisation;
- coordinate work in multi-speciality design teams;
- manage design offices specialising in architectural and urban design;
- conduct his own business activity;
- undertake research work.

The alumnus should be prepared to take up employment in: architectural and urban planning design offices, local administration and state administration bodies, research institutes and advisory bodies.

The alumnus should be ready to begin third cycle programme (doctorate).

– other requirements: for preparing and submitting MA thesis and preparing for the diploma exam the student receives 20 ECTS credits.
– general overview of education

### 1.1.4. Professional licenses

In Poland, in order to pursue the job of an architect one must fulfil a number of formal requirements, beginning with graduation from architecture faculty, obtaining the right experience (internships ate building site and/or designs). Based on these, one may apply for so-called building license in architectural specialisation (*uprawnienia budowlane w specjalności architektonicznej)*[15], which is granted after passing the appropriate exam (organised by the Polish Chamber of Architects – a self-government body for this professional group)[16]. Once granted the license, an architect may independently perform his/her job, i.e. design, supervise building processes, perform independent functions in building administration authorities.

## 1.2. CHARACTERISTICS OF THE SYSTEM OF EDUCATING THE SPECIALISTS FOR THE HERITAGE PROTECTION AND REVITALISATION OF THE CITIES (IN PARTICULAR COUNTRY)

In Poland there is no one formally required path of education for anyone who would wish to work in protection and conservation of historic sites. One of the reasons for this is the very broad scope of qualifications that are related to protection of historic sites and revitalisation of cities. Any activities involving historic monuments pose a number of problems of varied nature: art. history, theory of conservation, building, spatial planning, law, administrative procedures, organisation, social communication, economy, etc.

The consequence of such a broad array of considerations is the need for specialisation. Different qualifications are needed in conservation of art objects, work in conservation services, conducting conservation work at listed buildings, adaptation of historic monuments, designing works involving historic monuments, organisation and management of revitalisation. The specific features of these works are so diverse that it would be entirely justified to provide separate specialised education for each. On the other hand, most positions related to protection of historic monuments require a combination of experience and qualifications in a number of different fields.

In response to the conflicting needs – specialisation on the one hand, and comprehensiveness on the other – the Polish system of heritage protection has developed a tradition of obtaining qualifications in this filed by post-graduate education, such as Cultural Heritage Protection at the Warsaw University of Technology[17], Research and Conservation of Architectural Heritage at Technical University of Wrocław[18], Managing Revitalisation in Territorial Administration at Wrocław University[19], or Revitalisation of Cities – organisation and financing at Warsaw School of Economics[20].

In such s system, after graduating from one of the faculties most often associated with protection of historic sites, i.e. architecture, building, art history, archaeology, any further specialised education takes the form of post-graduate programmes conducted at different universities. Moreover, some universities have been running specialised courses as part of second cycle architecture programme, e.g. at the Technical University of Wrocław, Lublin University of Technology or Warsaw University of Technology (described in detail in attachments).

A specialised programme for educating conservation service employees is conducted at Poland's only Faculty of Historic Monuments Knowledge and Conservation at the Copernicus University in Toruń, while in Łódź in 2016 a new, Poland's only inter-university programme was launched: Revitalisation of Cities[21].

15 Ordinance of the Minister of Infrastructure and Development of 11 September 2014 on independent technical functions in the building industry (Journal of Laws [Dz.U.] of 2014, item 1278)

16 http://www.izbaarchitektow.pl/pokaz_kat.php?k1=5&k2=51

17 https://www.pw.edu.pl/Kandydaci/Studia-podyplomowe/Studia-podyplomowe-posiadajace-decyzje-JM-Rektora-na-uruchomienie/Wydzial-Architektury/Ochrona-dziedzictwa-kulturowego-miasto-historyczne

18 http://www.cku.pwr.edu.pl/3245152.dhtml

19 http://uni.wroc.pl/rekrutacja-na-studia/zarz%C4%85dzanie-rewitalizacj%C4%85-w-jednostkach-samorz%C4%85du-terytorialnego-studia-podyplomowe

20 http://rewitalizacja.sgh.waw.pl/studia-podyplomowe

21 https://www.uni.lodz.pl/aktualnosc/szczegoly/rewitalizacja-miast-wspolny-kierunek-ul-i-pl

## 1.3. REQUIREMENTS/PERMISSIONS/ RESTRICTIONS ON CONDUCTING THE WORKS AND DESIGN BY ARCHITECTS AND OTHER PROFESSIONALS IN THE HISTORIC BUILDINGS

Polish Building Law[22] does not define the notion of a 'conservation license'. Any architectural designs involving historic buildings must be prepared by a holder of a building license with specialisation in architecture[23]. Such *building license with specialisation in architecture*[24] is obtained by passing an exam taken after graduation with a diploma of *magister inżynier architekt* (MSc. Architect), which is organised by Polish Chamber of Architects – a self-government body for this professional group [25]. Once granted the license, an architect may independently perform his/her job, i.e. design, supervise building processes, perform independent functions in building administration authorities. Such *building license with specialisation in architecture* does not allow for any additional specialisation dedicated specifically to protection of heritage.

To obtain an architectural designer license, one must also complete a year of internship involving preparation of designs and a year-long internship at a building site; it does not matter however, if the building is historic, non-historic or newly designed.

In order to obtain his/her building license, an architect must (among others) prove their knowledge of acts of law related to protection and conservation of historic sites, which is verified at an exam:

- Act of 23 July 2003 on protection and safeguarding of historic monuments (Journal of Laws [Dz. U.] of 2014 item 1446, as amended)
- Ordinance of the Minister of Culture and National Heritage of 27 July 2011on conservation, restauration, and building works, conservation research, architectural research and other activities involving a listed historic monument and archaeological research (Journal of Laws [Dz. U.] of 2011, No. 165, item 987).

The abovementioned Ordinance allows to conclude that an architect is not required any additional qualification to prepare designs concerning historic buildings. Building license with specialisation in architecture is sufficient to independently conduct design works when preparing a design from scratch, when designing in existing buildings that are not historic, and in historic listed buildings, too. In this respect, Polish law does not stipulate the need for any additional licenses, or practical experience, it only requires a designer to have a design approved by the Voivodeship Conservator of Historic Monuments whenever such design involves an object under conservation care[26].

Due to the specificity of work on historic buildings, some auxiliary formal requirements have been put in place, i.e. expert license (*rzeczoznawca)*. The aim is to compile a group of specialists who have the right qualifications and experience in conducting work on historic buildings. Such expert licenses are issued based on two documents: *Act on protection and safeguarding of historic monuments* and *Ordinance of the Minister of Culture [27]. The license is valid for 3 years. To obtain such license, one should have, among others, "at least 10-year experience in performing tasks in the relevant field of heritage protection"* and "*in-depth knowledge in the relevant field of heritage protection"* [28]. The expert license are issued in 14 specialisations within the field of heritage protection. These specialisations stem from a division of the heritage into typological groups of differentiating characteristics:

archaeology;

architecture and building;

urban planning;

cultural landscape;

painting;

graphics;

sculpture, architectural detail and architectural surfaces;

artistic crafts and applied arts;

musical instruments;

library and archived materials;

22 Journal of Laws (Dziennik Ustaw) of 2013 item1409, as amended.

23 Also in specialisations for other trades: electric, sanitary, construction.

24 Ordinance of the Minister of Infrastructure and Development of 11 September 2014 on independent technical functions in the building industry (Journal of Laws [Dz.U.] of 2014, item 1278)

25 http://www.izbaarchitektow.pl/pokaz_kat.php?k1=5&k2=51

26 Ordinances of the Minister of Culture and National Heritage of 27 July 2011on conducting conservation, restauration and building works, conservation, architectural research and other activities involving a listed historic building and archaeological research (Journal of Laws [Dz. U.] of 2011, No. 165, item987), § 4.2.1 – 3 and sect.3// § 10.2 1 and 2// § 24.1 and 2 as well as § 25.

27 *Act on protection and safeguarding of historic monuments* (uniform text: Journal of Laws [Dz. U.] of 2014, item1446 as amended) and *Ordinance of the Minister of Culture of 10 May 2004on Minister of Culture experts in safeguarding historic monuments* (Journal of Laws [Dz. U.] of 2004 No. 124, item 1302).

28 Provisions of par.2.1 Ordinance of the Minister of Culture ... ibidem.

historical technology;

parks, gardens and cemeteries;

technical protection of buildings;

assessment and evaluation of movable historical objects.

The requirements that experts-to-be must meet, and the manner in which applications are to be submitted are stipulated in the said Ordinance[29]. A full list of licensed experts with their areas of expertise and specialisation as well as their contact details is available online[30].

29 *Ordinance of the Minister of Culture of of 10 May 2004on Minister of Culture experts in safeguarding historic monuments* (Journal of Laws [Dz. U.] of 2004 No. 124, item 1302).

30 http://nid.pl/pl/Dla_specjalistow/LISTA%20RZECZOZNAWC%C3%93W/

## 1.4. REQUIREMENTS/QUALIFICATIONS FOR TAKING UP POSITIONS IN THE CONSERVATION SERVICES ADMINISTRATION

Polish law does not require employees of conservation services administration to have any type of special education. In administrative proceedings, the most frequently formulated education or experience requirements are connected with a particular job description. In the Polish heritage protection system, the key position is the provincial (voivideship) conservator of historic monuments, who heads the Voivodeship Bureau of Historic Monuments Protection (one for each of the 16 voivodeships, or provinces). According to the provisions of the *Act on protection of historic monuments,* a voivodeship conservator should display "the appropriate education" and "experience in a managerial post", although the post it often taken on political grounds and the person holding it changes with the currently leading political party.

# PART II

## /Determination of the qualifications and skills required in working with heritage protection and urban rehabilitation /in light of the practical experience / /based on the information gathered in the Questionnaires – Part I/



### 2.1. WHAT ISSUES / PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

[please list separately the particular issues and determine their scope, e.g. the theory of conservation, the legal basis for the heritage protection, monuments adaptation to modern functions, the design of new buildings in historical areas]

In the Polish higher education system, architecture faculties in the first cycle programmes usually teach protection of cultural heritage in theoretical subjects: explanation of the term of cultural resource and the notion of historic monument, very brief presentation of conservation doctrines, familiarisation with notions and terminology related to conservation and facilitating communication between a designer and conservation services, explanation of conservation related regulations on law and discussion of methods used in reaching historic sites (there is no possibility to conduct any internship in this respect) and of varied (positive and negative effects) of completed conservation projects. All this is combined with simple designs involving architecture and conservation, mainly in the field of adaptation and modernisation of a historic building. The aforesaid scope is a geared towards general development of a student and aims predominantly to sensitise them to the issue, including those who will not work in protection of heritage. Practical aspects of protection and conservation (of buildings!) –technical, organisational and legal ones – are deemed secondary (generic), and potentially significant only at further stages of education (in specialisation courses).

Specialisation courses, often elective, dealing with revitalisation of cities, special purpose buildings or constructions and historic complexes (industrial, post-military), contemporary technologies and techniques in conservation are conducted in 2nd cycle and dedicated to persons who want to pursue professional career in historic sites related jobs.

The subjects most often mentioned by the surveyed academic teachers were:

- historic monuments conservation theory in the light of cultural environment, historical changes and present legal approach,
- restauration of historic buildings,
- adaptation of historic buildings to new functions,
- designing new buildings and construction in historical surroundings,
- revitalisation of historic urban complexes and historical cities,
- revalorisation of historic greenery, parks and gardens,
- protection and revalorisation of cultural landscape and interrelations between heritage and cultural landscape,

- protection of industrial heritage and revalorisation of industrial objects,
- repairs and fostering historical constructions,
- basic techniques and technologies in conservation,
- documentation and surveying in conservation.
- conducting scientific research and comparative studies,
- economic and organisational approaches to protection of cultural heritage in Poland and some other European states.

## 2.2. WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL CITIES?

[please list separately the qualifications and describe them, e.g. knowledge of specific design programs, the ability to evaluate the technical condition of the historical building, the ability to analyse the historical values]

The Polish higher education system allows architects to obtain several levels of professional qualifications in the field of heritage protection and revitalisation of cities, depending on the selected faculty, cycle type (first cycle – *inżynier* [BSc.], second – *magister* [MA], third – *doktor* [PhD.] and post-graduate) and elective specialisations.

The first cycle provides an alumnus with some basic knowledge in the field and is mainly shaped by the curricular limits. It provides general knowledge of history and theory of conservation, the skill of analysing a historic object and the knowledge of methods for recognition of historic value – valorisation of an object/complex of historic monuments. Alos, some elementary knowledge of the principles governing adaptation and conservation of historic objects, the awareness of the need to cooperate with other specialisations.

The second cycle and obtaining a diploma of *magister inżynier architekt* (MSc. Architect) should be provide the alumnus with the following knowledge in the field of heritage protection and revitalisation of historical cities:

- knowledge of history, theory of protection and conservation, awareness of correlations between theoretical and practical aspects of conservation research,
- ability to do a preliminary assessment of a historic object, to analyse/evaluate it,
- ability to analyse and preliminarily evaluate a historical urban complex,
- ability to independently survey and prepare simple conservation documents,
- ability to prepare an architectural-conservation design in cooperation with specialists in other conservation branches,
- knowledge of basic techniques and technologies in conservation,
- ability to draw up an architectural design in a historical context,
- ability to draw up a design of revalorisation for an urban complex,
- ability to work in interdisciplinary teams.

Above-average (compared to architects who do not deal with this field) qualifications should be a part of an offer for the selected specialisation (architect-conservator) and should expand doctorate and post-graduate courses with:

- architectural design in historic monuments of architecture,
- technical advice on the manner of use and exploitation of historic monuments of architecture, functional-spatial solutions implemented and technical solutions in design,
- knowledge of traditional building techniques and technologies,
- knowledge of technical considerations in historical buildings; including:
  - ability to assess the technical condition of a historic monument,
  - knowledge of measurement and recording techniques,
- ability to design conservation programmes (types of interventions),
- ability to prepare specifications and schedules of works for contractors and quantity surveyors,
- ability to cooperate with specialists of different trades; this including joined assessments and discussing proposed engineering solutions in the context of their compliance with conservation principles.
- basic qualifications in the field of project management in the scope of drawing up revitalisation designs, knowledge of formal procedures regarding approval of documentation and obtaining permits for works, coordinating the work of consultants and specialist in historic monuments protection and revitalisation, assessment of tender offers, selection of the most appropriate contractors, controlling and handling contracts, financial resources for work, investment consulting for historic sites.

It should be noted that some of the above skills and their development is not possible without appropria-

te hands-on experience or further education. It should also be noted that revitalisation of cities involves processes that go far beyond conservation (or even without any connection with historic sites) and requires broader knowledge obtained in other faculties and in course of intense and broad multidisciplinary cooperation.

## 2.3. CHARACTERISTICS OF THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

[e.g. the traditional approach, which recognizes the primacy of heritage protection over contemporary needs; inadmissibility of procedures such as reconstruction, restoration; the admissibility of extensive interventions in the historical areas treated as a continuation of their development]

First and foremost, the approach to teaching heritage protection at architecture faculties in Poland should stem from historical awareness and must be rooted in the prevalent conservation doctrine, which is based on current doctrinal documents, principles of local and international law, practical achievements in the field, professional knowledge and ethical standards.

The broad formula of conservation and heritage protection requires both a traditional approach, and inclusion of other approaches related to the contemporary needs of revitalisation, adaptation or designing new objects in historical landscape and in connection with a local tradition. The teaching in this field should present past experience and contemporary trends, it is also advisable to expose students to a possibly broad spectrum of varied types and directions of thus-far projects, including their results – both positive and negative. At the same time, the possible threats should be demonstrated, such as erosion of conservation doctrines, commercialisation of heritage, as well as the new emerging perspectives.

In more detail, the approach to heritage and revitalisation of historical cities should promote:

- shaping an approach that would be appropriate in view of the scale of a cultural heritage protection task at hand: its local, national and universal identity,
- maintaining, protecting and exposure of the original substance as the primary driver of historical heritage value,
- scientific approach to all activities involving protection and conservation of cultural heritage,
- conducting research, documentation and evaluation prior to any design and conservation work,
- when adapting a historical object, matching its new function so that it does not intrude into the preserved functional-spatial arrangement and interior decoration,
- respectful approach to all historical layers of a historic object, so that only in special cases some stylistic forms are exposed at the expense of others in any activities aiming to integrate and foster the aesthetic and artistic value of an object,
- if a contemporary extension is made, respect the originality and contemporary composition of architectural creations in response to the scientific, artistic and historical values of the surroundings,
- maintaining composition and spatial balance of any new projects in relation to historical urban arrangements and old substance, introducing neutral and environmentally integrated elements,
- no acceptance for reconstruction historic monuments of architecture (with exception of emotional premises in the case of most precious works, which would otherwise disharmonise a historical landscape),
- use of traditional materials and building techniques during conservation works,
- using contemporary forms when implementing modern materials in new elements and details in a historic object,
- securing and maintaining the form of 'permanent ruins' which should undergo works with the aim to make them available for the public, more readable and internally integrated,
- interdisciplinary nature of design and conservation works,
- drawing up a building permit-conservation design prior to pre-design documentation, such as a survey, archive research, historical-architectural research, conservation research, conservation conclusions based on evaluation analysis and the technical condition of an object,
- drawing up as-built documentation to confirm the restauration and conservation works,
- no acceptance for mimicking, imitation, simplified relations to formal-artistic composition from classic style epochs,
- proper exposure of cultural and historical heritage in a cultural landscape.

## 2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES

[e.g. lack of knowledge of the principles of revitalisation of the historical cities, lack of knowledge of the history of architecture, lack of respect for the historical architecture, a positive attitude towards the heritage protection]

Academic teachers in the questionnaires pointed out to the following negative aspects:

- incoherent nature of curricula for different faculties – no universal guidelines and in consequence – no uniform system of similar requirements for conservation courses in different specialisations,
- no debate about the education programmes (universal minimum) for heritage protection (not only technical universities, but also general universities and art schools), and the consequent lack of a uniform system aiming to create a shared language for different specialisations/concentrations;
- courses are conducted by different academic teams without prior establishment of common criteria even at the same university;
- curricular discrepancies both in time and in different educational institutions (it may be assumed that in 2016 the profession is pursued by individuals educated at any time between 1960–2010, with different types of qualifications and licenses),
- low level of knowledge displayed by students participating in courses, which makes it difficult for lectures to discuss any complex issues, which stems from the changes in secondary education curricula as seen already in the 1990s,
- decreasing quality of academic education over the recent years, stemming from over-recruitment and from lowered requirements enforced by the financing system in state-owned schools, resulting in "mass produced" poorly qualified alumni,
- unequal level of academic teachers and the consequent insufficient quality of teaching in some higher education schools, especially the private ones,
- systematic reduction in the number of curricular teaching hours in architecture faculties, which should be devoted to fundamentals of heritage protection (i.e. history of architecture, art history, conservation of historic sites), leading to marginalisation of these subjects, and underestimation of the value that historical heritage has in contemporary life,
- both academics and students disregard and marginalise cultural value of objects, historic complexes and landscape by abandoning or reducing the scope of output analyses and conditions that have significant impact on conservation guidelines; there is a tendency for misapprehended adaptation and modernisation of historic sites, which comes as a result of investor pressure and low awareness of the social value of heritage and of irreversible nature of changes,
- academic teachers promote conservation activities that damage the authentic value of an object, e.g. by adaptation to new functions and to contemporary legal requirements of the building law (thermal insulation, energy saving, fire prevention, sanitary requirements and accessibility), and transforming a historic object so that its usable space is possibly large, which includes provisions of daylight for previously unused attics or cellars,
- given the educational shortcomings in the field of historic sites protection and conservation, there is a need for a specialisation in conservation to be delineated within architecture faculties, and the same should be done in the field of building licenses. Architect's license authorise him/her to draw up building permit designs, including historic buildings, which requires the skill of evaluation, or of drawing architectural-conservation conclusions and guidelines, which is performed incorrectly unless the person is appropriately qualified.

Positive remarks on the current teaching situation:

- propagation of positive approach to protection of historic sites among students,
- students are taught to be aware of the fact that heritage protection is a social obligation and they have the knowledge helping them to argue for the need to preserve this type of architecture,
- emphasis on the importance and value of authentic substance of a historic monument, preservation and cultivation of regional features, techniques and technologies,
- increase in the public interest in the subject of heritage protection (fashion), which however may lead to decreased quality of education of not only architects, but also conservators, building engineers and other professionals dealing with protection of historic monuments (e.g. landscape architects).

# PART III

## Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating the architects /along with the examples of syllabi/ /based on the information gathered in the Questionnaires – Part II/



### 3.1. LIST AND DESCRIBE THE COURSES RELATING TO HERITAGE PROTECTION AND REVITALISATION OF MONUMENTS, TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[please specify the courses and include their detailed programmes; specify the structure of each course – division into lectures and design classes; describe the purpose and scope of these courses; make a critical evaluation – identify the courses considered to be the best (to be used in a model programme)]*

Curricula of universities which do conduct courses in Architecture are similar in the scope of theoretical knowledge in the first cycle programmes (history of architecture, urban planning and theory of conservation), yet it finds no direct reflection in the practical expertise that graduate engineers should have when dealing with historical sites conservation issues. Some crude conservation designs are pursued in first cycle at Warsaw University of Technology (sem. 6–30 h), Technical University of Lodz (sem. 7–45 h), Technical University of Wrocław (sem.7–45 h), yet no such design classes are conducted at Gdańsk University of Technology and West Pomeranian University of Technology Szczecin. The aforesaid internships held at Warsaw University of Technology and West Pomeranian University of Technology Szczecin in first cycle only aim to perform a survey of a selected historical building (details) and entail decision-making in the field of conservation activities and procedures. The surveyed lecturers pointed out to the lack of broader take on protection of heritage and identified this fact to be a serious fault in engineer programmes, but they also said that with considerable amount of hours to be taught in other sets of courses and limited interest of students in this type of subjects, it may be a difficult task to persuade any university authorities to increase the number of teaching hours. Some lecturers also mention that first cycle students are not entirely ready to comprehend the complex problems of conservation, which stems from neglected education at the secondary education level. To conclude, perhaps one should consider an educational model where heritage knowledge would be promoted even at the lower levels of education (e.g. profiled courses in high schools).

It should also be noticed that, with the current student mobility, many complete their second cycle of higher education at a different university than they did their first cycle, and often choose a different faculty or even enrol with schools abroad – thus gaining knowledge which does not equip them with specialist conservation expertise dedicated by the alma mater with the aim of developing education at the level of engineer programmes. Of course, this allows students who wish to pursue their education on historic sites protection to find a school offering conservation specialisation, such as Technical University of Wrocław, or opt for conservation faculty at M. Copernicus University in Toruń. Notably, most of the schools presented

in here choose conservation subjects locally, and so if a student selects Technical University of Lodz or West Pomeranian University of Technology Szczecin, they will mostly work on revitalisation projects in the cities of Łódź or Szczecin.

So, when analysing curricula of architecture faculties in different schools, one may notice that even universities which do not have cultural heritage specialisation still are somewhat directed at this subject. The Warsaw University of Technology is known to have an outstanding conservation and architecture expertise, while the Technical University of Lodz is more focused on urban planning and revitalisation projects. The Technical University of Wrocław, which has the longest tradition of teaching conservation at architecture faculty, is mostly concerned with the architectural detail and conservation technology – and its curriculum is the most comprehensive one.

The Technical University of Gdańsk introduces conservation subjects in a very limited scope, narrowing down the curriculum to specialist construction-conservation issues, and in the first cycle programme it only features theoretical courses on the history pf architecture and urban planning. Majority of the universities do not have specialised elective courses, and the compulsory subjects aim to provide the student with primary knowledge of architectural and urban heritage protection issues. In Szczecin and Lodz, due to intense cooperation with the city authorities, the most important subjects are revitalisation of urban space and adaptation. The broadest choice of specialist subjects is offered by Warsaw University of Technology in the specialisation of Architectural Heritage and at the Technical University of Wrocław in the specialisation of Architecture and Historic Sites Protection. Facultative courses are available in a modest range at the Technical University of Lodz (rehabilitation and revitalisation of cities) and the Technical University of Gdańsk – run as teachers' proprietary lectures (with variable subjects).

Summing up, since the first cycle programmes' curricula in each of the analysed schools are limited in the scope of the theoretical education in heritage protection and revitalisation of cities, and at the same time, they offer specialised, often facultative courses in the second cycle, one could assume that only the most determined students will be able to gain conservation knowledge upon their graduation. A large share of students who complete their first and second cycle in architecture only have some theoretical knowledge of history and conservation of historic sites, which remains largely disconnected with the real, contemporary design problems related to modernisation, adaptation and revitalisation of architectural and urban heritage.

**A synthetic summary of heritage protection and revitalisation curricula in the 6 universities, presented in form of a table, is presented in separate attachments.**

## 3.2. CHARACTERIZE THE FORM AND THE SCOPE OF CONTACT WITH THE PRACTICE OF HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES PROVIDED IN THE CURRICULA AT THE FACULTIES OF ARCHITECTURE

*[e.g. summer internship for students, placements for students in design offices and companies, involvement in the projects, study visits, summer schools] Make the critical assessment of these actions – their form and usefulness in teaching process.*

Most academic teachers concede that the exposure of students to historic sites conservation practice is usually limited, yet the scope of that contact is considered sufficient. Only one survey, conducted at the Warsaw Technical University (Politechnika Warszawska) showed that the scope of hands-on contact students have with historic monuments is both insufficient and limited. Within the framework of their education, students go on day trips (study trips), visiting building sites and getting a closer look at completed projects that involved conservator permissions. This type of classes, taking the form of multiple studying visits, is often unpractical due to the number of students, the consequent organisational difficulties and tight time limits for classes. Field trips or classes are often arranged by the academics themselves, acting within the cooperative framework of their Department with local governments and administrators of historic sites (the school does not bear the costs of organising such trips, including the academic employees' daily allowances). Tasks connected with revitalisation-related subjects concerning city blocks, which are readily accessible and well-documented, can be performed by students themselves, giving them a chance to benefit from direct interaction with a historic area.

Summer break internships provide the interested students with an opportunity to take part in design and research works (related to architecture and conservation). In their course of study, some students take up placement with design offices. Optional courses related to protection of cultural heritage are available in abundance, so students extend their knowledge by participating in classes independently organised by theorists and professionals in the widely understood fields of heritage protection and historic monuments conservation. When drafting their diploma theses (at first and second cycle degree programmes), students can choose their subject and promoters who run their own architectural and conservation firms. The most keen students can engage in profiled scientific associations.

Conservation internships have been described in more detail in a survey by the Warsaw Technical University and West Pomeranian University of Technology Szczecin (ZUT w Szczecinie), while Lodz University of Technology (Politechnika Łódzka) and Gdańsk University of

Technology (Politechnika Gdańska) quite straightforwardly demonstrated that such internships are impossible to conduct.

**Internships at Warsaw University of Technology:**

– surveying internship (field practice, summer break) – 30 h (3 ETCS); compulsory course for all students in a year, conducted by teaching teams of different specialisations.

  Surveying internship for heritage protection aim: to build the ability to perform measurement surveys on the example of a listed building; to learn about the standard measurement methods, analysis of the architectural form and specific building elements to create a basis of output information for design and identification of a historic building's cultural features. The surveying internship concerns: buildings in the region of Podlasie – regional wooden buildings (e.g. windmills, granaries, roadside shrines, cottages, school buildings, etc.).

  Teaching programme:

  – instructional lecture, introducing students to methods of conducting building measurement surveys. Familiarising students with measuring devices. Safety regulations and precautions;
  – work on-site: hand-sketching for the required set of measurement drawings (floor plans, cross-sections, facades, details, etc.); photographic documentation as an auxiliary element of surveying;
  – measurement work with the use of measuring devices and equipment, marking measurements on hand-drawn survey sketches of the building;
  – hand-made drawing of a building, its elements, details and context (surroundings, landscape) to practise the skill of noticing characteristic features of historic architecture;
  – digital record of data from measurements taken. Verification of measurements taken and adjustment of the electronic records;
  – preparing an AUTOCAD drawing based on the measurements;
  – designing internship (2 weeks) – 30 h (3 ECTS), internship at a design office after completion of the 3rd or 4th year of programme; the design office and its type are to be chosen by students themselves.

**Internship at the West Pomeranian University of Technology Szczecin:**

Takes place as part of conservation internship organised in form of historic sites surveying for students at full-time course first cycle (S1) in semester 8. The classes are conducted as part of field classes in Szczecin by the scholars from the Department History and Theory of Architecture, or at architectural offices after prior acceptance of the subject and scope of a proposed survey by teachers responsible for the internships. As part of their conservation internship, students perform a survey of a historic building. The subject of renovating listed buildings and adaptation of those to new functions is now one of the most frequently discussed topics and biggest challenges of architectural design. The future employers expect graduates of Architecture and Urban Planning to be capable of individual and professional work on a historic building adaptation design. Each such design must begin with a correctly performed survey. In course of their internship, students learn about the proper methods of measuring and transferring the measurements onto paper in hand-drawn sketches. The measurements are made with the use of traditional measuring devices and range finders. The instructors draw the students' attention to correct identification of construction members and architectural details. Individual elements of interior design, facade decoration or technical solutions are presented in an appropriate scale. The final outcome of the internship is a digital drawing of the surveyed building or its part with consideration of the proper drawing skills and norms stipulated in the building law.

## 3.3. PRESENT THE ALUMNUS PROFILE DESCRIBED IN THE DOCUMENTS OF STUDY PROGRAMME IN FIELD OF ARCHITECTURE IN THE SCOPE RELATING TO HERITAGE PROTECTION AND URBAN REGENERATION

*Make a critical assessment of this profile.*

The profile of an architecture programme alumnus at the analysed universities is compliant with the standards of general academic education and described in the Ordinance of the Minister of Education of 29 September 2011 on the standard of education for veterinary and architecture programmes in division into first and second cycle. The alumnus profile is presented in details in chapter 1.1.3.

Comments from the survey conducted at the **Warsaw University of Technology:**

– on first cycle alumnus profile: as far as the knowledge and readiness to begin their professional life is concerned, the education of alumni does not include any issues related to conservation and modernisation of the existing buildings; the same is true for conditions and design methods connected with adaptation of historic buildings or complexes to contemporary functions. It is a considerable trend in the design market of today: the number of buildings that require adaptation to the changing standards and functions is growing – which also means a more intense interference into the architectural

substance and city planning. An alumnus who does not have such knowledge is not fully prepared to get involved in designing processes but also in workmanship issues or building supervision procedures. As a result of binding regulations, curricula do not include practical design classes that would take into consideration the vast array of limitations and possibilities offered by projects involving transformation or adaptation of culturally valuable architectural heritage. The alumnus profile as described in the Ordinance does not fit the contemporary reality and needs related to protection of historic sites and revitalisation of urban areas.

– on second cycle alumnus profile: the issue of architectural heritage is formulated in the most unprecise manner. However appropriate it seems to highlight the question of 'conservation design', the educational content focuses rather on 'protection of historic sites'. According to legal provisions, the latter means all activities undertaken by public administration bodies (Article 4 of the act on protection and guardianship of historic monuments) and is further defined as "architectural protection (?) of historic sites, historical urban complexes and cultural landscape". The alumnus profile description is lacking one of the most key issues, i.e. interdisciplinary cooperation in the design process and the role of an architect in management of heritage. Also ignored is the knowledge related to the principles of cultural heritage evaluation and the holistic approach to environment with consideration of the interactions taking place between the protected and transformed elements. The alumnus profile does not fit the contemporary reality, needs and trends related to protection of historic sites and revitalisation of urban areas.

The surveyed lecturers of the **Wroclaw University of Technology** also discussed the specialisation in: architecture and urban planning, urban areas design, and architecture and historic sites protection, as part of second cycle programmes in faculty of architecture.

**Alumnus from first cycle programme – Engineer / Wroclaw University of Technology/:**

– Faculty of architecture:

In course of the first cycle programme, students from the Faculty of Architecture obtain an organised and theoretically founded body of general knowledge on conservation design in a cultural environment and learn about the conservation activities, basic principles of shaping and protection of cultural landscape and historic greenery. They understand the significance of historic sites protection as a social duty and the necessity to conserve this type of architecture. They gain knowledge and skills allowing them to perform uncomplicated research and pre-design works as office assistants in the field of workmanship and building supervision. They can prepare uncomplicated urban planning projects, designs of architectural objects with the accompanying surroundings (in a graphic form and in text). They are ready to commence second cycle programme.

**Alumnus second cycle programme – MA /Wroclaw University of Technology/:**

– Faculty of Architecture, specialisation: Architecture and Urban Planning

In course of the second cycle programme, students at the Faculty of Architecture obtain an organised and theoretically founded body of general knowledge on the history of conservation and contemporary methods and legal regulations concerning protection of cultural and natural heritage. They are aware that issues must be resolved with the use of multi-faceted research tools and the necessary design works. They can individually prepare preliminary studies, formulate conservation problems and based on those, compile guidelines for designs regarding rectification of cultural landscape and historic greenery. They can define problems related to revalorisation of historic urban-architectural complexes and act to maintain the continuity of cultural heritage. They are able to recreate architecture and historical detail and define the interrelations between new architecture and historical context. They are aware of the responsibility an architect bears for maintenance and protection of the historical identity of a place.

– Faculty of Architecture, specialisation: Urban Space Design

In course of the second cycle programme, students at the faculty of URBAN SPACE DESIGN obtain an organised and theoretically founded body of general knowledge on the history of conservation and contemporary methods and legal regulations concerning protection of cultural and natural heritage. They are aware that issues must be resolved with the use of multi-faceted research tools and the necessary pre-design works. They can conduct historical research and formulate conservation conclusions, and compile a catalogue of conservation activities with consideration of particular stages of such process and effects of revitalisation. They can obtain data to prepare and analyse degradation of urbanised areas. They have the ability to prepare a basic conservation design for a building, complex or historic landscape, based on conservation guidelines, research results, and then use the outcome of an analysis to formulate conservation guidelines for integrating new architecture with the existing context, with consideration of appropriate formal, functional and spatial interrelations.

– Faculty of Architecture, specialisation: Architecture and Protection of Historic Sites

Specialisation in Architecture and Protection of Historic Sites as part of MA programme at the faculty of Architecture aims to educate an alumnus who is fully prepared to start working as a professional architect (M.Sc. Engineer Architect), who is also able to undertake individual activities in the field of architecture conservation, including the accompanying painted decorations, sculpture and details, as well as protection of urban features (urban complexes, village and necropolis plans), who is also sensitive to the need to protect landscape values (parks, natural surroundings, greenery). They are also familiar with problems related to the protection of historic engineering works (roads, bridges, factories, constructions). Moreover, the alumnus should obtain managerial, technological, scientific research and documentation knowledge, so that they are able to effectively organise their work in specialised groups and conduct conservation processes. Being primarily educated as an engineer architect, they can individually draw up documents related to architecture, as well as designs involving modernisation and adaptation of historical architecture to contemporary purposes. Their knowledge in humanities equips them with a critical point of view on conservation policies related to cultural heritage and the way it they are pursued by architects and artists.

On the other hand, the surveyed lecturers at the Gdańsk University of Technology and West Pomeranian University of Technology Szczecin emphasised the need to create a new, extended alumnus profile as an architect-conservator, should such specialisation be available at their universities.

### 3.4. CHARACTERIZE THE CURRICULUM (AS A WHOLE) FROM THE POINT OF VIEW OF ITS SUBSTANTIVE CONTENT AND STRUCTURE (CONSISTENCY AND COMPLETENESS OF THE PRESENTED ISSUES, PROPER ORDER, COMPATIBILITY WITH OTHER COURSES)

*Make a critical assessment of the program.*

Most of the surveyed lecturers evaluated the curriculum at their universities to be proper (good) and requiring only some greater coherence with other faculties/specialisations and schools of a similar profile. The aspect most criticised in the curriculum was the inexistence of design practice related to protection of cultural heritage in first cycle programme (i.e. the theoretical nature of classes), and the fact that conservation problems are mostly discussed at optional classes in second cycle (this is especially true for revitalisation issues), which means that students graduating from the faculty of architecture often lack this kind of knowledge.

A survey conducted at the **Warsaw University of Technology** shows that the basic disadvantage of the curriculum is the fact that (except a lecture in semester 6 and course in semester 1 in MA programme) the cultural heritage protection and design in historic sites is optional, which means that only a part of alumni take part in the classes. The first cycle curriculum does not include design practice, which should be a compulsory course for a whole year of students. Due to the above, students have no ability to implement in design solutions their theoretical knowledge that they gain during lectures.

A similar conclusion is drawn concerning the second cycle curriculum. A large–scale conservation project conducted (semester 1 of MA programme) at the same time in two aspects: architectural and urban, also requires a review. The scope of conservation problems (analysis of cultural environment, valorisation and conclusions) in the urban planning aspect are limited to the standard scope used in urban planning designs, which qualifies this project as just another task related to urban and spatial planning issues.

The fact that conservation issues are not discussed in compulsory courses means marginalisation of problems related to protection, conservation, adaptation and modernisation of historic objects, but may also stem from the architectural design and urban planning design scholars' conviction of their own sufficient competences in this area. On a positive note, one should praise the introduction of specialisation in Architectural Heritage in semesters 2 and 3 in second cycle, although the full freedom of optional courses for students does not promote stability in this area of the curriculum.

Lecturers from the **Technical University of Wrocław** described the curricula of first cycle programmes at both, the Faculty of Architecture and Spatial Management, as well-adapted to the course of the study and prepared to educate engineers architects who – upon graduation – will be fully equipped to begin their professional life and ready to commence second cycle programme (MA). Hence, the scope of heritage protection knowledge and designing practice is possibly all-sided: fundamental, both in theoretical and design aspects.

The second cycle curriculum assumes that all students, whatever their specialisation, obtain identical education in course of their compulsory classes – based on the same syllabuses of MA architect pro-

gramme, in accordance with the required curricular minimums (this is also true for so-called conservation courses). It is assumed that the alumni will be fully prepared to commence their professional life as an architect and that most of them will either do so or will be continuing their education in third cycle Ph.D. programmes. The division of into three parallel specialisations: architecture and urban planning, urban space design and architecture and protection of historic sites, proves effective thanks to an exceptionally broad array of optional courses and specialised courses. At the Faculty of Spatial Planning the only courses available dealing with heritage protection are optional.

Students who are most interested in the subject of heritage protection can opt for a course of study directed at getting a diploma of an architect-conservator as part of specialisation in Architecture and Protection of Historic Sites. The specialisation curriculum focuses on two educational purposes at a time: forming a fully capable architect who can successfully face all challenges posed by the contemporary architecture (MSc. Engineer Architect diploma – requirement made by the university) as well as an architect-conservator who is ready to undertake responsibilities related to heritage protection. The way the curriculum is constructed stems from the above approach: the foundation is the basic syllabus for MA in architecture as it is required by the curricular minimums. A meticulously selected set of specialised courses and theses help in the pursuit of educating an architect-conservator. In its entirety, the curriculum is two-way but remains coherent. The intensity of that curriculum may be the cause of the partial specialisation in the first cycle programme as well. For the same reason, the above curriculum may be extended to last 4 semesters (a proposal advocated by architecture schools and widely addressed to all architecture programmes).

A survey submitted by the **Gdańsk University of Technology** indicated the need to supplement the second cycle programme in the faculty of architecture with problems of technical-conservation nature, featuring more advanced content in the fields of engineering, legal, research and supra-architectural issues taking the form of optional classes (due to limited interest in the field which stems from the job market reality). It also contained some criticism on how conservation issues (and other related problems) are scattered around courses run by a single unit (faculty), and outside its structures. The solution proposed in the survey involves adjustment of the curriculum so that it becomes more coherent and cohesive.

## 3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS.

*Separately specify a model programme in the field of architecture (when it is not a specialty in the field of revitalization of historical towns) and a model programme of specialty in field of revitalization. [list of curses, structure and sequence of these courses, the content of the courses, the scope and form of contact with practice]*

Model curricula in the faculty of architecture, in the field of heritage protection and revitalisation of historic towns, were presented by the surveyed academic teachers from the Warsaw Technical University, Gdańsk University of Technology and Pomeranian University of Technology Szczecin, and some more general proposals emerged in surveys from the Technical University of Wrocław and Lodz University of Technology. First and foremost, they pointed out to the need of introducing obligatory courses, including design and conservation practice, into the first cycle engineer programme and of extending the students' knowledge with obligatory courses in the second cycle MA programme, with particular attention devoted to conservation practices and courses adapted to the current reality (heritage management, economic and sociological reality, rehabilitation and revitalisation of heritage and specialised areas such as: wooden architecture, military architecture, industrial architecture, etc.).

The suggestion put forward by the **Warsaw University of Technology** proposes the following scheme for first and second cycle:

**Engineer programme**

- sem. 2 (4) – Inventory practice – field exercises – 30 h (3 ETCS); obligatory for all students on a year
- sem. 6 – Conservation and Modernisation Design – lecture 30 h (2 ECTS) obligatory for all students on a year, concludes with an exam
- sem. 7 – project – min. 60 h; obligatory for all students on a year,
- sem. 7 – elective seminar – 30 h (2 ECTS)
- sem. 8 – elective lecture [history/art/heritage] 15 h (1 ECTS)
- elective seminar [history/art/heritage] 30 h (2 ECTS)
- diploma seminar with promoter 30 h (5 ECTS)
- engineer diploma project – exam 10 h (15 ECTS)
- Erasmus – project: Conservation and Modernization Design. The New Infill in Historic Complexes – A Little Town in Warsaw Neighborhood (7 ECTS)

**MA programme**

- sem. 1 – conservation multi-scale project (architectural-urban) – obligatory for all students on a year 84 h (9 ECTS)
  - lecture 30 h (2 ETCS), seminar 30 h – obligatory for all students on a year, concludes with exam (subjects taking into account the critical comments in point 2.3. of this survey.
  - elective lecture (facultative 1) 15 h (1 ECTS)
- facultative – concentration in Architectural Heritage – curriculum retained (with choice of concentration within the framework of MA programme recruitment and specification of the number of places for particular concentration).

The **Technical University of Wrocław,** based on their own concentration in Architecture and Protection of Historic Sites, indicated which of the courses are most highly recommended for a model curriculum:

Conservation Design – Architectural–Technological Design connected with fundamentals of technological and conservation knowledge, surveying and scientific research.

It offers the possibility to integrate knowledge obtained in several different courses and serves an as introduction to the everyday reality that an architect-conservator faces whenever cooperating with conservation specials in different fields.

Projects, which due to their formula, fulfil general faculty requirements (compliant with the curricular minimums) related to educating an architect, and since they also take into consideration historical landscape and historic context of sites, are becoming important specialised courses in dealing with protection of architectural and urban planning heritage:

- urban planning: revalorisation of urban complexes,
- architectural design: public buildings in cultural landscape,
- architectural design: workplaces in cultural landscape
- architectural design: residential projects in centres of historic towns.

A model proposed by the **Gdańsk University of Technology** for the faculty of architecture:

**Set of courses in history:**

- history of common architecture, lectures and practicals (compulsory);
- history of Polish architecture, lectures and practicals (compulsory);
- history of European city planning, lectures and practicals (compulsory).

Contents: overview from the ancient to the contemporary.

**Set of courses in conservation:**

- historic monuments conservation theory (compulsory);

Contents: history of protection and conservation, origin and development of conservation theory, contemporary problems and principles in conservation;

technical issues in historic sites – conservation (optional);

Contents: traditional buildings, methodology of conservation work, building research

- architectural and technical, advanced engineering techniques in conservation, extra-architectural conservation;
- organisational, administrative and economic considerations in protection of historic monuments (optional);

Contents: international and Polish law, international and Polish organisations, international and Polish documents;

- conservation design (optional).

**For specialisation in Revitalisation**

The curriculum is analogous to the above, but the urban components are considerably extended with technical issues (modernisation of infrastructure, economic-legal considerations, social issues, etc.). The conservation related set of courses should be obligatory in this case, just like in architecture-conservation specialisation.

A notably extensive model curriculum was proposed by the **West Pomeranian University of Technology Szczecin:**

- <u>Proposed curriculum for the faculty of architecture if it does not include a concentration in heritage protection and revitalisation of historic towns:</u>

  In Poland, graduation from the faculty of Architecture allows the alumnus to obtain unlimited license in architectural design, which includes such areas as historical and architectural studies concerning historic buildings, surveying and preparing concepts and architectural designs for historic listed buildings as well as revitalisation of historical towns. Due to the above, in order to ensure the necessary curricular minimum for the faculty of Architecture without concentration in protection of heritage and revitalisation of towns, it is proposed that the implemented curriculum covers the scope, structure, order and contents of courses as it is defined in the curricular plan presented in point 2.1.2. for cycle S1 and S2 in the faculty of Architecture and Urban Planning at the West Pomeranian University of Technology Szczecin, less the list of design courses, which should be adapted to the local conditions and needs.

Regarding the scope and form of practical hands-on experience: the activities undertaken in the faculty of Architecture and Urban Planning at the West Pomeranian University of Technology Szczecin consisting in direct contact with the voivodeship and municipal conservators, summer camps organised by ICOMOS, workshops focusing on conservation and revitalisation of historical towns – all seem satisfactory.

– Proposed curriculum for the Faculty of Architecture if it includes a concentration in heritage protection and revitalisation of historic towns:

Courses, structure, order as it is in the faculty of Architecture and Urban Planning at the West Pomeranian University of Technology Szczecin. Urban planning-related courses should be replaced with additional courses in protection of historic monuments and revitalisation of historical towns in cycles S1 and S2 and extended with conservation practice in cycle S2.

Courses in curriculum for Engineer programme for Architecture and Urban Planning at the West Pomeranian University of Technology Szczecin,:

– History of architecture and urban planning, 1–3 lecture/practicals,
– History of architecture and urban planning, 4–5 lecture/practicals,
– History of architecture and urban planning, 6–7 lecture/practicals,
– Protection and conservation of historic monuments, lecture/practicals,
– Conservation of historic monuments in practice, practicals,
– Diploma design project in conservation, practicals,
– Diploma project on protection and conservation of historic monuments, practicals.

+ Proposed courses for concentration in cultural heritage protection and revitalisation of historical towns:

– Historical building techniques and technologies,
– Techniques and technologies in architectural conservation practice,
– Materials science in architectural conservation practice,
– Research methods in architectural conservation practice,
– Revitalisation of historical urban complexes,
– Revitalisation of historical green complexes: historical gardens and parks,
– Architectural design documentation in conservation practice,
– Architectural documentation in conservation practice (photographic documentation, digital methods of documentation in conservation, scanning, photogrammetry, tachymetry),
– Problems in protection and conservation of architectural detail and window and door joinery.

Courses in curriculum for MA programme for Architecture and Urban Planning at the West Pomeranian University of Technology:

– Historic sites protection,
– Architectural design: revalorisation,
– Pre-diploma design,
– Diploma seminar at History and Theory of Architecture faculty,
– Diploma project design.

+ Proposed courses for concentration in cultural heritage protection and revitalisation of historical towns:

– Protection and conservation of wooden buildings, industrial objects,
– Protection and conservation of contemporary cultural heritage,
– Architecture research (wooden and masonry structures),
– Valorisation of historic objects of architecture,
– Economic aspects of protecting historic objects (preparing cost estimates for historic buildings, obtaining public funds, management of historic objects)
– Interdisciplinary conservation research (archaeological research, construction analysis),
– Field practice in historical and architectural studies,
– Professional conservation internship.

# CONCLUSIONS

## /regarding the elaboration of model programme of teaching/

The surveyed individuals pointed out to the need of co-operation between universities – shared work on preparing/exchange of subjects, exchange of lecturers (guest lectures), as well as joined workshops and exhibitions, which serve as a perfect occasion to interchange opinions about educational requirements and effects of teaching. Some attention was drawn to the marginalisation the subject of regional architecture, which leaves

graduates with practically no knowledge of this issue.

As it was emphasised, it is significant for architecture faculties to be extended with additional specialisations in conservation and with post-graduate programmes in heritage protection and revitalisation as a vocationally-oriented alternative for architecture students/alumni who wish to pursue a professional career in the field of architectural historic monuments protection. At present, students who want to obtain broader education in this area must undertake additional programmes in history, art history, conservation, etc.

Since there are no such solutions available in Poland (however the Technical University of Wrocław should be mentioned as a leader in this field), conservation of historic architecture is now mostly the domain of historic sites conservators with university education which proves insufficient when it comes to considerations of architectural or building nature.

# ATTACHMENTS

## /The curriculum in the field of architecture with descriptions of subjects/

Annex 1: Comparison of the university program on 5 universities in table.

Annex 2: Faculty of Architecture, Warsaw University of Technology

Annex 3: Faculty of Building, Architecture and Environmental Engineering, Technical University of Lodz

Annex 4: Faculty of Architecture, Technical University of Wrocław,

Annex 5: Faculty of Architecture, Technical University of Gdańsk,

Annex 6: Faculty of Building and Architecture at West Pomeranian University of Technology Szczecin

Erasmus+

# THE TEACHING OF THE HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES AT THE FACULTIES OF ARCHITECTURE / IN THE FIELD OF ARCHITECTURE / IN POLAND

## ANNEXES 1–6

PROF. BOGUSŁAW SZMYGIN, KATARZYNA PAŁUBSKA, PHD.



## ANNEX 1:

### COMPARISON OF THE UNIVERSITY PROGRAM ON FIFTH UNIVERSITIES IN TABLE

In the annex, optional subjects were marked in red, conservation practice in blue, while the gray color indicated the diploma subjects which were not added to the comparative line. The subjects at Wroclaw University of Technology were divided into a general profile and conservation specialization.

In conclusion, the first degree (S1) subjects related to heritage protection are about 65–75 hours, but only at the Warsaw University of Technology are doubled. At the Technical University of Gdansk none of them at all.

On the second degree (S2) subjects about heritage protection and revitalization are on average about 150–250 hours, at the Technical University of Łodz this number has doubled (375 hours). On the conservation specialization in Warsaw, the number of hours is almost 500 (without diplomas), in Wroclaw the number of hours is the highest of all 615.

| | WARSAW UNIVERSITY OF TECHNOLOGY | TECHNICAL UNIVERSITY OF LODZ | WROCLAW UNIVERSITY OF TECHNOLOGY | WROCLAW UNIVERSITY OF TECHNOLOGY *SPECIALIZATION OF ARCHITECTURE AND PROTECTION OF MONUMENTS* | GDANSK UNIVERSITY OF TECHNOLOGY | WEST POMERANIAN UNIVERSITY OF TECHNOLOGY SZCZECIN |
|---|---|---|---|---|---|---|
| Full-time studies of first degree (S1) – Engineer programme | | | | | | |
| 1 semester | | | | | | |
| 2 semester | Inventory practice – field exercises, 30h, 3ECTS | | | | | |
| 3 semester | | | | | | |
| 4 semester | | | | | | |
| 5 semester | | Adaptation of a historical object to contemporary functions – project, 45 h, 4 ECTS | | | | |
| 6 semester | Conservation and modernization, 30 h, 2 ECTS | | Introduction to the conservation project, 30 h, 2 ECTS | Introduction to the conservation project, 30 h, 2 ECTS | | |
| 7 semester | Elective seminar, 30 h, 2 ECTS | Proposed design in the historical environment, 30 h, 4 ECTS | Conservation planning – revaluation cultural landscape, 45 h, 3ECTS | Conservation planning – revaluation cultural landscape, 45 h, 3 ECTS | | Protection and conservation of historic monuments, 45 + 15 h, 7 ECTS |
| 8 semester | Elective lecture [history / art / heritage], 15h, 1 ECTS<br>Elective seminar [history / art / legacy] 30h, 5 ECTS<br>Graduate diploma seminar, 10 h, 15 ECTS<br>Diploma project engineer – exam, 4 h, 4 ECTS<br>Erasmus – project: Conservation and Modernization Design. The New Infill in Historic Complexes – A Little Town in Warsaw Neighborhood 7 ECTS | | | | | Conservation of historic monuments in practice, 4 h, 4 ECTS<br>Diploma design project in conservation, 15 h, 5 ECTS<br>Diploma project, 0 h, 15 ECTS |
| TOTAL | 135 h, 13 ECTS | 75 h, 8 ECTS | 75 h, 5 ECTS | 75 h, 5 ECTS | – | 64 h, 11 ECTS |

| Full-time studies of second degree (S2) – Master programme | | | | | | |
|---|---|---|---|---|---|---|
| 1 semester | Conservation large scale project, 84 h, 9 ECTS<br>Heritage spaces, 30 + 30 h, 3 ECTS<br>Architect and heritage (faculty 1), 15 h, 1 ECTS | Preservation and conservation of monuments, 30 h + 45 h, 6 ECTS<br>Introduction of urban regeneration ENG, 60 h, 3 ECTS | SPECIALIZATION OF ARCHITECTURE AND URBAN PLANNING<br>Conservation project 1 – maintenance of architecture facilities, 15 + 45 h, 2 + 3 ECTS | Styliness and architecture typology, 30 h, 1 ECTS<br>Protection of industrial heritage, 15 + 15 h, 1 ECTS<br>Regional architecture 15h, 1 ECTS<br>Rehabilitation, strengthening and conservation of historical structures (1) 30 h, 1 ECTS<br>Architectural and conservation inventory 30h, 2 ECTS<br>Detail in the historical architecture 30 h, 2 ECTS<br>Urban project – urban revalorization, 15 + 60 h, 1 + 3 ECTS<br>Architectural project 1 – public utility building in cultural landscape, 15 + 45 h, 2 + 4 ECTS<br>Technology 1 – building-conservation chemistry, 30 h, 2 ECTS | Theory of preservation of monuments, 30 h, 2ECTS<br>Architectural theories in the process of revitalization, 15 h, 1ECTS<br>Elective seminars, ~ 60 h, 3 ECTS | Historic sites protection 1, 45 + 15 h, 4 ECTS<br>Architectural design: revalorisation 1, 45 + 15 h, 6 ECTS |
| 2 semester | SPECIALIZATION OF ARCHITECTURAL HERITAGE<br>Architecture research (faculty 2), 30, 2 ECTS<br>Study of architecture – methods and techniques (faculty 1), 60 h, 6 ECTS<br>Architecture form as a value added in the cultural environment (faculty 1) , 84 h, 9 ECTS | Preservation and conservation of monuments, 15 h + 45 h, 6 ECTS | SPECIALIZATION OF ARCHITECTURE AND URBAN PLANNING<br>Conservation project 1 – maintenance of architecture facilities, 15+45h, 2+3ECTS<br>Conservation project 2 – revaluation of urban space, 45h, 3ECTS<br>History of conservation and presentation of greenery, 15 + 30 h, 2 + 2 ECTS<br><br>SPECIALIZATION OF DESIGNING URBAN SPACE<br>Urban renewal, 30 + 60 h, 2 + 4 ECTS<br>Conservation project – conservation of architecture facilities, 15 + 45 h, 2 + 3 ECTS | Theory of conservation and revalorization of monuments, 30 h, 2 ECTS<br>History of conservation and presentation of greenery 30h, 2 ECTS<br>Form and revalorisation of architecture in the first half of the 20th century, 15 h, 1 ECTS<br>Rehabilitation, strengthening and conservation of historical structures 2, 15 h, 1 ECTS<br>Methodology of scientific and historical research 30h, 2 ECTS<br>Conservation project – architectural and technological project 45h, 3 ECTS<br>Architectural project 2 – designing of establishments working in cultural landscape, 15 + 45, 2 + 3 ECTS<br>Technology 2 – mechanisms and causes damage, technological research, 30 h, 1 ECTS | Conservation project, 15+30h, 3ECTS<br>Problems of architectural heritage, 15 + 15 h, 2ECTS<br>Conservation project (Contemporary problems of historical cities), 15 h, 1ECTS<br>Elective seminars, ~ 60 h, 3 ECTS | Historic sites protection 2, 60 + 15 h, 4 ECTS<br>Architectural design: revalorisation 2, 45h, 6 ECTS<br>Pre-diploma design, 15 h, 3 ECTS |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 semester | SPECIALIZATION OF ARCHITECTURAL HERITAGE<br>Heritage - protection and development (faculty 3), 30 h, 2 ECTS<br>Designing in cultural environment (faculty 2), 60 h, 6 ECTS<br>Integrated design in cultural area (faculty 2), 75 h, 8 ECTS | Rehabilitation of the urbanized environment (faculty), 30 + 60 h, 8 ECTS<br>Revitalization of the urbanized environment (faculty), 30+60, 8 ECTS | | Technology 3 – conservation techniques and technologies, 30 h, 1ECTS | | Diploma seminar, 30 h, 3 ECTS<br>Diploma project design, 15 h, 5 ECTS |
| 4 semester | Master thesis diploma, 18 h, 20 ECTS<br>Promoter seminar, 30 h, 8 ECTS | | | | | |
| TOTAL | 498 h, 46 ECTS | 375 h, 31 ECTS | A&U: 150 h, 12 ECTS<br>DUS: 150 h, 11 ECTS | 615 h, 38 ECTS | ~255 h, 15 ECTS | 240 h, 20 ECTS |

# ANNEX 2:

## WARSAW UNIVERSITY OF TECHNOLOGY

According to the information provided by the Warsaw University of Technology lecturers, the first degree (S1) of architecture about 150h (32 ECTS) was devoted to subjects related to the protection of monuments. The second degree (S2) was shown on subjects in specialization of "Architectural Heritage", the number of hours being 550 (74 ECTS).

Below is a list of items with a short description of the scope of the subject, and divided into obligatory and optional (red font in the table).

Specialization of **"Architectural Heritage" (Dziedzictwo Architektoniczne – DA)** in the semester 2–3 Master's studies (S2) – one of the eight offered to students to choose a specialty with a simultaneous block of subjects required for all students. Specialty group counts max. 25 students. A student may, but does not need to select a specialty by composing his program of study in elective subjects (preference is given to students who have declared their studies in a chosen specialty).

Training in the specialty includes 2 program blocks:

- Knowledge of the architectural heritage, its values and methods of acquiring this knowledge – essential in formulating assumptions and conclusions for projects of revitalization of buildings and complexes. Research, methods and techniques of valorisation, preservation, modernization and contemporary restoration of historic structures. Implement this knowledge in an individual design task.
- Protection and management of historic buildings/complexes, including: interdisciplinary architectural co-operation as author and coordinator of design solutions and specific technical, formal, legal, economic and social conditions and interdependencies and design decisions. Implement this knowledge in a team project task.

According to the current master's program in the field of Architecture, 6 specialization's subjects are offered (3 for each semester 2 and 3):

- sem. 2 – lecture (faculty 2) 30 h (2 ECTS),
  - seminar (faculty 1) 60 h (6 ECTS),
  - elective PBL (faculty 1) 84 h (9 ECTS),
- sem. 3 – lecture (faculty 3) 30 h (2 ECTS),
  - seminar (faculty 2) 60 h (6 ECTS),
  - elective interdisciplinary project (faculty 2) 75 h (8 ECTS),
- sem. 4 – master's thesis 18 h (20 ECTS)
  - promoter seminar 30 hour (8 ECTS)

**Table 1.** Subjects related to **heritage protection and** revitalization of monuments at the Warsaw University of Technology, Faculty of Architecture

| lp. | subjects | year | semester | hours | ECTS |
|---|---|---|---|---|---|
| **Full-time studies of first degree (S1) – Engineer programme** | | | | | |
| 1. | Inventory practice – field exercises | 1 or 2 | 2 or 4 | 30 | 3 |
| 2. | Conservation and modernization | 3 | 6 | 30 | 2 |
| 3. | Elective seminar | 3 | 7 | 30 | 2 |
| 4. | Elective lecture [history / art / heritage] | 4 | 8 | 15 | 1 |
| 5. | Elective seminar [history / art / legacy] | 4 | 8 | 30 | 5 |
| 6. | Graduate diploma seminar | 4 | 8 | 10 | 15 |
| 7. | Diploma project engineer – exam | 4 | 8 | 4 | 4 |
| 8. | Erasmus – project: Conservation and Modernization Design. The New Infill in Historic Complexes – A Little Town in Warsaw Neighborhood | 4 | 8 | ? | 7 |
| TOTAL | | | | 149 | 32 (+7) |

| Full-time studies of second degree (S2) – Master programme | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Conservation large scale project | | 1 | 1 | 84 | 9 |
| 2. | Heritage spaces | | 1 | 1 | 30+30 | 3 |
| 3. | Architect and heritage (faculty 1) | | 1 | 1 | 15 | 1 |
| 4. | Architecture research (faculty 2) | | 1 | 2 | 30 | 2 |
| 5. | Study of architecture – methods and techniques (faculty 1) | | 1 | 2 | 60 | 6 |
| 6. | Architecture form as a value added in the cultural environment (faculty 1) | | 1 | 2 | 84 | 9 |
| 7. | Heritage – protection and development (faculty 3) | | 2 | 3 | 30 | 2 |
| 8. | Designing in cultural environment (faculty 2) | | 2 | 3 | 60 | 6 |
| 9. | Integrated design in cultural area (faculty 2) | | 2 | 3 | 75 | 8 |
| 10. | Master thesis diploma | | 2 | 4 | 18 | 20 |
| 11. | Promoter seminar | | 2 | 4 | 30 | 8 |
| TOTAL | | | | | 546 | 74 |

**Full-time studies of first degree (S1) – Engineer programme**

– CONSERVATION AND MODERNIZATION – lecture 30 h (2 ECTS)

  Familiarize students with the theoretical foundations of the protection, conservation and adaptation of historic buildings and the revitalization and modernization of historical buildings.

– REVALUATION OF MONUMENTS – elective seminar 30 hours (2 ECTS)

  To learn about conditions, principles and methods of conservatory protection and the management of historical monuments on the example of a selected Polish historical monument (classes conducted at the monument).

– ART AND URBAN DETAILS IN THE PUBLIC HISTORICAL LANDSCAPE OF THE CITY – elective seminar 30 hours (2 ECTS)

  Getting to know the new elements that build the quality of public space in the city's historic landscape, seen as an attractive backdrop for a variety of cultural activities, including presentations of contemporary architecture and art. Students prepare a given or selected topic related to the various forms of art and culture presence in the city public space.

– CONSERVATION AND MODERNIZATION DESIGN. The New Infill in Historic Complexes – A Little Town in Warsaw – Erasmus project (7 ECTS)

  Education in the context of cultural design and transformation of structures requiring revitalization and restoration; Application of initial analyzes and knowledge of the conditions and principles in the design of maintenance, modernization and transformation of architectural structures. Incorporation of modern technical requirements, preservation technologies and methods of protection of the cultural environment.

**Full-time studies of second degree (S2) – Master programme**

– CONSERVATORY MULTI-SCALE PROJECT (architectural-urban) obligatory, 84 h (9 ECTS).

  Classes in two sequences: architectural design and urban planning (student choice).

– HERITAGE SPACES – obligatory, lecture 30 h, seminar 30 h (3 ETCS)

– ARCHITECT AND HERITAGE (faculty 1) lecture elective 15 h (1 ECTS)

  The aim of the lecture series is to sketch out the scope of the problems connected with designing in various types of historical objects and their surroundings in contemporary economic and social conditions. The content provided is intended to make students aware of the importance of historic buildings for the architectural landscape as well as the variety and complexity of issues related to the broader conceptual design of teams and sites.

– ARCHITECTURE RESEARCH (faculty 2) lecture 30 h (2 ECTS)

  Issues: methods of surveying historic buildings and urban complexes with the principles of assessing the value of a monument as an essential element in the process of formulating assumptions and design in historical buildings, and preparing graduates (in accordance with their competence) to carry out architectural research and other activities at the monument entered in the register of monuments. The subject of the lecture is correlated with the parallel seminar *Study of Architecture: Methods and Techniques*.

– STUDY OF ARCHITECTURE – METHODS AND TECHNIQUES (faculty 1) seminar 60 h (6 ECTS)

  Problem: Practical use of the knowledge acquired during the lecture *Architecture research* during self-study of the object (analysis of sources, elements of architectural research, analysis of historical functional structure, analysis of construction structure, etc.). Local and detailed proposals relating to the structure of the building). The seminar includes both theoretical classes, where the existing source materials for the selected object and the practical activities carried out in the researched object are prepared (eg residential and park establishment, monastery, castle ruins). The results of the research work support methodically the design task implemented in the second semester.

– ARCHITECTURE FORM AS A VALUE ADDED IN THE CULTURAL ENVIRONMENT (faculty 1) PBL elective project 84 h (9 ECTS)

  Design classes include: exploring the relationship between the cultural values of the place and its *'genius loci'* and new forms of development and architectural interventions; In particular – searching for contemporary forms of architecture and value-added detail while preserving the compositional coherence and cultural values of existing buildings and landscapes, taking into account current trends and recommendations in the world. The task is performed individually with the possibility to select a research topic in accordance with student interests.

– HERITAGE – PROTECTION AND DEVELOPMENT (faculty 3) lecture 30 h (2 ECTS)

  The issues of protection and the need to modernize and transform buildings and housing complexes in alignment with new functions, standards and social expectations; Protection of the heritage of historical cities and landscapes – issues of revitalization and revitalization. The role of the architect in exploiting the potential of heritage in spatial-functional and socio-economic development. Formal, legal, social and economic conditions (valuation of historical properties); Monitoring the state and transformations of objects and teams of cultural values – examples; Information technologies supporting heritage management. The lecture creates the theoretical foundations for the seminar program *Designing in a Cultural Environment* for Semester 3, focusing on design practice.

– DESIGNING IN CULTURAL ENVIRONMENT (faculty 2), seminar 60 h (6 ECTS)

  The problem of interdisciplinary issues related to the practice of architectural and urban planning in historical structures – especially in the field of: contemporary methods of technical and conservative diagnostics; Maintenance and protection of endangered structures; Design conditions resulting from the protection of cultural and natural values and landscape; Selection of features to the specificity of the historic object; Provide equipment and networks for technical infrastructure and communication availability, user safety; Necessary in the design and implementation phase of the types of documentation, expertise and procedures of reconciliation with the conservation office. Some of the activities connected with the practice are carried out in the field, (including one, three-day block outside of Warsaw at the location of the project task for semester 3). The seminar program is linked in substance with a parallel, interdisciplinary selective project.

– INTEGRATED DESIGN IN CULTURAL AREA (faculty 2) elective interdisciplinary project 75 h, (8 ECTS)

  The subject of the project is a monument complex with complex spatial structure (eg defensive, residential, park, post-industrial, etc.), whose protection requires the introduction of commercial functions that provide funds for ongoing maintenance and local development. The task includes: the development of the team and the modernization and architectural additions of the historical structure, preserving cultural values and taking into account the interdisciplinary character of conditions, interventions and design solutions on various scales.

– MASTER THESIS DIPLOMA 18 h (20 ECTS)

  PROMOTER SEMINAR 30 h (8 ECTS)

  Diploma projects performed within the specialization are related to the issues of adaptation, modernization, extension and new architectural complements of buildings, complexes and urban structures, taking into account the protection of cultural values. The accompanying diploma seminar includes advanced design methods in a cultural environment.

# ANNEX 3:

## TECHNICAL UNIVERSITY OF LODZ

At the Technical University of Lodz (IAiU) the following syllabus exists:

In the first stage are conducted preparatory objects (Architecture and Interior Architecture), in the first case under the name: *Proposed design in the historical environment* (1 semester) in the second *Adaptation of the historical object to contemporary functions* (2 semesters). These subjects are conducted in both directions by other instructors. In both cases, it is a design exercises without lectures.

In the Faculty of Architecture, in the semester 1, the subject is a historical monument of the nature of ruins (eg castle ruin or fragment of urban fortifications), and another object of elaboration is a historical object of Lodz – postindustrial, sporadically residential building. At the second stage is the object of the *Conservation and Preservation of Monuments* (2 semesters). It consists of two project topics and a series of lectures.

Also on the second level (S2) are subjects related to issues of renewal / transformation of historical or existing groups: the English-speaking subject: *Introduction of Urban Regeneration*. Other subjects to choose from: urban rehabilitation and revitalization of the urban environment, including lectures and design exercises.

**Table 2.** Subjects related to **heritage protection** and revitalization of monuments at the Technical University of Lodz, Faculty of Architecture

| lp. | subjects | year | semester | hours | ECTS |
|---|---|---|---|---|---|
| **Full-time studies of first degree (S1) – Engineer programme** | | | | | |
| 1. | Adaptation of a historical object to contemporary functions – project | 3 | 5 | 45 | 4 |
| 2. | Proposed design in the historical environment | 4 | 7 | 30 | 4 |
| TOTAL | | | | 75 | 8 |
| **Full-time studies of second degree (S2) – Master programme** | | | | | |
| 1. | Preservation and conservation of monuments | 1 | 1<br>2 | 30+45<br>15+45 | 6<br>6 |
| 2. | Introduction of urban regeneration ENG | 1 | 1 | 60 | 3 |
| 3. | Rehabilitation of the urbanized environment (faculty) | 2 | 3 | 30+60 | 8 |
| 4. | Revitalization of the urbanized environment (faculty) | 2 | 3 | 30+60 | 8 |
| TOTAL | | | | 375 | 31 |

**Full-time studies of first degree (S1) – Engineer programme**

– PROPOSED DESIGN IN THE HISTORICAL ENVIRONMENT, S1, sem. 7, exercise 30 h

  The project of adaptation of a traditional (brick-and-wood) building, covering renovation and modernization issues against the background of the rehab of a selected part of the city. To familiarize students with traditional building techniques, the methodology of conservation and modernization work on historical objects, and the procedures and laws governing the design and adaptation of objects and historical areas.

**Full-time studies of second degree (S2) – Master programme**

– PRESERVATION AND CONSERVATION OF MONUMENTS, S2, (1–2 semesters), lecture 30 h, exercise 45h

  Familiarize students with traditional building techniques, conservation methodology at historical sites, and applicable law and procedures.

– INTRODUCTION OF URBAN REGENERATION, S2, 1 sem., 60h

  Familiarize students with the problem of revitalization of degraded urban structures with special regard to the principles of "sustainable development".

– REHABILITATION OF THE URBANIZED ENVIRONMENT, S2, 3rd semester, lecture – 30 h, exercise – 60 h – faculty

The course aims to familiarize students with the issues of rehabilitation and revitalization of historical urban resources, with particular emphasis on the conditions of place, its traditions and directions of development. Students should be aware of the issues connected with Łódź and its region.

– REVITALIZATION OF THE URBANIZED ENVIRONMENT, S2, 3rd semester, lecture 30, exercise 60 h – faculty

Familiarize students with design practice in degraded urban structures with special emphasis on the principles of revitalization activities

# ANNEX 4:

## WROCLAW UNIVERSITY OF TECHNOLOGY

The Faculty of Architecture of the Wrocław University of Technology in the academic year 1976/1977 introduced in the last three semesters a selective specialization called MAINTENANCE OF MONUMENTS. In the course of such education three diplomas have been awarded to students. Also, the number of hours devoted to compulsory subjects related to the widely understood conservation of monuments for the ARCHITECTURE AND URBAN PLANNING specialties was increased. The new didactic program was built by prof. Edmund Malachowicz (1925–2015), an outstanding architectural researcher, specialist in the design and protection of historic buildings. The didactic curriculum taught at the Faculty of Architecture of the Wroclaw University of Technology for the protection of heritage objects, with some modifications, continued today. Classes are also taught in English.

In the first degree studies are conducted for ARCHITECTURE and SPATIAL ECONOMY specialties and in the second degree they take place exclusively in *Architecture, Architecture and Urban Planning, Architecture and Protection of Monuments and Designing Urban Space*.

Students of 7-semester undergraduate studies in ARCHITECTURE have conservatory subjects in the 6th and 7th semester, and in the SPATIAL ECONOMY only in the semester 7. On three semesters of the second-cycle MSc program on *Architecture and Urban Planning* specialization, classes take place in first and the second semester, and the specialization of *Designing Urban Space* in the second semester.

The number of curses on heritage protection on first degree (S1) is not enough (75 h, 5 ECTS), but doubles on the second degree (S2) of general specialization (150 h, 11–12 ECTS). On specialization of *Architecture and Protection of Monuments*, the number of hours devoted to protection of heritage is the largest in all Polish universities and amounts to 615h (38 ECTS).

A detailed list of items is included in the table 3. and description below.

**Table 3.** Subjects related to heritage protection and revitalization of monuments at the Wrocław University of Technology, Faculty of Architecture

| lp. | subjects | year | semester | hours | ECTS |
|---|---|---|---|---|---|
| **Full-time studies of first degree (S1) – Engineer programme** | | | | | |
| 1. | Introduction to the conservation project | 3 | 6 | 30 | 2 |
| 2. | Conservation planning – revaluation cultural landscape | 4 | 7 | 45 | 3 |
| TOTAL | | | | 75 | 5 |
| **Full-time studies of second degree (S2) – Master programme** | | | | | |
| SPECIALIZATION: ARCHITECTURE AND URBAN PLANNING | | | | | |
| 1. | Conservation project 1 – maintenance of architecture facilities | 1 | 1 | 15+45 | 2+3 |
| 2. | Conservation project 2 – revaluation of urban space | 1 | 2 | 45 | 3 |
| 3. | History of conservation and presentation of greenery | 1 | 2 | 15+30 | 2+2 |
| TOTAL | | | | 150 | 12 |
| SPECIALIZATION: DESIGNING URBAN SPACE | | | | | |
| 1. | Urban renewal | 1 | 2 | 30+60 | 2+4 |
| 2. | Conservation project – conservation of architecture facilities | 1 | 2 | 15+45 | 2+3 |
| TOTAL | | | | 150 | 11 |

| SPECIALIZATION: ARCHITECTURE AND PROTECTION OF MONUMENTS | | | | | |
|---|---|---|---|---|---|
| 1. | Theory of conservation and revalorization of monuments | 1 | 2 | 30 | 2 |
| 2. | Styliness and architecture typology | 1 | 1 | 30 | 1 |
| 3. | Protection of industrial heritage | 1 | 1 | 15+15 | 1 |
| 4. | History of conservation and presentation of greenery | 1 | 2 | 30 | 2 |
| 5. | Form and revalorisation of architecture in the first half of the 20th century | 1 | 2 | 15 | 1 |
| 6. | Regional architecture | 1 | 1 | 15 | 1 |
| 7. | Rehabilitation, strengthening and conservation of historical structures (1 and 2) | 1 | 1–2 | 30+15 | 1+1 |
| 8. | Architectural and conservation inventory | 1 | 1 | 30 | 2 |
| 9. | Methodology of scientific and historical research | 1 | 2 | 30 | 2 |
| 10. | Conservation project – architectural and technological project | 1 | 2 | 45 | 3 |
| 11. | Detail in the historical architecture | 1 | 1 | 30 | 2 |
| 12. | Urban project – urban revalorization | 1 | 1 | 15+60 | 1+3 |
| 13. | Architectural project 1 – public utility building in cultural landscape | 1 | 1 | 15+45 | 2+4 |
| 14. | Architectural project 2 – designing of establishments working in cultural landscape | 1 | 2 | 15+45 | 2+3 |
| 15. | Technology 1 – building-conservation chemistry | 1 | 1 | 30 | 2 |
| 16. | Technology 2 – mechanisms and causes damage, technological research | 1 | 2 | 30 | 1 |
| 17. | Technology 3 – conservation techniques and technologies | 2 | 3 | 30 | 1 |
| TOTAL | | | | 615 | 38 |

**Full-time studies of first degree (S1) – Engineer programme**

– INTRODUCTION TO THE CONSERVATION PROJECT, semester 6, seminary 30 h

Assumptions and objectives of the course: The aim of the course is to familiarize students with the principles of protection of monuments of architecture and urban planning, including the theory and practice of design and conservation techniques, as well as the integration of contemporary architecture into the historical cultural landscape. The seminars are led by a team of teachers of the Department of Architecture and Green Maintenance and Restoration, who will familiarize students with conservation issues using their own scientific research and design achievements. Familiarizing students with specific examples of conservation activities is provided by field seminars. Passing knowledge about contemporary trends in the protection of the cultural environment.

– CONSERVATION PLANNING – REVALUATION CULTURAL LANDSCAPE, semester 7, 45h project

Assumptions and objectives of the course: To familiarize students with basic notions of conservation of monuments and the protection of cultural landscapes. Familiarity with the issues of protection of historic urban planning, rural and other historical buildings (eg industrial groups of historic value). Presentation of problems related to the protection and

revaluation of works of architecture and construction. To develop students' field research skills necessary to determine the values of the cultural landscape and the values of its elements forming on the chosen example of the development area. To develop the ability to determine the style and date of resources of the area being developed. Develop a method for assessing the state of behavior of objects occurring in a unit of landscape selected for an example study.

**Full-time studies of second degree (S2) – Master programme**

**SPECIALIZATION: ARCHITECTURE AND URBAN PLANNING**

– CONSERVATION PROJECT 1 – MAINTENANCE OF ARCHITECTURE FACILITIES. semester 1, lecture 15 h, proj. 45 h

  Students learn the scientific, theoretical, legislative and organizational foundations for the protection of cultural and natural heritage. Showing conservatism as a multidisciplinary, multi-faceted and long-term multidisciplinary subject. Presentation of conservation problems in the professional practice of the architect in relation to various conservation activities and procedures.

– CONSERVATION PROJECT 2 – REVALUATION OF URBAN SPACE, semester 2, proj. 45 h

  Obtaining and understanding the values of historical urban spaces and their adaptability to contemporary needs. Finding the right relationship between the newly designed architecture and the historical context.

– HISTORY OF CONSERVATION AND PRESENTATION OF GREENERY sem. 2, lecture 15h, seminary 30h

  Familiarize students with the theory and principles of composing historical gardens. Knowledge of components of historical gardens (natural, architectural-construction and technical). Knowledge of conservation and revitalization of historic green areas.

**SPECIALIZATION: DESIGNING URBAN SPACE**

– URBAN RENEWAL, sem. 2, lecture 30h, proj. 60h

  To familiarize students with the problem of urban renewal, to present principles of construction of local revitalization programs, and to familiarize with government, regional and municipal documents as tools for realization of revitalization processes. Students acquire the ability to identify phenomena occurring in the degraded spaces of the city and indicate the principles of their repair and approximate revitalization practices in problem areas: Post-industrial, residential and public spaces. Familiarization with the tools of revitalization processes of urbanized areas, methods of financing revitalization processes and their monitoring system.

– CONSERVATION PROJECT – CONSERVATION OF ARCHITECTURE FACILITIES, sem. 2, lecture 15 h, proj. 45 h

  Obtaining and understanding by students the value of historical urban planning and their adaptability to contemporary needs. Finding the right relationship between the newly designed architecture and the historical context. The ability to design a historic architectural detail.

**SPECIALIZATION: ARCHITECTURE AND PROTECTION OF MONUMENTS**

SPECIALIZED SUBJECTS:

– THEORY OF CONSERVATION AND REVALORIZATION OF MONUMENTS, lecture 30h

  Students learn the scientific, theoretical, legislative and organizational foundations and practices for conservation and restoration design work, as well as administration in the protection of various architectural objects and urban complexes in a cultural landscape.

– STYLINESS AND ARCHITECTURE TYPOLOGY, seminar 30 h

  Presentation of stylistic formations in architecture from antiquity to the twentieth century; To familiarize students with methods of dating works of architecture, especially on the basis of ornamentation; Presentation of principles of describing and analyzing monuments of architecture. Mastering the design and finishing of details and ornaments.

– PROTECTION OF INDUSTRIAL HERITAGE, lecture 15 h, seminar 15 h

  Familiarization with the issues of industrial heritage. Objectives of protection of technical monuments and industrial buildings. Familiarization with problems and methods of protection of industrial heritage.

– HISTORY OF CONSERVATION AND PRESENTATION OF GREENERY seminary 30 h

  Theoretical knowledge of the principles of composing historical gardens. Knowledge of the components of historical gardens (natural, architectural-construction and technical; Knowledge of preservation and revitalization of historic green areas.

– FORM AND REVALORISATION OF ARCHITECTURE IN THE FIRST HALF OF THE 20TH CENTURY lecture 15 h

  Familiarization with the transformation of the architectural form of the first half of the 20th century. Presentation of architects' approach to new problems

that emerged in the twentieth century. Presentation of the features of architecture belonging to the stream of modernism of various formal varieties; Showing specific problems related to the revitalization of modernist buildings entered in the register of monuments. To develop the ability to develop a historical-conservative study of a building registered in the register of monuments and belonging to the current of modernism.

– REGIONAL ARCHITECTURE lecture 15 h

  Clarification of concepts, definition of rules for designation of features and architectural regions. Presentation of the conditions of regional architecture. Indication of contemporary trends in the design of regional architecture in Poland and abroad.

– REHABILITATION, STRENGTHENING AND CONSERVATION OF HISTORICAL STRUCTURES (1 and 2) lecture 30 h+15 h

  Knowledge of the ways and technology of strengthening and repairing individual structural elements of general construction works. Knowledge of diagnostics of historical structures. Knowledge of the characteristics of contemporary reinforcement materials, including composite materials. Knowledge of basic principles of conservation of historical objects.

– ARCHITECTURAL AND CONSERVATION INVENTORY seminar 30 h

  Obtain basic knowledge in the field of inventory and simple spatial layout using the traditional method (using simple measuring instruments) and the use of CAD methods in the inventory.

– METHODOLOGY OF SCIENTIFIC AND HISTORICAL RESEARCH seminar 30 h

  Familiarize with the nature and methods of conducting modern scientific research: architectural-archaeological and historical-architectural, in accordance with the current ministerial regulation. To familiarize with contemporary methods of creating field documentation from architectural and archaeological research, required by conservation authorities. Preparation for the preparation of short reports of the nature of research reports. Attention to the need to conduct basic rescue research in historic buildings and to develop the skills of their rational planning in the construction process.

SPECIALIZED PROJECTS:

– CONSERVATION PROJECT – ARCHITECTURAL AND TECHNOLOGICAL PROJECT 45 h

  Preparing for independent execution of a technological and conservation project of a selected historical monument (technological procedure at a monumental site, determining the type and order of research, analysis of results, conclusions, technological program). The project is conducted in reference to “Technology 1–3”.

– DETAIL IN THE HISTORICAL ARCHITECTURE – project 30 h

  Familiarize students with the history of architectural detail, its form, color and technology over the centuries. Familiarize them with the history of the workshop of the architect, decorator and craftsman. The ability to collect documentation and design of details in a historic building – contemporary or reconstruction of historical detail with coloring.

– URBAN PROJECT – URBAN REVALORIZATION, lecture 15 h, project 60 h

  Familiarize yourself with the basic issues related to urban renewal urban development before 1945. Presentation of programs and processes of revitalization of urbanized areas in Poland. Identification of problems in degraded settlements and parts of cities with pre-war pre-war housing developments. To familiarize with tools and methods of revitalization of housing estates, preparation of historical and conservation documentation and to define the directions of transformations of the structure of the housing complex, elaboration of the local spatial planning of the selected urban area and use it to create the concept of housing complex.

– ARCHITECTURAL PROJECT 1 – PUBLIC UTILITY BUILDING IN CULTURAL LANDSCAPE, lecture 15 h and project 45 h

  Expand knowledge on the correct design of public utilities in cultural landscapes. In the field of design, the ability to enter a public utility (urban, functional, spatial, structural and material solutions) into cultural conditions, in accordance with applicable law.

– ARCHITECTURAL PROJECT 2 – DESIGNING OF ESTABLISHMENTS WORKING IN CULTURAL LANDSCAPE, lecture 15 h and design 45 h

  Knowledge of theory and principles of workplace design – production plants, research and production units, elements of development of science and technology parks located in the areas of existing urban tissue – revitalized areas with historical tissue of post-industrial buildings and urban areas. It is permissible to adapt some or all of the existing post-industrial development to the new features of the workplace.

TECHNOLOGICAL SUBJECTS:

– TECHNOLOGY 1 – BUILDING-CONSERVATION CHEMISTRY, lecture 30 h

  Extend knowledge about building materials in terms of their physicochemical properties and properties in certain environments. Basic ability to

identify technical and technological methods for securing and conserving degraded building materials. Knowledge of the basic principles of the protection and preservation of building materials, including those occurring in historic buildings.

– TECHNOLOGY 2 – MECHANISMS AND CAUSES DAMAGE, TECHNOLOGICAL RESEARCH, seminar 30 h

  Acquire knowledge about the causes of destruction of monuments. Knowledge about the direction of preventing the destruction of monuments. Understanding the basic principles of conservation of historical objects.

– TECHNOLOGY 3 – CONSERVATION TECHNIQUES AND TECHNOLOGIES, seminar 30 h

  Acquisition of knowledge of selected conservation techniques. Identify problems related to the selection of suitable conservation technologies; Get acquainted with the directions of technological development and technology. Acquisition of knowledge of the ways and technology of strengthening and repairing individual structural components of general construction works. Acquire the skills to develop and present properly selected conservation technology.

SELECTED PROJECT STUDIES:

Among the offered projects are also selected relating to the protection of heritage and revitalization of monuments, such as:

– RESIDENTIAL HOUSES IN THE CITY CENTERS
– DESIGN AND MODERNIZATION – OF THE HOSPITAL
– INTERIOR DESIGN

# ANNEX 5:

## GDANSK UNIVERSITY OF TECHNOLOGY

At the Faculty of Architecture at Gdansk University of Technology, conservation items are exclusively on the second degree (S2) and their scope is severely reduced.

**Table 4.** Subjects related to heritage protection and revitalization of monuments at the Gdansk University of Technology, Faculty of Architecture

| lp. | subjects | year | semester | hours | ECTS |
|---|---|---|---|---|---|
| **Full-time studies of second degree (S2) – Master programme** | | | | | |
| 1. | Theory of preservation of monuments | 1 | 1 | 30 | 2 |
| 2. | Architectural theories in the process of revitalization | 1 | 1 | 15 | 1 |
| 3. | Conservation project (Contemporary problems of historical cities) | 1 | 2 | 15 | 1 |
| 4. | Conservation project | 1 | 2 | 15+30 | 3 |
| 5. | Problems of architectural heritage | 1 | 2 | 15+15 | 2 |
| 6. | Elective seminars | 1 | 1–2 | ~60*2 | 3*2 |
| TOTAL | | | | 255 | 15 |

**Full-time studies of second degree (S2) – Master programme**

– THEORY OF PRESERVATION OF MONUMENTS, sem. 1, lecture 30 h

  To provide future architects with knowledge about the history of conservation, genesis and development of contemporary conservation theory, problems and contemporary preservation principles. Lectures both in the historical part and in the contemporary issues are illustrated by critically analyzed “case studies”.

– ARCHITECTURAL THEORIES IN THE PROCESS OF REVITALIZATION (within the curriculum block: Architectural design I. Revitalization. team project), sem.1, lecture 15 h

  Regarding the revitalization of historic monuments in the process of revitalization. The subject is the general principles of revitalization illustrated by case studies.

– CONSERVATION PROJECT (CONTEMPORARY PROBLEMS OF HISTORICAL CITIES), exercises 15 h

  Repetitories of lecture material with active participation of students (discussions). In addition, the material is supplemented with information on ICOMOS doctrinal documents and the party in force of the Act relating to the protection of architectural monuments.

– CONSERVATION PROJECT lecture 15 h, project 30 h

  Formulating and solving architectural and conservation problems.

– PROBLEMS OF ARCHITECTURAL HERITAGE, lecture 15h, exercise 15h

  To familiarize with trends in the development of architecture in Poland in the 20th century and to deepen knowledge in the field of valorisation and protection of cultural, historical and technical values of 20th century architecture.

– ELECTIVE SEMINARS, 60 h

  Elective courses conducted at different semesters, by different instructors. Their subject matter is variable. Topics related to the protection of heritage, such as architectural studies, protection of groups of objects (eg fortifications) are being conducted. The respondent ran twice such activities.

These objects with some modifications are also carried out in English (Theory of Architectural Conservation and Conservation Project) for groups of Erasmus students and Polish students.

# ANNEX 6:

## WEST POMERANIAN UNIVERSITY OF TECHNOLOGY SZCZECIN

The subjects for the protection of cultural heritage with the emphasis on the protection of architecture and urban revitalization are subjects: *Protection and conservation of historic monuments, and Historic sites protection.* The classes are conducted in the Department of History and Conservation Theory (KHiTA)

The issue of protection of monuments is additionally undertaken in the framework of pre-design, seminar and diploma design on S1, S2. The restoration program in the field of monuments protection is the *conservation practice* at the S1 degree and the *Architectural design: revalorisation* in the specialization of the S2.

A total of about 80 hours was devoted to heritage protection at the S1 degree and 300 hours at the S2 degree.

**Table 5.** Subjects related to heritage protection and revitalization of monuments at the West Pomeranian University of Technology Szczecin, Faculty of Architecture

| lp. | subjects | year | semester | hours | ECTS |
|---|---|---|---|---|---|
| **Full-time studies of first degree (S1) – Engineer programme** | | | | | |
| 1. | Protection and conservation of historic monuments | 4 | 7 | 45+15 | 7 |
| 2. | Conservation of historic monuments in practice | 4 | 8 | 4 | 4 |
| 3. | Diploma design project in conservation | 4 | 8 | 15 | 5 |
| 4. | Diploma project | 4 | 8 | 0 | 15 |
| TOTAL | | | | 79 | 31 |
| **Full-time studies of second degree (S2) – Master programme** | | | | | |
| 1. | Historic sites protection 1 | 1 | 1 | 45+15 | 4 |
| 2. | Historic sites protection 2 | 2 | 2 | 60+15 | 4 |
| 3. | Architectural design: revalorisation 1 | 1 | 1 | 45+15 | 6 |
| 4. | Architectural design: revalorisation 2 | 2 | 2 | 45 | 6 |
| 5. | Pre-diploma design | 2 | 2 | 15 | 3 |
| 6. | Diploma seminar | 2 | 3 | 30 | 3 |
| 7. | Diploma project design | 2 | 3 | 15 | 5 |
| TOTAL | | | | 300 | 31 |

**Full-time studies of first degree (S1) – Engineer programme**

– PROTECTION AND CONSERVATION OF HISTORIC MONUMENTS, lecture 15h, exercise 45h

  In the course of the design classes in the subject of the Conservation and Preservation of Monuments, realized during the 7th semester of engineering studies, the students receive the task of adapting the town house to new functions.

– CONSERVATION PRACTICE, 4 h

  As part of the conservation practice, students perform an inventory of the historic building. During practice, students acquire the knowledge of appropriate methods of carrying out measurements and their transfer to sheets in the form of a handwritten drawing. Measurements are made using traditional measuring devices and rangefinders. Individual elements of interior decoration, facade decoration or technical solutions are presented on an appropriate scale. The final result of the practice is the drawing of a digital inventory of an object or a fragment thereof with the maintenance of a suitable drawing workshop and in accordance with the standards contained in the building law.

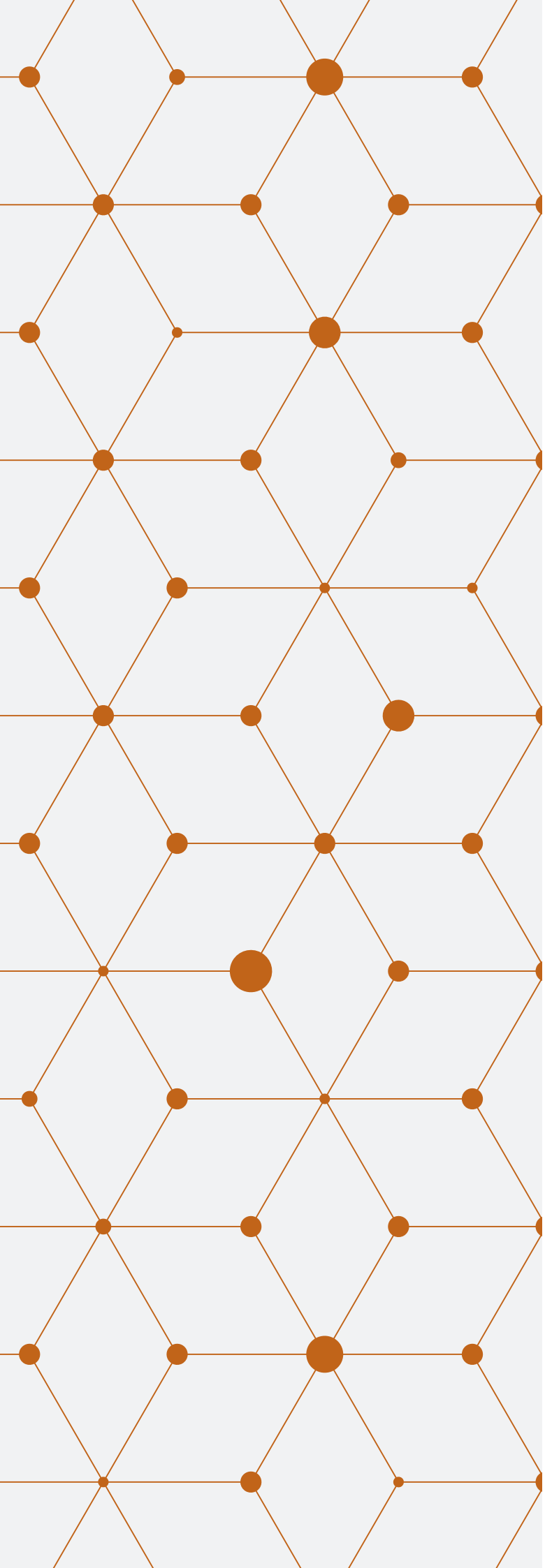
**Full-time studies of second degree (S2) – Master programme**

– HISTORIC SITES PROTECTION 1–2, lecture 15 h, exercise 45–60 h

  The design task of the S2 Course of Monuments Protection is characterized by a broader scope and higher level of difficulty in relation to occupations with a similar profile on the S1 level.

– ARCHITECTURAL DESIGN: REVALORISATION 1–2, lecture 15 h, exercise 45 h

  Revalorization was introduced after moving to a two-tier system of studies in the field of architecture and urbanism in second degree studies as a subject devoted to issues of conservation protection on a larger scale, including the protection and restoration of historical and cultural identities of cities and urban communities constituting European heritage.



# 05

# TEACHING HERITAGE PRESERVATION AND REVITALIZATION OF HISTORICAL CITIES ON THE FACULTIES AND SCHOOLS OF ARCHITECTURE IN 19 EUROPEAN AND EXTRA EUROPEAN COUNTRIES

CORINNA DEL BIANCO

## INTRODUCTION:

### /INFORMATION ON THE AIM, SCOPE AND STRUCTURE OF THE REPORT; CHARACTERISTICS OF THE PARTICIPANTS COMPLETING THE QUESTIONNAIRES; OTHER RELEVANT INFORMATION/

The Fondazione Romualdo Del Bianco® – Life Beyond Tourism® with its nature of a multicultural institution, with an international network of partnerships spread in over 83 countries in the world, presents in the following report its intercultural approach.

In a globalized world that is moving towards 10 billion inhabitants dialogue among cultures, respect of diversities, market trends and development in peaceful coexistence are some of the crucial elements that affect the development of urban and rural population and that need to be taken responsibly by any professional in any field.

The activities of professional figures of architects, urban planners and conservators are strictly linked to the themes of rural and urban demographic characteristics, distribution and development. To know and to get acquainted with each own local reality is of great importance to face the globalization process. The awareness enables to communicate the culture of a place, therefore it favors dialogue among cultures and respect of the diversity of cultural expressions for the growth of the international community in peaceful coexistence.

A local community that doesn't renounce to its own identity, with its material and immaterial heritage, "increases public respect and understanding", as mentioned by the ICOMOS charter for the interpretation and presentation of cultural heritage sites.

The international community should operate seeing the Other as an ally: an opportunity to protect and drive our common future on this planet we all share.

Today territories are often driven by the 'market trends' and this is a major risk because market is headless as it is not a conscious planner. Nevertheless, nowadays it is the creator, designer and implementer of the future of our cities.

Increasingly, the community needs to look at the long and medium term trends, to be capable to plan mobile urban programs to anticipate the market trends instead of being led by them. The communities should be conscious of their territorial choices not to suffer from nor the charm nor the strength of the market trends.

The architects, urbanists and conservators (AUC) should be educated to know, preserve and valorize local cultural identities through heritage. The city becomes a centre of identity preservation and dialogue among the actors of the local community (such as residents, travellers, immigrants, commuters, local businesses, cultural institutions, market trend research centres, etc.) that with their activities make the soul of the city alive, visible and easy to communicate.

Part of the consequences of a globalized world is the movement of people that is constantly growing: every year Europe welcomes 51% of global travellers, around 608 millions according to the UNWTO 2016 data, and it is becoming more challenging and important to manage properly these growing numbers.

However, these numbers can be considered both a danger and a richness. The travel can be considered as a school, part of the architectural and more general training to practice dialogue.

In this context Heritage represents a major issue because it attracts visitors belonging not only to the cultural and natural world, but also to a wider public called 'mass tourism'. Mass tourism can be considered a risk for heritage, but it also represents a multicultural mass of individuals that choose to visit heritage sites. This represents a great opportunity of encounters.

The creation of occasions of intercultural dialogue within the heritage sites becomes a responsibility for those sites or a missed opportunity. Therefore, the importance of a new relationship among elements such as heritage, travel, encounters, dialogue, knowledge, respect for diversity and the safeguard of our planet Earth health is to be highlighted.

Therefore, the skills that a professional needs to acquire at the academic level should reflect the contemporary evolution and operate accordingly in order not to follow the rules imposed by the globalized world.

Architects could improve their skills becoming aware about their responsibility to design according to the effective needs of the territory and its people. Their professional vision should go beyond political and market trends being capable of creating by themselves territorial tendencies of development that satisfy the territory still being an inseparable part of the wider context.

The research carried out by the Fondazione Romualdo Del Bianco® – Life Beyond Tourism® for the WP1 collected 36 questionnaires from 19 countries – both European and extra-European – in 3 different languages that were transversally analyzed.

The participants to the questionnaire were represented by University professors, professional architects and conservators, representatives of local administrations and international heritage related organizations. The details of geographical and university provenance are given below.

**Number of received questionnaires: 36**

**19 countries**

**Geographical provenance and University**

1. Azerbaijan (Azerbaijan University of Architecture and Construction)
2. Azerbaijan (Azerbaijan University of Architecture and Construction) – second respondent
3. Azerbaijan Union of Architects
4. Bahrain (Arab Regional Centre of World Heritage)
5. Bulgaria (University of Architecture, Civil Engineering and Geodesy Sophia, Faculty of Architecture, Dept. of History and Theory of Architecture)
6. China – ICOMOS China
7. Czech Republic (Ostrava Technical University)
8. Georgia (Tbilisi State Academy of Arts)
9. Australia – Melbourne, ICOMOS – ICSC Interpretation
10. India (School of Planning and Architecture, New Delhi)
11. Iran (Islamic Azad University Central Tehran Branch)
12. Italy in comparison to Northern Europe and Latin America
13. Italy (various universities, European Centre of Venice, CIF ICOMOS)
14. Italy – Florence (Architect –professional)
15. Italy – Florence (University of Florence)
16. Italy – Milan (Politecnico di Milano)
17. Kyrgyzstan (Architect –professional)
18. Latvia (Riga Technical University)
19. Latvia (Riga City Council – Board of Urban Development, City Development Department)
20. Lithuania – Kaunas (Kaunas University of Technology, Department of Architecture and Urbanism)
21. Norway – Norwegian University of Science and Technology
22. Poland – Nicolaus Copernicus University in Toruń
23. Poland – State University of Applied Sciences in Raciborz
24. Portugal – Municipality of Sintra
25. Russia – Ekaterinburg (Ural State Architecture and Arts University)
26. Russia – Magnitogorsk (Magnitogorsk State Technical University)
27. Russia – Moscow (ICOMOS Russia, Russian Academy of Architectural and Construction Sciences)

28. Russia – Saint Petersburg (Saint Petersburg University of Culture)
29. Russia – Saint Petersburg (St. Petersburg University of Architecture and Construction)
30. Russia – Samara (Samara State Polythecnical University of Architecture and Construction)
31. Russia – Saratov (Saratov State Technical University and Construction)
32. Russia – Saratov (Saratov State Technical University and Construction) – second respondent
33. Russia – Volgograd (Volgograd State Technical University)
34. Russia – Vologda (Vologda State University, Chair of Architecture and Civil Engineering)
35. Serbia – Belgrade (University of Belgrade)
36. Ukraine – Kiev National University of Architecture and Construction.

**N. of questionnaires only Part 1–13**

**N. of questionnaires Part 1 and 2–23**

**Languages of compilation: English, Italian, Russian**

The report is structured in 3 parts:

*Part I* seen the composition of the project partners it was decided that the survey on the general characteristics of the architects educational system would have been carried out by the Italian university partner.

*Part II* determination of the qualification and skill required in working with heritage protection and urban rehabilitation / analysis made through the questionnaires.

*Part III* characteristics of the teaching of heritage protection and revitalization of cities in the system of educating the architects / based on the questionnaires.

# PART I

## General characteristics of the system of educating the architects (in particular country); issues of heritage protection and revitalisation of historical cities in the system of architectural education; formal qualifications and education required from the architects dealing with heritage protection and revitalization of cities.

During the partners meeting it was decided that Italy, the country in which the Foundation was born and where it is located, will be of research pertinence of the Italian University partner. Being the Foundation an international institution, its main effort concentrated on understanding and surveying general characteristics of the architects' educational system throughout the countries belonging to its network and not of a specific country.

# PART II

## Determination of the qualification and skills required in working with heritage protection and urban rehabilitation /in light of the practical experience/ based on the information gathered in the questionnaires – Part I/

### 2.1. WHAT ISSUES / PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

*[please list separately the particular issues and determine their scope, e.g. the theory of conservation, the legal basis for the heritage protection, monuments adaptation to modern functions, the design of new buildings in historical areas]*

The analysis of the filled-in questionnaires demonstrated that a number of issues underlined in various regions are the same, while others have a more specific importance only to some areas or institutions. So, all the respondents highlighted the importance of providing the legal basis of heritage protection, on international, national and respective regional levels. It was also very often underlined the importance of acquiring knowledge about the history of conservation in general and specifically about the historical urban development of the town/historic centre so as to follow their evolutionary transformation through time, as well as the history of operational methods and techniques used throughout the time for restoration and conservation. Furthermore, many respondents named the monuments adaptation to modern functions, the proper use of historical buildings appropriate for the contemporary social context and the fundamental dialogue between the old and the new, with the preservation of genius loci and cultural revival of historic areas.

Some respondents highlighted also such aspects as management of historical sites (**Azerbaijan**); sustainability in civil engineering and architecture (**Czech Republic**); urban planning, traffic management and other aspects of functionality of historic cities, as well as knowledge of safety requirements on sites (**Bahrain**); visual perception capabilities regarding the architectural structure and decorative elements of historic monuments, regional and local architectural and applied arts traditions and variety of ways of expression of the architectural concept (**Russia – Moscow**); and history of architourism on the global level and the development of tourism infrastructure in architecture-rich historic cities (**Russia – Magnitogorsk**). The necessity of harmonius synthesis of the old and the new is fundamental for the urban structure (**Russia – Samara**). Principles of Historic Urban Landscape approach, community outreach, tourism, visitor management, interpretation of values, research and monitoring of development process should be also provided (**Latvia**). Comparative analysis of national features of restoration theories and practices is also fundamental (**Russia – Saint Petersburg, Italy – Latin America**), as well as value authenticity and integrity in historic architecture (**Poland**).

Furthermore, the Indian context presents a number of particularities related to its colonial Hangover limits: such as lack of precise terms in local languages to translate the English terminology in Conservation, and Heritage Management; the rich cultural differences of various regions and areas of India should be part of the approach of conservation education; interdisciplinary approach in education should be applied to Indian Living Cities; philosophical basis should be taught so as to understand properly local cultures and contexts; and equal weightage should be given to historical architecture and modern architecture.

Other issues indicated as important for architectural education: theory of heritage conservation; legislative basis in heritage-related issues; adaptation of monuments to contemporary functionalities; design of new buildings in historic areas; research on distinctive features for urban development taking into account historic urban landscape (**Russia – Saint-Petersburg**).

In **Italy**, the below issues have been underlined: architectural conservation, integrated preservation of historical cities in the cultural landscape and the issues of management of the territory related to the protection of material and immaterial cultural values. Furthermore, several indispensable programmatic elements were also highlighted: identity and transformation, as well as the definition of compatible uses of the building, territory and landscape, that do not alter the identity of places; important also the compatible development of tourism and adequate integration and all the permitted economic activities.

Other aspects underlined: principles of semiotics necessary for the creation of a correct historically-inspired area; study of historic and legislative aspects of the state political basis and the economical bases of the mechanism of construction (**Russia – Saratov**).

Valuable practical inputs have also been provided regarding **Portugal**. Various issues arise related to heritage protection and revitalization of historical towns, among which:

- lack of management model successfully producing sufficient financial resources for the required protection and revitalization actions
- The difficulty in alignment of a multitude of stakeholders, namely the conflict of interests which generally arises between commercial stakeholders and other stakeholders within management models which generate and release cash for the protection and revitalization of historical towns
- The conflicting legislation designed to protect the same buildings, namely the effect of “double” and sometimes “triple” and “quadruple” legal protection. In effect, different legislation diplomas state different goals – archaeological legislation normally stands more for preservation as-is, architectural legislation normally stands more for conservation, safety and hazard legislation normally demands deep changes in infrastructure and signalling systems, and natural heritage conservation sometimes can demand that no actions are taken to preserve certain natural values.
- The sometimes lack of existence of entities with enough preparation, disciplinary expertise and mainly drive to deal with all the conflicting points of view, and to manage to, while successfully complying with all legislation, deal with historical towns within management models which allow them to generate cash for the actions required
- In some cases, public procurement legislation can also significantly hamper the swiftness with which all of the above can be executed, as it typically requires the purchasing entities (of conservation or revitalization works) to open up to competition quite significantly, demanding an increase in bureaucracy in order to legally lock the relevant aspects of these works’ contracts

Interesting contribution was also provided by the **ICOMOS ISC in Interpretation**. According to it, the following issues are to be taught in architectural studies: concept of historical significance and its role in creating value for historic towns; Heritage interpretation and its role in revitalising historical towns; design of new buildings in historic areas.

In **Bulgaria** (Faculty of Architecture of University of Architecture, Civil Engineering and Geodesy, Sofia) there is a department of History and Theory of Architecture which offers a specialization on Preservation of Cultural Heritage. It takes the last three semesters of the education of the Architect and it includes the following disciplines: Architectural Restoration, Preservation of Historic towns and settlements, Preservation of regions, Design of buildings within historic context and they consist of lectures and architectural design projects.

The **Norwegian** response was very useful in terms of underlining the necessity to work both within a conservation and development context, since culture, as well as the perception of heritage, is not static and has to be addressed within a context of change. The conservation context calls for understanding of the place and its significance in terms of its *territorial relations* e.g. the glue in neighborhoods and society in terms of social organizations; its resources and skills, its land and property relations, its territorial urban – rural links; the quality of its spaces, its natural and physical environments. The territorial approach is based on a search for continuation of traditional strengths which form the backbone in the society and are culturally rooted.

When the developmental aspects are addressed it is also about understanding the *functional links*, e.g. local developmental issues, production, innovation, trade, migration etc.

However, sometimes there are conflicts between urban conservation and development interests. These conflicts are often real in terms of irreparable changes of the physical environment, and they call for negotiation skills. But also advocacy and sometimes activism in terms of mind change for understanding of long term conservation interests and requirements.

The teaching approach should be based on field studies and on local and positive interaction asking citizens: *what have you achieved in your struggle for conservation in a developmental context?* You should never start community interaction with: *what are your problems and failures?* Both the students and the faculty of teachers should be multidisciplinary representing areas architecture, planning, sociology, geography, law, natural sciences. *Area based and localised studies* will bring forward issues of multidisciplinary nature – and they can best be solved by multidisciplinary teams. A sectored approach, where you teach all subjects based on text books, is not considered a very useful one. E.g. normative issues can best be addressed by lawyers. Architects should have introduction and necessary knowledge about normative frameworks, but the best learning would be to study law cases emerging in the field where lawyers addressed right or legal issues assisted by architects.

A rather different context emerged also from the **Ukraine** questionnaire. First of all, the definitions were clarified, as the term 'revitalization' is not that widely used in the Post-Soviet space, while preference is given to 'conservation and reconstruction'. In Ukraine, due to the massive World War II destructions, there have remained only some historic sites. Therefore, while preparing architects they need training based on protection and restauration, as well as reconstruction of precious sites. Urban construction principles are based on currently active legislative norms regarding the organization of living spaces. In last years, numerous unjustified demolitions have also taken place all over the country. Furthermore, in large cities, the reduction of authentic historic sites is taking place (for the acquisition of new prestigious commercial spaces), to give space to more or less precise contemporary copies of ancient architectures. Therefore, it becomes fundamental to introduce the aspects of reconstruction into the teaching process, with various aspects such as: processes of urban development, historic vs. contemporary urban construction methods, methods of reconstruction of historic areas, theory of heritage conservation, history of architecture and urban studies, heritage protection legislation, preliminary urban reconstruction research, methods of urban analysis of heritage protection, revitalization of historic areas, methods and principles of conservation of historic landscapes, renovation of landscape sites, restoration of park and garden ensembles, etc.

In their turn, the **Lithuanian** respondents have highlighted the importance of the following disciplines: Cultural heritage valuation (assessment) techniques; Cultural heritage interpretation; Architectural history; Urban history; History and theory of heritage preservation; Heritage preservation technologies (material science, restoration techniques, building structures etc.); Cultural heritage and sustainability; Territorial preservation of heritage (protected areas); International and national legal documents regarding heritage conservation; Harmonization of historical and new architecture; Historic building re-use.

## 2.2 WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL TOWNS?

*[please list separately the qualifications and describe them, e.g. knowledge of specific design programs, the ability to evaluate the technical condition of the historical building, the ability to analyse the historical values]*

All the respondents have named a vast number of high-level qualifications that architects need to possess in order to operate in the field of heritage protection and revitalization of historic towns: abilities of systemization and analysis of data; estimation of touristic potential of territories; evaluation of the heritage and historic value criteria; analysis of key resources of territories; analysis of intrinsic characteristics of territories such as landscape and climate conditions; community life of people and capacity of an overall 360-degree analysis of an urban space; bases of programming creation of application for android; packages nanoCAD, Autocad, Archicad, 3d modelling, Autodesk Revit; ability of using various methods of model-creation for space and architectural buildings, capability to evaluate the restoration process at different working stages (project, conservation, restoration and reconstruction); knowledge of construction with traditional materials and craft workshop, of traditional architectural geometry and measurements; knowledge of mechanisms of buildings' destruction and deformation, their methods of strengthening.

Communication skills have also been underlined, as well the abilities of discussing complex and multi-layered issues with other professionals, institutions and workers (**Bahrain**). Other more specific qualifications named: ability of risk-evaluation and risk-preparedness and ability to analyse and understand the role of historic architecture (**Latvia**); ability to evaluate the project of reuse of architectural buildings in urban environments (**Azerbaijan**). Bi-disciplinary approach is needed with Planners and heritage Experts working together, with cultural resources being at the core

centre, and Sustainability and Ecological Planning being part of students orientation (**India**).

The overall picture demonstrates that architects specializing especially in conservation and management of architectural, cultural and urban heritage need to possess a variety of transversal competences and qualifications allowing them to analyse and diagnose the urban structure, the history of its transformations and constructive techniques used so as to define the methodologies of interventions appropriate for its conservation and valorisation, and be able to contribute to its management, marketing and business plan.

The architects have to understand the language of heritage, the methodology of the approach and the needs of the different human disciplines with the respect to the landscape; they have to study history of techniques of construction and planning, project design and when they get their specialisation they have to take care of maintenance, monitoring and optimisation of heritage during the time (**Italy**). It would be useful to have specialized courses of Master level in restauration and cultural heritage, as well as of doctorate level or schools of specialization, under the patronship of UNESCO, ICOMOS of other organizations that provide a practically applied path of training and an internationally recognized diploma valid for the field architectural and landscape work, or world heritage (**Italy**).

History and historical theory; Heritage conservation; Heritage interpretation are the fundamental qualifications (**ICOMOS Interpretation**).

It is also fundamental to develop a well-defined artistic taste, space imagination, patronship of methods of model making and harmonisation of the artificial spaces; to possess skills of archive research, graphical and photographic fixation; computer visualisation (**Russia – Saratov**). Further qualifications for architects to possess: ability of analysis of the technical state of historic buildings; ability of analysis of the historic value of buildings; ability to analyse the adaptability of buildings to a new functional use; ability to investigate constructive peculiarities of historic buildings; ability to analyse the historic style of architectural decisions (**Russia – Saint-Petersburg**); necessity to possess a complex system of esthetic norms of evaluation of the urban space, as well as ability to evaluate its complexity, uniqueness and unrepeatability in each concrete case (**Russia – Samara**).

Internationally useful qualifications for the field of heritage protection and revitalization have been highlighted by **Portugal**:

- Knowledge of general management – of great importance, since conservation and revitalization cannot be done without financial resources or volunteer sourcing
- Knowledge of legislation – and how to successfully interpret conflicting legislation in order to achieve positive results (see answer to question above)
- Knowledge of contract management – even if the designs are well performed and executed, if the actual conservation or revitalization works are performed poorly, the intentions will come to failure. Solid contract management skills are required to bring to reality what was thought of in paper.
- Knowledge of multiple stakeholder management – no architect or any other professional will know everything. Yes, specific design programs can be great (BIM and BIM CAFM-CMMS models are around the corner, and the ones focused on simulations for population participation are great), the ability to evaluate the technical condition of buildings is very important (there are many techniques) but mainly the architects and any other professionals involved in conservation and revitalization need to acknowledge what they don't know and need to recognize when is best to stop and ask for help. This is when experts come to play, and the architects must know how to process the inputs and how to turn them into a positive impact on the projects. This is by far the most important aspect of conservation and revitalization of historical towns and any other buildings or heritage. And the experts should not only be called in for building related subjects – they should be brought in to help reading law, to help thinking and designing business and management processes, to help thinking human resource strategies, that is, to help with everything that help historical towns and buildings breathe life, while successfully preserved.

In **Bulgaria**, architects learn how to analyse the variety of resources in the regions for example: natural, cultural, etc. and how to use these resources within their architectural design projects. During the work on Preservation of Historic towns and settlements they learn how to analyse urban structure, street patterns and public spaces and how to evaluate a historic town texture. During the work on restoration architects learn how to identify all kind of problems in the building and how to evaluate its cultural heritage potential.

In **Norway's** opinion, it is necessary to have architects with special, and specific competence, on e.g. wood conservation of pre-reformation wooden churches in Norway; or on stone conservation of gothic cathedrals. Like for medical doctors, theoretical knowledge can not replace the need and insights achieved through clinical practice in direct contact with the patient. This goes for conservation professionals also in all professional fields incl. architecture and urban conservation and planning. It is again also a question of recognizing the role and competence of your colleagues. It is important to know enough about the edge of competence of other professions to know who to call.

In **Ukraine's** vision, architects should possess the following skills: knowledge of terminology of historic

urban landscape conservation, principle methods of reconstruction, renovation, revitalization of historic urban heritage, methods and principles of restoration, adaptation and conservation of architectural monuments, estimation of technical state of historic buildings, capacity of analysis of historic value, definition of a complexity of problems of protection of public buildings and solution-finding to them, formulation of main design tasks aimed at the improvement of maintenance conditions of protected heritage in relation to historically-formed urban areas.

The main requirements towards architectural education are oriented at the recognition of historic and architectural significance of heritage in forming human and social space, and readiness to take up moral and professional responsibility for its conservation. As a result, a student should be able to: carry out a practical analysis of a current urban situation in view of a development perspective of the concrete city area; practically apply the methods of reconstruction; provide evidence of a reconstruction decision; be aware of the development of the urban structure of the city and of the typology of urban construction.

For **Lithuania**, a number of qualifications where underlined as the ones fundamentally important for heritage protection and revitalization of historical towns: ability to assess cultural value of the object, ability to distinguish valuable features of the building, building complex or urban area; ability to recognize the style, historical period etc. of the object; knowledge of the cultural context of the object; ability to assess the physical state of the object; ability to select appropriate restoration and design approaches; understanding of the relevance of the harmony of new and historical architecture in different scales.

## 2.3. CHARACTERIZE THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORIC TOWNS, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[e.g. the traditional approach, which recognizes the primacy of heritage protection over contemporary needs; inadmissibility of procedures such as reconstruction, restoration; the admissibility of extensive interventions in the historical areas treated as a continuation of their development]*

All the respondents have stressed the importance of a balanced approach to heritage protection and revitalization of historic towns permitting the conservation of the historic substance while allowing the development of the historic city. Such balanced approach should take into account every single reality of reference, needs and requirements of the territory itself, its historical context, its multicultural society and the necessity of intercultural dialogue – in order to realize a harmonious integration of new buildings into historical environment, that would be adequate to the planning structure of a city. Multidisciplinary approach should be used. And generally, the importance of restoration and conservation of monuments of cultural and historical value has been underlined, with the active inclusion of the heritage into the life of the city. It is fundamental also to remember that the concept itself of the historic centre is highly Eurocentric one, and may even not be present in other cultures on other continents.

Moreover, in **Kyrgyzstan** the choice between the 2 approaches depends upon the state-level programs, and the approaches are the following: adaptation (creation of conditions of the reuse of monuments with no damage to their historical value and conservation) and restoration (the process of restoration of the monument itself due to its particular cultural significance). In **Russia**, the approach to heritage protection and revitalisation of historic towns depends on the status of the territory defined by the state. There are on the whole 41 cities with the status “historic”, and according to it different levels of intervention are foreseen: territory of the monument (only revitalisation), buffer zone (strict regulation of intervention), zone of regulated construction). The principle of continuity is to be preserved as the most important one in the process of development and renovation of the city within the criteria possible and inadmissible in restoration and reconstruction of historic settlements. In general, while for archaic monuments reconstruction and restoration inadmissibility is to be followed, for historic centres the traditional approach is to be applied with the recognition of heritage preservation priority over contemporary needs (**Russia – Saint Petersburg – University of Culture**). In other cases, the preference was given to the approach recognizing the priority of heritage protection over the contemporary needs (**Russia – Saint-Petersburg – University of Architecture and Construction**). It is important to insert new contemporary architecture forms into the historic landscape, without destroying its consolidated structure, but but filling it with historic diversity, basing on its ability to transform and giving it an opportunity of further development (**Russia – Samara**).

Furthermore, different approaches should be foreseen for various categories of buildings and UNESCO World Heritage Properties should be treated with a more complex approach that would be based on Operational Guidelines for the Implementation of the WHC 1972 (**Bahrain**). Along with this, traditional knowledge and traditional management systems of territory are to be integrated into the contemporary

approach to conservation, making more actors participatory in the process of mainstream development and conservation (**India**).

Students should be able to make a distinction depending upon external and internal conditions of a territory, in terms of its individual political history, which might have determined the transformations or stability of the borders; the protection and conservation of heritage needs to take into account the deriving circumstances (**Poland**).

The traditional approach of heritage protection should be revised on the basis of new concepts of value-based management, cultural economy and tourism, while any comprehensive approach to conservation should foresee the protection of the relation between the place, the spirit of the place (**Iran**).

Still, reconstruction or creating replicas is not perceived as a good practice and is accepted only in exceptional cases; while in the context of Historic Urban Landscape approach the admissibility of extensive interventions in historical areas is treated as a continuation of their development (**Latvia**).

The general approach to heritage protection must be a holistic approach to heritage based on cultural diversity and pluralism and it has to be respected by all the disciplines. The educational programmes change depending on the type professional figure that has to be formed (**Italy**). The project approach should be oriented towards integrated multidisciplinary knowledge of the heritage site in question; knowledge of the expectations and requests of the respective society, as well as opening towards a fruition socially useful to the diversity and encounter. The system of criteria for spatial and functional transformation should also be developed for the measurement of the functional, structural and formal compatibility of the architecture and the ecological impact on the landscape both anthropized and natural, which the new destination of the architectural site will bring about (**Italy**).

According to **Portugal**, the present question is extremely relevant but can only be answered once the underlying heritage is defined as something to protect as-is or as something which can be revitalized. Surely not all parts of historical towns are of equal value, and one must take careful care and consideration to make sure that a strategy is implemented in order to avoid a “still life” effect by assigning some areas of towns to functions which are relevant for their life. A town cannot go about without infrastructures, health care, commerce, schools, services for the population and as such they cannot be preserved in such a manner that turns all areas of the city into a museum. Unless for outstanding examples of towns which need to be preserved in their entirety, in most towns only some buildings or blocks will, by their artistic, historical or cultural value be defined to be preserved as-is, and some will, due to their frail condition be deemed not passive to receive visitors at all.

This is also true when one thinks of historical buildings or properties – unless they are in their whole so important (artistically, historically or culturally speaking) as to be kept as-is, some parts of these can be used for purposes related to their management models.

Hence, the first thing to define is: how important is the heritage site in its current condition? Then and only then can we think to either preserve as is, or one which can respond to a demand for the day to day of that place. And in that respect, both approaches suggested above (within the question) should be taught in architecture schools.

In **Bulgaria**, the university tends to favour a more contemporary approach where new functions are allowed within the historic structure and new architectural design is sought to be in harmony with the authentic buildings.

The general approach to heritage protection and revitalization of historic towns should include: the contemporary approach, which understands the traditional role of authorised heritage discourse in creating value and offers a postmodern critique of it; Theories of reconstruction; Urban heritage theory; The role of heritage in contemporary cities – not just preserving monuments, but activating heritage ‘assets’ and making them relevant (**ICOMOS ISC Interpretation**).

According to **Norway**, however, there is implicit opposites of objectives in the use of the terminology: protection vis a vis revitalisation. Protection calls for restriction in terms of change and use – while revitalisation calls for new opportunities where economic profit interests could go beyond what is needed for up-keeping of the heritage properties. This reality calls e.g. for well thought out policies when incomes for adaptive reuse of heritage properties. To keep city centres alive with contemporary facilitate is an example of necessary policy steps. Another example which is to keep traditional craft workshops and land use in urban contexts. This could come in conflict both with economic and environmental issues.

According to the **Ukrainian** response, in defining an approach to heritage protection and revitalization of historic cities, each concrete case should be considered independently. In historic, architectural and cultural, protected architectural and urban monuments, a traditional approach is to be used, which recognizes the priority of heritage protection over the contemporary necessities. For the protection of archaeological monuments, the approach of heritage conservation should be used. The conservation of historic urban areas outside of protected areas should be done taking into account the current urban situation accepting only a delicate interference in historic areas perceived as a continuation of development.

Today cultural heritage is the key element that carries historic, ethnologic, architectural and artistic value. Protection regimes should be therefore taken into account in creating the guidelines and rules of urban construction and land use of historic cities.

Theoretic work of students should be accompanied by the independent work and practical onsite verification. The choice of a method of conservation and effective fruition of heritage sites should be used on the basis of a complex system of knowledge and analysis provided to future architects: international and Russian Federation legislation in the field of heritage protection; historic, cultural and artistic value of a site; characteristics of a site that were the basis of its inclusion into the list of state-protected sites; the exisitng urban conditions of the area; financial and economic bases of heritage conservation and fruition; contemporary urban problems of historic areas; knowledge of existing urban limitations and preferences guaranteeing the preservation of key elements of the historic environment. The integration of new contemporary architecture into the historic areas is one of the most fundamental strategies of conservation. Therefore, architects should be able to address this kind of necessity.

In **Lithuania's** point of view, the approach to heritage protection and revitalization should be as follows: general approach – integrated heritage preservation and revitalization (heritage object + urban and architectural context + natural conditions + cultural and historic context + social context and institutional environment + interpretation and innovations) based on the principles of sustainability: to transfer the valuable features to future generations and to add values.

## 2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL TOWNS

*[e.g. lack of knowledge of the principles of revitalisation of the historical towns, lack of knowledge of the history of architecture, lack of respect for the historical architecture, a positive attitude towards the heritage protection]*

The theme overall is a very delicate one, as it highly depends upon the geographic area of reference and is to be analysed on a case-by-case basis in single cultural and geographical contexts, so as to define disciplinary approaches to education of architects with the respectively defined objectives, which are not generalizable on the international level.

Furthermore, conservation architects need to work strictly with other professionals (historians, material specialists and restorers), so as in synergy be able to preserve the authenticity and integrity of the heritage building.

Some positive aspects highlighted: growing respect and positive attitude among students to heritage protection; large social resonance of big restoration projects supported by the state; evident interest arising among students as a result of informal contacts with heritage and its context (**Russia**).

Other negative aspect is the lack of knowledge about the principles of revitalisation of historic cities; while among the positive ones are: respectful vision of the heritage protection and knowledge of the characteristic features of historic towns according to different levels – city, building, architectural styles and details. It is useful to involve students into initiatives for the territory (cleaning, museum work, restoration), practical workshops, monitoring process in the area of preservation and conservation of monuments (**Kyrgyzstan**). Good practice and dissemination of best examples in heritage preservation and development could be used for educational purposes; outsourcing to universities of research and developments projects on heritage preservation (**Latvia**). A positive aspect of the education of architects is that preservation of heritage is part of the general field of landscape and cultural development and preservation must respect the cultural context (**Italy**). The today studies' curricula definitely lack stages and internships of professional value for its recognition in various European and extra-European countries (**Italy**).

Readiness of students to continue their professional development with master programmes is a positive aspect (**Russia – Saratov**).

Among negative aspects were mentioned: lack of information about the actual state of the historic heritage; lack of practice in the field of preservation; lack of economical and legal aspects in projects of protection and revitalisation of historic heritage; lack of knowledge about the fundamental taboo; the least developed character of projects related monuments readapted to new functions, also with an investment component; sometimes low general didactic level of providing professional knowledge; today education in architecture lacks projects in reconstruction of historical areas which results in its significant losses; therefore students should be incentivized to participate in international contests in revitalisation of historic towns (**Russia**); lack of specialized studies and ethnic and cultural context of the global world (**Chezh Republic**). Insufficient knowledge of history and understanding of principles of vocabulary of distinct historical styles sometimes result in disputable new development proposals; not every city can afford separate heritage protection and conservation departments (**Latvia**).

Among other negative aspects also: protection of single monuments without taking into consideration their surrounding space, and promotion of the concept of conservation of cultural heritage based only on prohibitive measures (**Russia – Samara**).

Lack of knowledge about the diversity of tangible and intangible conservation problems in historical towns, about pathological measurements for traditional architecture, about structural methods of intervention, about the methods for conservation of energy, environment and cultural landscape in historical towns as a whole (**Iran**).

The modern education of architects is focused on selfish quest to expose his own creation, often aggressive and alien to surroundings; this is due to lack of proper reflection, recognition and understanding of historic architecture, which according to Vitruvius consists not only of the form, bur of durability, utility and beauty. More open-air drawings and architectural research investigation should be introduced so as to lead correct identification of value and correct adaptation to contemporary needs (**Poland**).

Lack of adequate information databases about historic and traditional heritage resources so as to provide for a new educational more comprehensive paradigm in respect to the old colonial approach; lack of geographical perception of cities and their determination; need of transdisciplinary methods for each category of heritage resources; living city has to be understood as a cultural spatial resource entity to be studied with multidimensional PTP (People time and place strategy); importance of traditional water systems to be interfaced and integrated with planning and development to complete the management vision; importance of decentralised Gandhian concept in heritage management; responsible participation of people; educated and trained personnel operating responsibly and not only as business profit (**India**).

There is still confusion in the public opinion about the exact competences that the architects must have when it comes to heritage preservation, so professional figures and techniques are not yet clear compared to other field like medicine or law (**Italy**).

Very precious evaluation was provided by **Portugal**: the answer to this query might depend greatly from country to country, but it should be noted that one of the largest gaps currently noted between architecture schools and entities dedicated to the revitalisation of historical towns is the need for a larger participation of the architecture students in real life projects. This is most of the times due to the lack of consistent and stable business models associated with the protection and revitalisation of historical towns. In town halls, financing can come and go with central governments, and when it comes, it comes with tight schedules. This can lead to a disinterest in engaging architecture students. Also, schools can sometimes have administrative difficulties in finding interested entities and processing the required paperwork to enrol, prepare, financially support, and follow up on a student working with one of these entities.

Hopefully, the scenario can change – in the case of Lisbon, a lot of capital investment is happening in real estate due to a number of factors: rising tourism, low interest rates and high liquidity, tax and visa friendly laws for investors, decline in number of regulated rental contracts. Hopefully this will spark demand and hopefully more entities are interested in having architects join their ranks from an early stage.

As for positive aspects: some schools are already collaborating with management entities with responsibilities in historical towns or buildings, through invited or consultant experts who most times are also teaching academics. This makes it easier to arrange for their students visit ongoing works and contact these entities, and to rally and ramp up interest from the students in pursuing a career in this area.

In **Bulgaria**, students usually develop highly complex projects with a genuine care for the historic towns and cultural traditions, however sometimes their design skills are not enough to master the details of architectural constructions.

Other negative aspects were indicated by **ICOMOS ISC Interpretation**: with architects, often there is complete lack of understanding of heritage or history but an assumption it is easy to learn. This can result in a superficial understanding of how to interpret and conserve historic sites. It is extremely important to provide grounding in history, heritage theory and practice and heritage interpretation in architectural courses so that decisions are better informed.

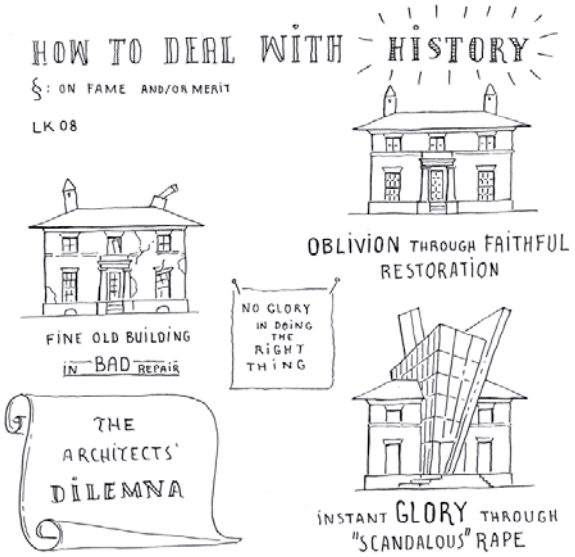
The role of architectural and urban conservation in architect education has decreased in **Norway**. This is in particular within architect education where from the beginning in the early part of the 20th century to the sixties measurement of traditional architecture of conservation value was an obligatory part and occupied two summer holidays. This, in particular, contributed to ´scientific´ registration and measurements of vernacular, rural environments of heritage value in Norway. There were also after the second year of master study of architecture a comprehensive excursion to remote areas of Norway giving understanding of territorial links of traditional settlements in terms of resource base, skills and conservation issues.

When it comes to urban conservation there is an increasing interest and use of historic elements for urban design measures. But in neoliberal urban planning practice economic interests easily overrule longer term conservation interest e.g. in terms of intensity of land use (**Norway**).

Regarding **Ukraine**, a new highly conscious vision of heritage conservation is seen as a positive

characteristic of architectural education of today. The architects educated today appear to possess a very respective attitude towards the values contained in cultural heritage, as these represent an irreplaceable spiritual, cultural, economic and social wealth. A complex heritage preservation and protection is possible only in case of its insertion into a framework of economic and social development policy. Furthermore, a contemporary architect should take into account the social process. Previously, the traditional heritage protection took the direction of protecting "from everything", which stimulated conflict situations and negative perception on behalf of local communities regarding the urban development. Today a new concept should be promoted of the protection "for ...", which should aslo be beneficial for the local inhabitants, preserving the integrity of cultural and natural environment, and permitting at the same time the revitalization of historic areas. A contemporary student of architecture should be educated to the awareness of the above complexities so as to avoid conflict situations.

The **Lithuanian** respondent has underlined that in many instances, architects view heritage as an obstacle for their individual expression or the ground to create some contrasting intervention. The sketch by architect and urbanist L. Krier summarizes it all:



# PART III

## Characteristics of the teaching of heritage protection and revitalization of cities in the systems of educating the architects / along with the examples of syllabi / based on the information gathered in the questionnaires – Part II/



The respondents from all the countries have provided full and exhaustive answers to the questions of Part 2, specifying in detail the types of courses taught in their educational institutions, the contents of the courses, practical activity components, a profile of alumnus and curriculum as a whole, creating often their own proposal of a model curriculum.

### 3.1. LIST AND DESCRIBE THE COURSES RELATING TO HERITAGE PROTECTION AND REVITALIZATION OF MONUMENTS, TAUGHT AT THE FACULTIES OF ARCHITECTURE

*[please specify the courses and include their detailed programmes; specify the structure of each course – division into lectures and design classes; describe the purpose and scope of these courses; make a critical evaluation – identify the courses considered to be the best (to be used in a model programme)]*

A variety of courses have been listed by the respondents, both for the BA and MA levels. The courses make reference to the concrete academic institutions of provenance of respondents, which does not mean that the same situation can be found in all the architecture faculties of the country. The respondents however belong to leading and mainstream universities, and therefore the presented panorama can taken as an exemplifying one.

**Azerbaijan:**

Restoration and conservation (BA), MASTER DEGREE: specialization "RESTORATION AND RECONSTRUCTION OF THE ARCHITECTURAL MONUMENTS", courses «Typology of the architectural monuments», «History and methodology of preservation science», «Regional peculiarities in the restoration of the architectural monuments», «Preservation projection of the architectural monuments», «Theory and practice of the modern preservation science», «Engineering problems in the preservation of the architectural monuments».

All the courses are provide both general knowledge on history, methodology, and other aspects and focus particularly on the history and traditions of restoration/conservation/architecture in Azerbaijan.

**Latvia:**

Restoration and Preservation of Cultural Monuments (Bachelors program), Methods of Renovation and Transformation of Buildings (Masters program), Historical Building Fabric and Conservation Methods (Masters program)

Apart from providing general knowledge on history, methodology, and other aspects, the courses focus on European and Latvian traditions of restoration/conservation/architecture.

**Russia – Saint Petersburg – University of Culture**

"Cultural heritage goods description and analysis", «Authentication and expert study of the pieces of applied art and painting», «Legal foundation for monuments and sites reconstruction, re-creation and protection», «Scientific and methodological basis for the cultural heritage protection», «Stocks/funds/collections and restoration documentation», «International cultural heritage protection system».

**Russia – Saint Petersburg – University of Architecture and Construction**

Applied research in restauration and construction; research on architectural sites in historic areas; world cultural heritage; research on historic construction materials; information technologies in the historic areas and cultural heritage research; design of complex historic buildings; design of reconstruction of public-use buildings and of living spaces; and other courses. Practical activity: summer internships for students; job placement in design studios and companies; involvement in projects; study visits, summer schools; involvement of professionals to the university teaching process.

**Russia – Magnitogorsk**

Courses, obligatory and optional ones: Design of architectural space; Conservation of historic and architectural heritage of Southern Urals and of the city of Magnitogorsk; Sustainable development of small and medium-size towns on the basis of architectural space of the historic center (the best one by the respondent as it provides the widest basis of knowledge); Historic reconstruction of ancient architecture.

**Russia – Vologda**

BA specialists are prepared with specialization Architectural Design, with courses in Research methods in urban space, in which various aspects of protection and conservation architectural spaced are studied.

**Russia – Ekaterinburg**

BA in History of arts (architecture, urban construction, applied arts, landscape architecture, design, and others), with specialized courses in Problems of urban space reconstruction.

MA level courses: Contemporary problems of history and theory of urban construction; Urban bases of protection and fruition of sites of cultural and natural heritage; Cultural and Historical landscapes, their protection and development; Design, construction, and reconstruction of urban territories.

PHD level courses:

Research on urban construction traditions and urban heritage in cities and regions of Russia and other countries; Architectural and urban aspects of development of historic cities; problems of protection, conservation and modernization of historic urban spaces; Actualization of fruition of sites of cultural heritage in the development of cities.

**Russia – Volgograd**

Reconstruction and restoration of valuable historic and cultural areas; urban construction approaches to the reconstruction of historic centers; Structure of of architectural and construction documentation in restoration and reconstruction of heritage sites; Principles of formation of protected areas of architectural heritage; History of Russian architecture.

**Russia – Saratov**

Restoration project design; Methods of restoration design; Engineering issues of restoration; Reconstruction of historical cities; Methods and methodologies of scientific research; Regional characteristics of architecture; Fundamentals of classic architectural composition; Study practice of professional knowledge and capabilities acquisition.

**Russia – Samara**

Legislative aspects of design in reconstruction; methods of scientific research in recosntruction and restauration; restauration design; urban reconstruction; management in heritage protection; history and theory of protection and restauration of architectural monuments; methods and technologies of restoration; contemporary computer technologies as an instrument of graphic reconstruction and systemic research in heritage protection.

**Iran:**

Conservation and rehabilitation of historic buildings and urban fabrics, Architecture, Urban planning

**Poland:**

In all faculties of architecture in Poland there are lectures on the history of architecture and urban planning; sometimes there are issues related to the revitalization of historic cities or the adaptation and modernization. In a few cases they are implemented practice of the measuring an inventory of monuments. In any case prepares students to conduct architectural research, and even less to formulate guidelines for the preservation of historic architecture. Some departments offer specialization "Architectural Heritage", which takes into account research issues and the basics of management.

**India**

Courses are based on knowledge-building approach, articulate as community-based ones and are structured according to three main modules: Redefinition of heritage resources; Technical – Structure and Fabric; Conservation Management.

**Italy:**

Architectural Restoration, History of Architecture, History of urban studies, urban restoration.

All the courses are inserted into a wider national framework which is more or less homogeneous throughout the country, which is not often the same once you go beyond the European territory. A number of disciplines are taught in relation to restauration and restructuring, among which: sustainability and minimal intervention; sustainable materials; eco-compatibility, security, energy impact; life cycle; new vs. old technologies; legislative aspects; fruition vs. sustainability; history of urban studies; degradation and diagnosis of materials in historical constructions; methodologies of the archaeological investigation; technologies of structural systems; legislation of cultural heritage; economic and ecological impact and others.

**Bulgaria:**

At present at the Faculty of Architecture of University of Architecture, Civil Engineering and Geodesy, Sofia, Bulgaria, there is a department of History and Theory of Architecture which offers a specialization on Preservation of Cultural Heritage. It takes the last three semesters of the education of the Architect and it includes the following disciplines: Architectural Restoration, Preservation of Historic towns and settlements, Preservation of regions, Design of buildings within historic context and they consist of lectures and architectural design projects. The best results are shown during the work on their diploma projects where students identify a problem and choose and define the place and the scope of cultural preservation project. In this final project they are able to use all the knowledge they have gathered in their lectures and projects during the ninth and tenth semesters of their study.

**Norway:**

In the second part of the study of architecture at the Norwegian University of Science and Technology (3–5 year) there are specialised courses in architectural conservation and students can select architectural conservation as the theme for their final project (diploma / ´hovedoppgave´ in Norwegian).

**Ukraine:**

A large variety of courses related heritage protection and revitalization are included for preparation of professionals in architecture and urban studies. All of them foresee both in-class lecture parts and practical onsite activities. Some examples: “Problems of conservation of cultural and historic environments” (related to both Ukrainian national and international contexts); “Architectural design”, “Theory of architectural and landscape design”, “Regeneration of landscapes”, “Methodological bases of urban construction”, “Contemporary problems of architecture and urban construction”, “Landscape design of settlements” and others.

**Lithuania:**

Such courses usually are: History of Architecture (more theory than practice), History of Urbanism (more theory than practice), Heritage preservation (theory and practice), Landscape Management (including the fundamentals of cultural landscapes and territorial protection) (theory and practice), Sustainable architecture (theory and practice), Typology of architecture and spaces (theory and practice) etc. Heritage preservation can be integrated in the design tasks as well (more practice than theory).

There is a link to the study program of Architecture existing at Kaunas University of Technology: http://admissions.ktu.edu/study-program/b-architecture/

Best courses for model program could be: Architectural history; Urban history; History and theory of heritage preservation; Heritage preservation technologies; Landscape Management; Harmonization of historical and new architecture (in master studies).

## 3.2. CHARACTERIZE THE FORM AND THE SCOPE OF CONTACT WITH THE PRACTICE OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORIC TOWNS PROVIDED IN THE CURRICULA AT THE FACULTIES OF ARCHITECTURE

*[e.g. summer internship for students, placements for students in design offices and companies, involvement in the projects, study visits, summer schools]*

Make the critical assessment of these actions – their form and usefulness in teaching process

Generally the approaches to practice as related to heritage conservation depend greatly on the geographical area and in larger terms on continental provenance. As even the concept of the historic center can differ, or even not be present at all in some areas, with even no terminology for this concept (“Historic Towns between East and West”, 2015, Olimpia Niglio). Therefore, it becomes evident that it is impossible to generalize the approaches taken for granted in the European models. Didactic laboratories with international students are useful for comparing different approaches and rendering students more aware of these differences.

All the respondents recognized the fundamental importance of practical components for the professional development of students. Part of the curriculum should be – studio work/atelier design, communica-

tion with practitioners, creation and presentation of own philosophy, travel, practical activities, study visit, summer school.

Some other distinctive features have been underlined in some areas:

**Russia overall**

All forms of practical involvement are present in all the Russian educational establishments represented by the respondents. Among them the below ones.

Professional practice activity in studios, design bureaus, project institutes – provide practical skills and experience of real projects, while students are able to start creating their own portfolios; external practice: plain-airs, study trips and visits for enlarging horizons. MARHI (Moscow Architecture Institute) summer schools gives knowledge of all-Russia architectural practice; summer schools on heritage sites; undergraduate internships; professional practice and internships in administrative organs, with participation in heritage conservation and restoration projects; practical work at the university guided by chairs; inviting to give lectures and teach courses of experienced professional architects; master-class with experts and members of union of Architects of Russia; inviting into exam commissions of representatives of leading architecture universities of the country. Providing working places in leading design studios, restoration workshop, architecture studios, etc.

**Russia – Saint Petersburg – University of Culture**

SPBGIK Students of the «Restoration» direction have

- creative-performance practice in the State Ceramics museum in XVIII century Kuskovo Estate,
- on-job practice in the Russian Museum and Saint-Petersburg restoration workshops,
- probation in the State Hermitage Museum.

Practice work and probation under real conditions give students a chance to see for themselves if their profession choice is right and check their professional level. They can get no important or responsible assignment, but they are quite capable to work as ordinary performers and take part in making common restoration work decisions. Moreover on–the job training/ probation give a chance to enterprise directors and supervisors to meet new personnel, and to invite them to join the work team, if they find the graduates suitable, after the University.

**Russia – Saint Petersburg – University of Architecture and Construction**

The profile of graduates has a multiple-level applications for different types of activities:

- scientific and research activity; etc.
- design activity and creative solutions of conservation and transformation of historic living spaces; reconstruction design; etc.
- critical and expert activity: providing expertise on design solutions, results of reconstruction and restauration of sites of architectural heritage; etc.
- communication activity: visualization in architecture and heritage; presentation of design solutions in front of the client; etc.
- management activity: coordination work; management of project and design organizations; work in state administration bodies dedicated to heritage protection and fruition; participation in the work of civil society organizations
- educational activity: promotion of the importance of heritage conservation of historic architectural heritage; participation in educational process related to one's own professional activity

**Azerbaijan**

During studies at the Faculty of Architecture students must pass three different practices: measuremental, geodetic and the practical training at the enterprises. Practice estimation should be considered equal to the marks of theoretical training and are subject to be taken into account when summing up the overall academic performance of students.

1. MEASUREMENTAL PRACTICE
2. GEODETIC (SURVEYING) PRACTICE
3. PRACTICAL TRAINING AT THE ENTERPRISES

During practice students get acquainted with the organizational structure and the production of construction enterprises, production process of construction materials, equipment, organization of work for the production of products in the sectors of construction and control of its quality. They learn working skills, learn job descriptions and job of the engineering and technical personnel, collect information for their further course works and theses.

1. OBJECTIVES OF PRACTICE

The main aim of the practice is the acquisition of skills in the use of theoretical knowledge in the reality during their activity in the industrial enterprises and architectural – engineering firms. Common problems to be solved during practice:

- Education of the sustainable interest to the profession,
- Making the students to feel the need for self-education and self-improvement of professional knowledge and skills;
- Formation of experience in creative activity;
- Formation of professionally significant qualities for the future professional position
- Familiarization with the organization of construction process, objectives, functioning and technical equipment of construction companies and organizations;

- acquisition of practical skills to perform a variety of construction and installation works;
- study of the main types of structural elements of buildings and their use,
- Formation of professional competence of future graduates;
- strengthening the theoretical knowledge acquired during the training.

Practical training of students is to be realized on construction sites and firms, equipped with modern technology, construction and manufacturing equipment and testing instruments, within the time schedule set by educational process.

The general administration of the practice is carried out by Department of Practice of the University and dean of the faculty. Profiling chairs (departments) of the faculty together with the Department of Practice provides a teaching guide, which defines the practices' objectives and prepares a draft order of practice indicating the supervisors from the University.

The practice should be based on agreements between the University and the organizations (enterprises of the construction industry, Research and Design Institute). In the presence of vacancies in enterprises, students may be taken on the staff, if the job corresponds to the contents of the practice program.

**Latvia:**

Almost all students of the Faculty of Architecture and Urban Planning already starting with the second study year are involved in the practical work in design offices in parallel with their studies. During the last year of studies (9th and 10th semesters) design practice in architectural design offices is the subject of curricula. Additional experience in complexity of development of historical sites may be accumulated in the extra-curricular activities, e.g., International summer schools in architecture that are held by Faculty of Architecture and Urban Planning of RTU annually already since 2002.

**Iran:**

One of the most successful methods is to have a site office in parallel with the classroom. This is totally different from summer internship or periodic visits. In fact this is "Learning from the site and coming back to the classroom". Sometimes we were able to benefit from this method and the result was interesting. If the university would be able to work closely with some of the offices for preservation of historic districts and towns, then the students can work under the supervision of the heads of offices and in cooperation and with the help of the professors in their university, then the real problems from the sites will come to universities to be analysed under the microscopes and the scientific results will soon be adapted to be used inside the site!

For this reason we start our conservation course at the master level. All the students who participate in this course are coming with knowledge about architecture, civil engineering or urban design (sometimes with few exceptions from archaeology, crafts, etc.). They have the base ability to take part in the projects although they should spend two semesters before starting their projects with the site offices. During their last two semesters they spend half of their training time in the sites, then come back to classroom for correcting their finding with the help of professors. Sites also invite the professors for periodic visits from time to time.

**India:**

Various practical activities: laboratory classes, participatory workshops, field trips, studio projects outside the university, working side by side a conservation architect; summer internships, work with traditional materials; upon completion of studies job placements with senior conservation architects all over the country.

**Bulgaria:**

Students have a practical training before their diploma work and usually they choose between a variety of options: to work as interns at the National Institute of Cultural Heritage, to do a practical summer workshop training of restoration of buildings or archaeological excavations or they can work at a private architectural office specialized in preservation projects.

**Norway:**

There is a specialised Master degree (M.Sc.) in Urban Ecological Planning which addresses developmental and conservational challenges mainly at urban neighbourhood levels in developing countries. In brief the course has four semesters over two years. The access to the course is multidisciplinary.

The first semester starts with a two month field work in a developing country (with course fieldworks in Nepal, India and Uganda). The approach is mainly within social ecology discovering the social capital and ´glue´ in a neighbourhood. The fieldwork has an objective of contributing to positive change locally. For this reason they work together with local community based organisations (CBOs) or NGOs, targeting also our work to poor communities and giving priority to a community based rights approach. Also they operate in situations of discrimination work with targeted approaches as with Female Headed Households in the case of squatter and slum upgrading in Nepal. The students present a written report and analysis of their fieldwork before New Year of the first semester.

The second semester is at the university with the main purpose to prepare for the fieldwork mainly back in their home country during the summer. The students are asked to write to a research proposal for their thesis. (They also pass a course on research proposal writing). The research proposal is presented, defended

and reviewed before the field work. The main theoretical introduction is on research methodology during the spring semester. The case study method is introduced. They are also searching for relevant theoretical background for their fieldwork research context and issues. However, there are elective courses on Sustainable planning in developing countries, GIS in urban planning and courses e.g at Dept. of Geography on Development Theory.

The one and a half summer time is used for fieldwork in their home country and in a familiar context addressing relevant development and conservation issues. A few students have also addressed issues in Norway for their M.Sc. in Urban Ecological Planning thesis.

The autumn has 50% weight on writing out the field case study, which are also presented and discussed. There is also emphasis on peer reviews of fellow students. In addition there is an obligatory course on Planning Theory. And the students can take elective courses at other departments.

The last spring semester is totally devoted to the writing on the thesis. Every student has a personal responsible supervisor, and during the spring the students present their thesis and get feed back. Finally they present and defend their thesis and get external examiners reviews.

The course has developed to address also issues of disaster preparedness, post – disaster reconstruction and the building of community resilience.

**Lithuania**

The forms of contact with practice as usual are: practice in design offices (the benefits of practice depend very much on the character of the office), summer internships and schools, involvement in the scientific research projects, study visits in design offices and institutions (provide just a general picture how these entities work).

## 3.3. PRESENT THE ALUMNUS PROFILE DESCRIBED IN THE DOCUMENTS OF STUDY PROGRAM IN THE FIELD OF ARCHITECTURE IN THE SCOPE RELATING TO HERITAGE PROTECTION AND URBAN REGENERATION. MAKE A CRITICAL ASSESSMENT OF THIS PROFILE.

Graduates of programmes related to architecture normally need to possess, as in relation both generally and country/context specifically:

– Knowledge of a wide range of humanitarian, scientific and applied disciplines necessary for carrying out the practical activity of an architect-restorer of sites of tangible cultural and historic heritage: history of architecture and urban construction, theory of development of urban studies, analysis of historical heritage, reconstruction of historic areas, restoration of buildings and adoption of historic areas to contemporary needs of the city. In Russia, the acquired competences correspond to the Federal standards applied to this professional category.
– Knowledge of peculiarities of fine arts and history of architecture, about the famous architects and their famous masterpieces, conformity of plan, spatial composition, the basics of projection of disciplines elucidated the direction; the main constructive systems in architecture, the methods of decision of different problems of architecture, city planning, landscape, restoration of architectural monuments and architectural-design projection at the different stages of projection process.

However, there are some particular notes regarding some educational establishments. Such as: the specialization architectural design does not often correspond to the true requirements of work with historic urban areas (**Russia – Vologda**). Some of the specializations are considered narrow ones (Architect-Restorer Conservation of historic and architectural heritage), while others of a much larger professional scope, such as Architect-Urbanist in the field of Sustainable development of small and medium-size towns on the basis of architectural space of the historic center and Architect-Reconstructor in the field of Historic reconstruction of ancient architecture (**Russia – Magnitogorsk**).

Professional and planners/designers graduating in heritage protection have a deep knowledge of the principles and the ethics of heritage protection and correct operational activity that allows them to become competent for any project they are asked to carry out (**Italy**).

– Skills of carrying out research and archive research, preparing report documentation, resolving independently of tasks related to the conservation of architectural heritage and choosing the most optimal methods of restoration; fundamental skills of architectural projection, architectural design, basics of landscape architecture, composition, architectural restoration, city planning, building technologies, organization and management, engineering systems of residential areas and buildings, building construction, labour safety
– Abilities to make a graphic sketch of architectural and environmental objects, prepare the graphically projected drawings of equipment of landscape and architectural objects; to implement the requirements for drawings, technical graphics, geometrical elements of different parts of the

building, drawings of landscape, architectural, city planning and architectural design objects, drawings of planning, volume – spatial and constructive parts; should know the architectural-building and architectural-design materials, their standards and using normative and be able to analyze them from art-aesthetic point of view;

– Capabilities to make a choice of methods applicable to the given site and development of new means of research

Commonly, for all geographical areas of respondents, alumna of these professions should be able to take place actively in all steps of documentation, evaluation and problem analysis, planning and application of conservation measures for the historical buildings and historical fabrics.

**Bulgaria:**

Usually architecture graduates find jobs at National Institute of Cultural Heritage or administrative positions at wards or private offices specialized in preservation. In order to be qualified to work in the preservation field they to have at least two years of working experience and to apply for a permision at the Ministry of Culture.

**Lithuania**

The description of the skills that the bachelor studies of Architecture are intended to provide at Kaunas University of Technology are available here: http://admissions.ktu.edu/study-program/b-architecture/#kompetencijos

Heritage preservation is not distinguished in this set of generalized skills at all. This can be seen as a shortcoming.

## 3.4. CHARACTERIZE THE CURRICULUM (AS A WHOLE) FROM THE POINT OF VIEW OF ITS SUBSTANTIVE CONTENT AND STRUCTURE (CONSISTENCY AND COMPLETENESS OF THE PRESENTED ISSUES, PROPER ORDER, COMPATIBILITY WITH OTHER COURSES).

Make a critical assessment of the program.

Commonly, the assessments by respondents demonstrated that the curricula foresee to define the professional character of the future architect/conservator/urbanist so as to resolve professional issues with maximum large vision of solutions and with the respect of the history of world and local culture and cultural and architectural heritage.

Educational programmes should be characterised by the integrity and continuity of studied disciplines, starting with history of architecture and urban construction, and arriving up to projects documentation preparation and principles of reconstruction and restoration of heritage. The courses normally have also interdisciplinary connection. Curricula generally follow step-by-step development scheme and foresee both theoretical and practical parts, with the period dedicated to personal thesis development and their deepening and reflection on behalf of the students (often it can be a preparation of a restoration plan for a monument or a historic urban fabric or site).

Every professional architect should be skilled enough in the field of heritage protection and restoration. Narrow specialization only in the conservation, as a rule, results in dogmatic and short-sighted consequences that are dangerous for heritage preservation in general.

There are five categories in which we can find the teaching in the field of heritage protection: education and academic formation for preservation planners; practical professional training; specialist training; continuing training and updates; education and awareness-raising of the public (**Italy**).

**Russia – Saint-Petersburg – University of Culture**

The sphere of professional activities of the baccalaureate programme on restoration include:

– Material culture goods identification and authentication, determining their artistic and historic values and storage category;

– Research and archival work organization, selection of optimal restoration model (conservation, reconstruction) of the material culture object;

– Restoration work complex organization; scientific reports writing; cultural object monitoring, taking part in setting up legal foundation for the heritage protection.

The professional activity objects of the Restoration direction baccalaureate programme **SPBGIK** graduates are:

– Architectural monuments and sites and historical architectural media;

– Paintings, drawings, sculptures, pieces of applied art;

Legal regulations on cultural heritage protection and management.

**Russia – Saint-Petersburg – University of Architecture and Construction**

The program is presented on the following link: http://www.spbgasu.ru/upload-files/obrazovatdejatelnost/ucheb_rab/plan/270200.62.pdf

**Azerbaijan:**

The main differences between the educational process in the Architectural faculty of Azerbaijan University

of Architecture and Construction (as we can judge from the visits to other architectural schools abroad) are:

1. The system of entering to the architectural faculty is different. Except the necessary for all the entrants to the Universities state exam (different for the faculties and universities) student must pass qualification (exam) at the architectural faculty to improve his (her) ability to be an architect. Students must demonstrate abilities to draw the graphical compositions and technical draught.
2. Students entered to the architectural faculty of the University during first two years of education must do all their projects and exercises by hand not using computer programs. For instance, the big importance is given to the practical lessons on art (drawing, painting and sculpture) during which students must prepare themself graphical drawings in pencil of the composition from geometrical objects, architectural detail or element, gypsum bust or sculpture; paintings of the nature-mort or any composition offered by professor; or make a sculptural composition.
3. During the first and second year of education students must prepare develop their course projects and exercises by hand as well. Only after the evaluation of the second educational year students are allowed to work on the computer using special architectural programs. Even when they are working on their main projects on computer, they must prepare their other exercises, sketches etc. by hand. An architect must be able to demonstrate his knowledge in any field of architecture by hand first, and then using modern computer skills.

**Bulgaria:**

The curriculum is well designed to encompass all the aspects and scales in preservation issues, however it is lacking a knowledge on the building materials used for preservation purposes.

**Norway:**

Students with backgrounds of BA in architecture, urban planners, civil engineering, geographers and sociologists. This profile of students reflect well the demand for a multidisciplinary team to address complex urban development and conservation context. The majority of students are architects, with impressive and necessary openness to address territorial issues and challenges of strengthening social capital and vulnerable groups. The architects with planners and geographers and sociologist are also eager to address issues of securing publicness of spaces and secure public land interests.

A challenge that Norway is facing is difficulties of obtaining stipends for students from the poorest countries and groups. Our annual contribution from the Norwegian Government of stipends will be discontinued next year.

The implementation of the course will then be more dependent on students who can pay for their staying in Norway themselves. (All universities in Norway are open and there are no fees, but this is now being introduced in other Nordic countries).

**Lithuania:**

The bachelor studies of Architecture at Kaunas University of Technology is the integrated study program based on the principles of sustainability, and the courses are well integrated.

## 3.5. PRESENT A PROPOSAL FOR A MODEL CURRICULUM IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL TOWNS.

Separately specify a model programme in the field of architecture (when it is not a specialty in the field of revitalization of historical towns) and a model programme of specialty in field of revitalization.

*[list of curses, structure and sequence of these courses, the content of the courses, the scope and form of contact with practice]*

Various respondents have proposed model programmes, basing on the existing curricula and/or further developing them. In these cases, precise requirements, weekly course breakdowns, bibliographical materials, assessment schemes, etc. have been presented as separate attachments to the questionnaires (**Russia – Magnitogorsk**)

For example, some curricula described in other questions of the questionnaire have been proposed as model ones (**Latvia, Russia – Saratov**).

Some others do not have specific programmes for heritage protection or conservation, but only architectural planning (**Russia – Vologda**).

By **Saint-Petersburg** respondents, the model curriculum proposed is structured logically and based on practice. It has different types of practical activities, such as research work, work performance, professional experience, and highlights special spheres of expertise, like the restoration of wood, furniture, that they carry out also thanks to the support of foreign experts.

**Iran**: two different models of curricula are proposed. One in the field of architecture and urban design when it's not a specialization in the field of revitalization of historical towns; the other specific for the field of revitalization. Both are organized in 4 semesters with

the final semester entirely dedicated to the final thesis and they have a summer internship every year of study. The first model focuses on theory and methods of urban planning and design with also a course in third semester for planning in Islamic countries, while the second model studies research methods historical buildings and problematics related to conservation with emphasis on management of crisis for sustainable conservation and design of infrastructures and new technologies in historical towns.

**Poland:**

The model arises from the department of the conservation of cultural heritage and includes a course of 5 years that can be chosen among 7 different alternative directions: history and theory of protection and conservation of monuments, history of building organization; history of building techniques; architectonic research; conservation of architectural monuments; protection of cultural landscape; protection of cultural values of urban spatial layouts. All courses are completed by lectures, seminars and practical classes and educational trips and summer schools. All the students present a final thesis in the field of art history and architectural history using the training acquired during their studies.

**Russia – Ekaterinburg:**

A specific model program was proposed by the respondents consisting of 8 disciplinary blocks: Restoration planning; methodology of restoration design and planning; engineering aspects of restoration; Reconstruction of historic cities; methods and Methodologies of scientific research; Regional characteristics of architecture; Fundamentals of classical architectural composition; Architecture and decoration of cult buildings. All of the courses foresee specific disciplines to be taught more in detail, practical activities and skills and knowledge to be acquired.

**India:**

The respondent proposed the syllabus 2002 of the proper university as a model curriculum. It is divided in different modules which include a philosophical basis, Redefinition of Heritage Resource, a technical Module based on structure and fabric, Conservation Management Module and finally presents Theories and Parameters. The course is divided in 3 semesters, and among the subjects there is visual communication, architectural knowledge systems, courses about landscape, inventory and documentation techniques and more specific courses on historic city, heritage and conservation.

**Bulgaria:**

For the full programme of Architectural Heritage Preservation, please have a look at the following site from p.34 until p.38: http://uacg.bg/filebank/ECTS-2016/ARCH/Arch_New.pdf

**Norway:**

This would be interesting to do jointly with others and / or especially in response to proposals.

**Lithuania:**

Possible courses indicated for a model curriculum:

Architectural history; Urban history; History and theory of heritage preservation (architectural and urban preservation); Cultural heritage valuation and interpretation (cultural heritage valuation (assessment) techniques (social significance, historical values, cultural significance) and cultural heritage interpretation) (theory and workshops); Heritage preservation technologies (material science, restoration techniques, building structures etc.) (theory and workshops); Cultural heritage and sustainability; Heritage economics (heritage values, market and non-market valuation techniques); Heritage sociology (heritage and communities, heritage and society) (theory and workshops); Landscape management (including cultural landscapes, their typology, territorial preservation of heritage (protected areas)); Design and heritage preservation law (international and national legal documents regarding heritage preservation and new design); Harmonization of historical and new architecture (theory and workshops); Historic building re-use (theory and workshops).

***However, due to the complexity of the question and the specific preparatory work required to respond to it, some of the respondents didn't provide answers to this specific query.***

# CONCLUSIONS

## /regarding the elaboration of model programme of teaching/

The questionnaires analyzed by the Fondazione Romualdo Del Bianco for the Working Paper 1 were 36 from 19 countries – both European and extra-European – in 3 different languages. In the previous part their content was analyzed transversally summerizing common points at the beginning and then specifying each national case.

The analyzed questionnaires originate from highly different cultural, geographical and historic contexts and, therefore, finding general transversal points is not realistic because of the peculiarity of each local culture.

Therefore, basing on the provided answers the main common points are traced below, highlighting the

strengths and weaknesses of the existing curricula and emphasizing the auspices expressed for a future AUC figure which will be able to satisfy the needs of the globalized world.

### Strengths

High level of competences for architects is indispensable in the world of today; the profession of an architect has to have all necessary qualifications for operating in heritage protection and revitalization of historic cities, in a sustainable, ethical and competent manner. Therefore, the whole range of architecture and urban studies disciplines has been highlighted by the respondents that have been presented in the report above.

The importance and value of heritage, as well as the need of multidisciplinary curricula and of specific skills were recognized by most of the interviewees.

Furthermore, there is an evidently high awareness among the respondents about the strong links that connect the local cultural heritage and its community, with the territorial relations that are created between the members of local communities and the historic heritage of the city. The specific role of each member acts as a glue in neighbourhoods and society as a whole, its resources, spaces, traditional strengths, all of which form a backbone of the society. Therefore, it is fundamental to prepare an architect towards the understanding of his role for the mobilisation of local communities.

### Weaknesses

The local communities and the administrations are often in conflict between each other as the latter ones impose the management plans where citizens are not involved. As a consequence the necessities of population are not taken into account.

The legislative aspects that regulate heritage field often belong to multiple layers and levels of implementation which make the interventions very complex and the capacity of dialogue is not always taught to future AUC.

Furthermore, often in heritage management there is a difficulty in alignment of a multitude of stakeholders, which may lead to conflicts of interest between the commercial sector and the protection and revitalisation one.

### Auspices

It is necessary to reconcile the needs of conservation with those of continuing the transformation of a historic building or site following the contemporary needs, adapting it to new functions but at the same time maintaining the fundamental dialogue between the old and the new and preserving the genius loci of the place.

In some case the history brings further problematics. For example in post-conflict or post-destruction areas, the designers need to find solutions to the question of choosing between rehabilitation, reconstruction, restauration or demolition.

It is important that heritage management models take into account the contemporary realities of temporary and permanent users of the city. These are inclusive of migrations and travels that create highly intercultural flows of people moving. These intercultural movements should be taken into consideration while educating a contemporary architect who should not only be well aware of these societal processes, but also give response to their needs in the design.

For this reason, contemporary architecture education should provide the knowledge of intercultural dialogue, diversity of cultural expressions, sustainability of cultural heritage preservation and travelling based on the exchange of values.

At the urban level, the estimation of touristic potential of an area is vital for a proper city management and planning. The quantity and quality of the arrivals' flows should be regulated according to the city sustainability. Management strategies are to be carefully studied and implemented so as not to allow the touristic phenomenon destroy the cultural and historic fabric of the territory itself.

As a consequence the future AUC professionals should be trained for the context in which they will operate, and the curricula should reflect the peculiarities of the territory.

In order to perform their tasks properly, architects and heritage conservators should operate in strict interaction with experts belonging to other fields of expertise, among which law experts, political administrations, historians, material specialists, restorers, etc.

The main requirements towards architectural education are oriented to the recognition of historic and architectural significance of heritage in forming human and social space, and readiness to take up moral and professional responsibility for its conservation.

In the same vision as above, traditional systems of construction and design are to be studied, maintained and absorbed into the contemporary architecture methods. This is to be applied in each and concrete territory. A new concept should be promoted of the protection and conservation which should be beneficial for local inhabitants, preserving the integrity of cultural and natural environment and permitting the revitalization of historic areas. A contemporary student of architecture should be educated to the awareness of the above complexities so as to avoid conflict situations.

Seen the above panoramic picture of the considerations emerged during the analysis of the questionnaires, one of the transversal themes is the necessity to understand cultural diversity and create opportunities of mutual understanding of cultures within

the contemporaneity, as well as between past and present. This is indispensable for the future in urban sustainable development.

Higher education should give students the tools and skills to understand the requirements of the labour market at all its levels. These skills should be focused on the themes of knowledge of heritage both tangible and intangible, local communities and their cultural identities, in the context of a multicultural society.

Working with communities will let the AUC understand the needs of people – this will be a key point to re'activate functions in places that are no long perceived as living urban spaces. Architects could improve their skills becoming aware about their responsibility to design according to the effective needs of the territory and its people. The AUC professional vision should go beyond the political and market trends being capable of creating and guiding territorial tendencies of development.

All these points should be taken into account for the creation of a new, more successful curriculum that will enable the AUC to operate giving an added value to their work enabling them to create products that will contribute to sustainable development.

The above qualifications will render the AUC more competitive as professionals on the market as they will be able to understand, comprehend and broadcast the needs of the territory and its community.



# ATTACHMENTS

Programmes of the courses received in attachments to the questionnaires by the following countries:

1. Azerbaijan (Azerbaijan University of Architecture and Construction)
2. India (School of Planning and Architecture)
3. Iran (Islamic Azad University Central Tehran Branch)
4. Latvia (Riga Technical University)
5. Lithuania (Kaunas University of Technology)
6. Poland (State University of Applied Sciences in Raciborz)
7. Russia (Magnitogorsk State Technical University)
8. Russia (St. Petersburg University of Culture)
9. Bulgaria (University of Architecture Civil Engineering and Geodesy)

## 1. Azerbaijan (Azerbaijan University of Architecture and Construction)

**BACHELOR DEGREE**

**Course: Restoration and conservation**

**Lectures 30 hours, practical 60 hours. Credits 9**

**This discipline is to be taught to all the students of architectural faculty**

### Objectives of the course

The main objective of the course is to familiarize students with the practical and theoretical foundations of scientific restoration of architectural monuments of historical and artistic value.

### Role of course in the training of architects – restorers

This course is one of the core subjects in the training of students for architectural activities. Students have to get an idea of the role of monuments in modern life, in worldview and society. The course is also subjected to link the widespread perception of the restoration, scientific and theoretical basis for its implementation. Theoretical bases are considered as the result of a process of development of human culture; since culture is constantly evolving that process does not stop its development. Therefore, the main goal of any restoration is the maximum extension of the life of the monument of past eras and passing it on to future generations.

### Section of the course

The course consists of one section, which consists of lectures (30 hours) and practical lessons that include exercises (60 hours) and additional classes (20 hours). During the exercises the student must fulfil during the semester course project "Restoration and conservation of the monument of architecture". The project's main goal to instil the research skills on monument of architecture, proper measurement and diagnosis of causes of the destruction of monuments of architecture, determine the causes of the destruction and deformation of the monument and correct liquidation; determining a wide range of analogies and use of this information for restoration of the monument. The student must acquire practical skills in the field of natural and archival research of the monument, the collection of historical information about the monument, making a competent project of the restoration or conservation of the monument and its adaptation for modern use.

During additional classes a student must fulfil a series of drawings and photographic images showing the architectural details in the monuments of Azerbaijan. The exercise of these drawings aims to show to students the basic methods of architectural details' construction, as well as improve the graphics capabilities of students.

**MASTER DEGREE specialization "RESTORATION AND RECONSTRUCTION OF THE ARCHITECTURAL MONUMENTS"**

**Course: Typology of the architectural monuments**

**Lectures 60 hours, individual work 180 hours. 240 hours. Credits 8**

### Purpose of the course

«Typology of the architectural monuments» is to introduce to the students studied at the Master level of specialization "RESTORATION AND RECONSTRUCTION OF THE ARCHITECTURAL MONUMENTS", the main types of architecture of Azerbaijan. The course includes the process of the birth of the first buildings, their improvement over time up to the developed of the different multifunctional facilities. The range includes monuments of antique period and monuments of pre-Islamic period as well. We also investigate the architecture of the initial period of the spread of Islam in Azerbaijan.

The course includes three chapters:

1. Architecture of fortifications
2. Religious architecture
3. Civil architecture

### Objectives of the course

To familiarize students with the basic provisions of this scientific discipline.

- To familiarize students with the basic directions of development of Azerbaijan's architecture, to identify the main stages of the historical development of the architecture of the country;
- To explain the limitations of the process of formation the basic types of structures on the territory of historic Azerbaijan; to reveal the continuity in the formation of architectural structures, to determine patterns in the development of monuments;
- To give the main characteristics of the different schools of architecture;
- To teach to the students the skills of scientific inquiry of monuments" conditions, level of their preservation

In the first part "Architecture of fortifications" students should study the ways of appearance of the defensive architecture, their development? Architectural – planning peculiarities and main building materials.

The second part "Religious architecture" is to study the large part of the architectural heritage of monumental religious buildings reflecting the development of the art of architecture and construction are taught the most valuable monuments. Religious architectural monuments as well as the most valuable works of art have been applied.

Explore the features of religious architecture, which existed before Islam and Mazdaism, Mitraism, Zoroastrianism and Christianity architecture is of great importance for study of relations defining their role in the region's architecture.

Enabling the architecture to detect specific and unique features such as composition, methods of design and construction techniques of the solution has a great value in the study of mosques, madrasahs, fair temples, one-nave and three-nave basilicas, circular, centre-domed temples, monasteries and architectural complexes.

Part III – dedicated to the study of civil buildings in the territory of Azerbaijan, caravanserais, baths, bridges and so on. They are under investigation from architecture – composition solution, construction and construction materials, and their regional characteristics points of view.

**Course: History and methodology of preservation science**

**Lectures 15 hours, individual work 45 hours Total 60 hours. Credits 2**

### Purpose of the course

«History and methodology of preservation science» is to introduce to the students studied at the Master level of specialization "RESTORATION AND RECONSTRUCTION OF THE ARCHITECTURAL MONUMENTS", the main aspects of preservation science in general and formation of the preservation science in Azerbaijan particularly.

The course includes four chapters:

1. Methodology of the scientific knowledge and modern philosophy.
2. Establishment and development of the science of architecture.
3. Occurrence of world architecture concepts and scientific knowledge.
4. The role of the architect in the modern society.

### Objectives of the course

To familiarize students with the basic provisions of this scientific discipline; to explore the methodological problems of science and modern aspects of science in the creation of architecture, learning and development, and the formation of modern time, starting with ancient period and growing up to science.

### Requirements to the course perception

– Understanding of the concept of science Methodology
– Methodology and the use of architectural theory and practice
– Architecture and development of science

- The development of modern architecture
- World Architecture of theoretical concepts and their architectural influence
- The role of the architect in modern society
- Ecological and spiritual thinking of Architect of and his public relations

**Sections of the course**

The course consists of one section which consists of lectures (15 hours).

**Course: Regional peculiarities in the restoration of the architectural monuments**

**Lectures 30 hours, individual work 90 hours. Total 120 hours. Credits 4**

**Purpose of the course**

«Regional peculiarities in the restoration of the architectural monuments» is to introduce to the students studied at the Master level of specialization

"RESTORATION AND RECONSTRUCTION OF THE ARCHITECTURAL MONUMENTS" analyses of the local peculiarities in the restoration of the architectural monuments, their study, definition of the building technique and art, study and research on the architectural schools existed in Azerbaijan. Influence of the natural-climatic factor on the development of local features in architecture and choose of the construction materials connected to that.

**Course title**

To familiarize students with construction techniques, used in restoration of monuments of architecture and construction, with medieval forms and constructions, as well as configuration and assembly of ancient antiquity, Christianity and Islam during his study of architecture, construction techniques in the buildings of different purposes.

**Role of the course in the training of students**

The objectives of the course is to familiarize students with the history of the ancient architecture of Azerbaijan, which is the first step in teaching students the history of architecture. Here, the role of monuments in public life in modern man world view, including the building as an architectural monument from the action program have been accepted widely perceived as an objective and scientific basis for recovery on the connection between imagination. That is why the importance of this course is increase, acquaintance with it paves the way for further study of the history of architecture of Azerbaijan in subsequent periods. In addition, interaction of Azerbaijan architecture and architecture of other countries in the region take the place during the course, as well as the place of architecture of Azerbaijan studied in the development of architecture in the region. This creates a good base for exploring the architecture of Azerbaijan in the global context.

**Requirements for the course perception**

- Study of the local architectural features in the restoration of monuments
- Study of architectural schools existed in Medieval period
- Construction machinery and art in Azerbaijan, East countries effect interaction

**Section of the course**

The course consists of one section which consists of lectures (30 hours). Student must fulfil an essay on topics of lectures.

**Course: Preservation projection of the architectural monuments**

**Practice 120 hours, individual work 360 hours. Total 480 hours. Credits: 16**

**Purpose of the course**

The aim of the course is to detect the quality of a valuable architectural heritage, focusing on the skills needed to work over the project, restoring monument and adapting it for re-use.

**Course objective**

The study of problems in the field of architectural heritage restoration and reconstruction of the buildings, as well as formation of the project habits. To acquaint the students with the specifics of restoration project, to explain how to conduct the scientific research (historical and archival), how to realize the restoration of architectural monuments, how to conduct the natural study of the monument, and restoration project of the monument and project of adaptation for modern use is necessary.

**Role of the course in the training of students**

The course is one of the most important sections for the qualification. The project of restoration or reconstruction of any of architectural monuments studied by student in his master thesis during the course and work on the essay on the topic of master thesis should help to students in their thesis preparation.

The planned schedule of the subject:

The course consists of the two parts (one for each semester). Both of them are subject to assist student in individual preparation of the master thesis.

During 1-st semester student should prepare essay of his future thesis. Essay should be written on the topic of the master thesis and should include all the positions and statements of the research. Student should understand clearly the main objection of his work for future two year of study. Essay should include the main

aspects of scientific research on the topic, main ways of investigation, information on historical research including archive and bibliographical study; information on existed already researches in the same field, study of the articles and books dedicated to the topic, the problems and lacks in the field of study, collection of the information on the analogical investigations inn the country and abroad etc. Thus student should demonstrate his abilities to work individually on the scientific topic and to collect all necessary natural and scientific information for thesis. At the end of first part of course student should defend his Essay to be able to be experienced for the final defence.

During 2-nd semester student should work on the project of restoration or conservation of any of architectural monuments studied by him in his (her) master thesis, as well as give his recommendations on the future- use of the monument and to work out the project of the adaptation of the monument etc. The project of restoration is subject to be included into the graphical part of the master thesis.

**Course: Theory and practice of the modern preservation science**

**Lectures 30 hours, individual work 90.**
**Total 120 hours. Credits 4**

**Purpose of the course**

Is to reveal the modern practice of restoration, based on the idea of the restoration and preservation of architectural heritage. The course consists of three sections. The 1-st section discusses the formation of the basic principles of restoration. The 2-nd section is devoted to the study of the basic concepts of modern restoration, including the types of work carried out on the monuments of architecture, and methods of their choice; preservation of monuments, the principles of integrity and restoration of the area of its application, partial restoration, etc. The 3-rd section is entirely devoted to coverage of the restoration practice in Azerbaijan.

**Course objective**

The main objective of the course is to acquaint students with practical and theoretical bases of scientific restoration of architectural monuments having historical and artistic value.

**Role of the course in the training of students**

This course is one of the basic subjects in the training of students for the architectural work. During training the students get an idea of the role of monuments in the life of modern man, his ideology and society development. The course is also dedicated to link the widespread understanding of the restoration and scientific and theoretical basis for its implementation. The main emphasis is placed on the introduction of the modern practice of the real restoration work and an exemplary embodiment of restorations.

**Requirements for the course perception**

The course introduces to the students the basic work on the architectural monuments- restoration and conservation, on the following three main areas:

- Formation of the basic principles of restoration
- The basic concepts of the modern restoration
- Restoration Practices in Azerbaijan

**Section of the course**

The course consists of one section which consists of lectures (30 hours) 9. Student must fulfil a essay on topics of lectures.

**Course: Engineering problems in the preservation of the architectural monuments**

**Lectures 30 hours, individual work 90 hours.**
**Total 120 hours. Credits 4**

**Purpose of the course**

Protection of historical and architectural monuments is one of the main tasks of the engineering conservation. Engineering conservation is a discipline that requires a lot of scientific knowledge in the field of not only study of architectural monuments abut as well of the techniques to be used for their preservation.

**Course objective**

To explain the process through which the material, historical, and design integrity of humanity's built heritage; how to prolonged its life through carefully planned interventions. Decisions of when and how to engage in an intervention are critical to the ultimate conservation of the immovable object.

**Role of the course in the training of students**

The objectives of the course is to familiarize students with the history of the ancient architecture of Azerbaijan, which is the first step in teaching students the history of architecture. Here, the role of monuments in public life in modern man world view, including the building as an architectural monument from the action program have been accepted widely perceived as an objective and scientific basis for recovery on the connection between imagination. That is why the importance of this course is increase, acquaintance with it paves the way for further study of the history of architecture of Azerbaijan in subsequent periods. In addition, interaction of Azerbaijan architecture and architecture of other countries in the region take the place during the course, as well as the place of architecture of Azerbaijan studied in the development of architecture in the region. This creates a good base for exploring the architecture of Azerbaijan in the global context.

## 2. INDIA (SCHOOL OF PLANNING AND ARCHITECTURE, NEW DELHI)

**Course: Master in Architectural Conservation S . P. A.**

### Modules and Structure

The course is structured in the form of modules, which are further subdivided into the various subjects. Each module has a specific intent or theme related to conservation, which carries through the semesters. The subjects under each module are different to cover the entire range of aspects but the modules remain constant. Subjects in each semester the enlarges or deepens.

### MODULE 1: Philosophical Basis

The students need to develop a philosophical basis towards the subject of their specialization. The module has been expanded and new concepts/ ideas like integrated and interdisciplinary approaches and methodology have been added. In this module while the first part trains the mind the second part imparts the essential skills and abilities required, so that what the mind learns can be expressed and communicated. For example the student will be able to express complex thoughts through drawing, speaking and writing, vital for a sound professional, and also for the development of heritage profession in the future.

### MODULE 2: Redefinition of Heritage

Historical architecture is an "authentic" document and evidence of its place, time and society. In the Syllabus 94 it was called "Rediscovery of Architecture" and was a part of the module with other subjects, but now it has been made into a full-fledged module. The emphasis now is confined to understanding, describing and analyzing all categories of architectural heritage though the two years to make the "Great Indian heritage" familiar to the student. As conservation professionals we are interested in a very high level of quantitative and qualitative information that is "embodied" in heritage itself. This will help interpret historic buildings and traditions accurately and positively for their protection and management. All categories of Indian heritage falls within the scope from a building fragment to the intangible and cultural landscapes- a complete range. A comprehensive knowledge base of historical architecture is constructed through the application of "knowledge systems approach".

The new comprehensive definition of architectural heritage anticipates a completely different approach and methodology towards heritage protection and management. With this definition historical architecture becomes part of the mainstream and inclusive and hence a part of people's lives. It is no longer the preserve of few Government agencies. This definition of heritage will result in a comprehensive protection and management across the categories and across the country. It also implies a total shift n paradigm ( a great change from existing notions).

### MODULE 3: Parameters / Theory

Earlier "Parameters" was a major module. This was so because conservation was a relatively new subject which had to find "professional space" among many other fully developed subjects and areas such as planning, archaeology, commercial tourism, building industry. The subjects were studied as they had a great influence and negative impacts on heritage due to the underlying policies or processes that were existing. It is hoped that the study of the parameters will lead to the development of more sustainable approaches towards heritage resource.

In syllabus 2002 theory and parameters subjects have been combined. These inputs will and enhance quality in heritage understanding and subsequent action. The theory module comprises three types of subjects. First, those from the earlier parameters, second conventional theory disciplines such as sociology and anthropology that have been introduced to enhance understanding heritage resource in a holistic manner. Thirdly the new theory disciplines such as aspects of economics and Law have emerged as definite subjects for future development of interdisciplinary areas.

### Module 4: Conservation Management

The module has been designed to have an integrated and holistic, participatory and decentralized approach for heritage management in India. Keeping in view the Indian reality of inadequate protection and management systems for heritage, the emphasis is on local community based "protection and management" of heritage resource. The module addresses all categories of heritage and responds to the needs of looking after heritage both for short and long term. Different levels of management from building and site i.e. ground level to National management systems and other areas such as heritage information Systems and risk Preparedness for heritage areas etc.

### Module 5: Technical Conservation Actions on Structure and Fabric

This module remains the same but the course has been expanded to make it more comprehensive. It has a laboratory component to supplement the Course. A four week placement for hands on experience has been incorporated – a new addition.

### Module 6: Architectural Conservation Studio

The studio exercise aims to handle the various scales of projects possible in conservation. It will be an application of the theory into practice.

– *First semester* – Building or a small area Level project – study, reuse etc.

– *Second semester* – Historic city & Area Level project
– *Third Semester* – Cultural Landscape/ regions or a complex historic city with its hinterland
– *Fourth Semester* – Thesis Project of Students Choice
– *The contents for the two year* – 4 semester programme follows

The challenges of conservation education comprises educating the heritage professional within the market driven world where heritage in India still remains "to be rediscovered". The course is therefore the framework has been structured to meet these challenges. The modules that form the structure and framework enable the student to develop within a subject area and also understand the relationships among the various aspects of the course. It also initiates the student into a life-long process of structured learning due to the holistic and integrated nature of the framework. This framework has been developed over the last decade and a half.

| MODULES | SUBJECTS | | | |
|---|---|---|---|---|
| CODES | SEMESTER I | SEMESTER II | SEMESTER III | SEMESTER IV |
| Philosophical Basis PB | PB I<br>A) Foundation Course B) Visual Communication | PB II<br>A) Architectural Knowledge Systems B) Written and Oral Communication | PB III<br>New Paradigms | –*Research Paper on a theoretical area relating to thesis ( TP IV – A)*<br>–*Elective ( TP IV – B)*<br>–Heritage Management – (Seminar) ( CM IV)<br>–Thesis Studio (CS IV) |
| Redefinition of Heritage Resource HR | HR – I<br>A) Natural and Designed Landscape B) Inventory and Documentation Techniques | HR – II<br>A) Historic cities and its Heritage Components B) Quantitative survey Techniques | **HR – III**<br>*A) Cultural Regions and Landscape B) Qualitative Survey Techniques* | |
| Theory / Parameters TP | TP – I<br>A) History and theory of Conservation) Planning – I<br>*C) Archaeology* | **TP – II**<br>*A) History Theory and Criticism of Architecture – I*<br>*B) Planning – II*<br>*C) Sociology and Anthropology* | TP – III<br>A) History Theory and Criticism of Architecture – II B) New Theories C) Museology | |
| Technical – Structure and Fabric SF | SF – I<br>A) Introduction to Traditional Building Materials & Systems & Deterioration Process B) Chemistry of Traditional Materials | SF – II<br>Conservation of Traditional Building Materials and Structure | SF – II<br>Up gradation of Historic Buildings for contemporary use | |
| Conservation Management CM | **CM – I**<br>*Quality Management of Historic Buildings and Sites.* | CM – II<br>Integrated Heritage Management – ITUC | CM – III<br>National Level Heritage Management Systems in India and Abroad. | |
| AC Studio CS | **CS – I**<br>*Building/Area Level project* | **CS – II**<br>*City/Area Level Project* | CS – III<br>Cultural Regions/ Complex Historic City | |

| MODULES | SUBJECTS | | |
|---|---|---|---|
| | **Semester I** | **Semester II** | **Semester III** |
| **Philosophical Basis** | *Foundation Course, Visual Communication* | *Architectural Knowledge Systems, Written and Oral Communication* | *New Paradigms* |
| **Redefinition of Heritage Resource** | *Natural and Designed Landscape, Inventory and Documentation Techniques* | *Historic cities and its Heritage Component, Quantitative survey Techniques* | *Cultural Regions and Landscape Qualitative Survey Techniques* |
| **Technical – Structure and Fabric** | *Introduction to Traditional Building System, Materials & & Deterioration Process, Chemistry of Traditional Materials* | *Conservation of Traditional Building Materials and Structure* | *Up gradation of Historic Buildings for contemporary use* |
| **Conservation Management** | *Quality Management of Historic Buildings and Sites* | *Integrated Heritage Management – ITUC* | *National Level Heritage Management Systems in India and Abroad* |
| **Theory / Parameters** | *History and theory of Conservation, urban planning, regional planning Housing, transport Planning, Archaeology* | *History Theory and Criticism of Architecture – I, ecological Planning, environmental Planning, development Planning, conservation planning, Sociology and Anthropology* | *History Theory and Criticism of Architecture – II, Heritage Economics, Heritage and Jurisprudence, Cultural Tourism, Museology* |

## 3. IRAN (ISLAMIC AZAD UNIVERSITY CENTRAL TEHRAN BRANCH)

**Course: Conservation and rehabilitation of historic buildings and urban fabrics Course**

| **Semester 1** | | **Semester2** | |
|---|---|---|---|
| **Courses** | **Units** | **Courses** | **Units** |
| Research Methods | 2 | Pathology of historic building and urban fabrics | 2 |
| Study and analyses of Historic Buildings | 2 | Management of Crisis and reconstruction after earthquake | 2 |
| Study and analyses of historic urban fabrics | 2 | Technology for restoration | 2 |
| English for conservation | 2 | Optional course ( 1)* | 2 |
| **Semester 3** | | **Semester4** | |
| **Courses** | **Units** | **Courses** | **Units** |
| *Restoration Plan* | 2 | Internship | 2 |
| *Rehabilitation plan* | 3 | | |
| Introductory to Laboratory methods | 1 | | |
| Optional Course (2)* | 2 | | |
| Semester 5 and 6 | | | |
| Final Thesis | 6 | | |

**Course: Urban Planning**

| Semester 1 | | Semester2 | |
|---|---|---|---|
| **Courses** | **Units** | **Courses** | **Units** |
| Theory of Urban planning | 2 | Designing the urban transportation system | 2 |
| Urban Design Studio (1) | 3 | Urban Design Studio (2) | 3 |
| Methods and technology of urban planning (1) | 2 | Methods and technology of urban planning (2) | 2 |
| | | Optional course ( 1) | 2 |
| **Semester 3** | | **Semester 4** | |
| **Courses** | **Units** | **Courses** | **Units** |
| Urban Design Studio (3) | 4 | Final Thesis | 6 |
| Introductory to Theories on urban planning for Islamic countries | 2 | | |
| Optional Course (2) | 2 | | |
| Optional Course (3) | 2 | | |

* Optional courses:

- Study and restoration of historical gardens
- Theory of restoration
- Consolidation of historical structures
- Designing new architecture inside the historical fabrics

**The respondent revised the programs that are at present taught for "Conservation" and "Urban Design" graduate courses according to their positive and negative remarks which were discussed above. Follows:**

**A) Model programme in the field of architecture and urban design (when it is not a specialty in the field of revitalization of historical towns)**

**Lectures with concentrated content on revitalization are marked in red**

| Semester 1 | | | Unit(s) | Semester2 | |
|---|---|---|---|---|---|
| Courses | Unit(s) | | | Courses | Unit(s) |
| Theory of Urban planning | 2 | Summer Internship (1) | 1 | Designing the urban transportation system | 2 |
| Urban Design Studio (1) | 3 | | | Urban Design Studio (2) | 3 |
| Methods and technology of urban planning (1) | 2 | | | Methods and technology of urban planning (2) | 2 |
| | | | | Optional course ( 1) | 2 |
| **Semester 3** | | | **Unit(s)** | **Semester4** | |
| **Courses** | **Unit(s)** | | | **Courses** | **Unit(s)** |
| Urban Design Studio (3) | 4 | Summer Internship (2) | 1 | Final Thesis | 6 |
| Introductory to Theories on urban planning for Islamic countries | 2 | | | | |
| Optional Course (2) | 2 | | | | |
| Optional Course (3) | 2 | | | | |

**B) Model programme of specialty in field of revitalization**

| Semester 1 | | | Unit(s) | Semester2 | |
|---|---|---|---|---|---|
| Courses | Units | | | Courses | Units |
| Research Methods | 2 | Summer Internship (1) | 1 | Pathology of historic urban fabrics | 2 |
| Study and analyses of Historic Buildings | 2 | | | Management of Crisis and sustainable conservation | 2 |
| Conservation Theory | 2 | | | Restoration Technology | 2 |
| Traditional Building Technology | 2 | | | Optional course ( 1) | 2 |
| **Semester 3** | | | **Unit(s)** | **Semester4** | |
| **Courses** | **Units** | | | **Courses** | **Units** |
| Revitalization Studio | 3 | Summer Internship (2) | 1 | Final Thesis | 6 |
| Infra-structure design and technology in historic towns | 3 | | | | |
| Optional Course (2) | 2 | | | | |

## 4. LATVIA (RIGA TECHNICAL UNIVERSITY)

### BACHELOR DEGREE

**Course: Restoration and Preservation of Cultural Monuments**

**Course outline:**

- Introduction. Term „Restoration". Question of attitude. Value of the site. International cultural heritage policy documents (2 h).
- Authenticity (2 h).
- Profession architect – restorer. Architect as a leader of the building process (4 h).
- The aging processes of historic buildings. Reasons in different types of buildings (2 h).
- Methodology and guiding principles of building restoration (4 h).
- Restoration project and its output data (2 h).
- Architectural survey of the historical buildings, documentation and restoration concept (4 h).
- History of building research and protection in Latvia 17C–21C (4 h).
- Workshop. Exploration of the Old Riga (2 h).
- Visiting of building sites and their analysis (6 h).

**Learning outcomes:**

Ability to analyze and interpret the factual material acquired in theoretical part of the course, which is necessary in the architect's professional work; ability to work professionally with architectural heritage; ability to analyze problematic situations related to architectural heritage.

### MASTER PROGRAMS

**Course: Methods of Renovation and Transformation of Buildings**

**Course outline:**

- Introduction. Classification of architectural objects. Restoration and transformation in renovation of architectural heritage (2 h).
- Experience of renovation and conversion of buildings in different countries (6 h).
- Change of the function of buildings (4 h).
- Transformation of urban complexes (4 h).
- Project of transformation of a building or urban structure (16 h).

**Learning outcomes:**

Ability to be orientated in the development processes of European architecture of New Era and stylistic systems; ability to analyze and interpret the factual material acquired in theoretical part of the course, which is necessary to the architect's creative work ; ability to use the special architectural terminology.

**Course: Historical Building Fabric and Conservation Methods**

**Course outline:**

- General information of historic building structure, typology, specific materials and structures (2 h).
- Foundations. Materials of hydro-insulation. Conservation methods (2 h).
- Masonry walls (2 h).
- Timber building walls (2 h).
- Mixed material walls. Half-timber. Clay walls (2 h).
- Roofs, their types and structure. Roofing materials (2 h).
- Floors. Materials and structure (2 h).
- Doors, gates. Typology, structure and details (2 h).
- Finishing materials. Colors. Plaster (2 h).
- Stairs. Typology. Elevators (2 h).
- Toilets. Sewage. Water supply (2 h).
- Heating systems. Stoves, Fireplaces, Chimneys (2 h).
- Research methods of building materials (2 h).
- Study work (4 h).
- Visit of a building site (2 h).

**Learning outcomes:**

Ability to understand the historical development of building structures and parts; ability to use structures and materials as an age determination element; ability to list the elements of a building and the corresponding building materials; General understanding of the causes of damage of buildings and their relationship with the structural and material characteristics; ability to work professionally with the local architectural heritage; ability to analyse problematic situations related to the conservation of architectural heritage.

## 5. LITHUANIA (KAUNAS UNIVERSITY OF TECHNOLOGY, DEPARTMENT OF ARCHITECTURE AND URBANISM)

**Course: Integrated Programmes**

A dynamic, innovative and practical at the same time, programme is implemented through Studio method – study courses are integrated into a single complex task: students learn architecture-related principles of drawing, composition, physics, materials strengths, etc. and apply directly in the project they are working on. Another exclusivity of the programme lays in the historical, cultural, theoretical and philosophical critical analysis of existing typologies, associated with the design of aesthetic prototyping which integrates constructions, mechanical, ecological and economic research.

This extended undergraduate programme leads to the master's degree (5 years programme).

1st Semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| H310B123 | History of Architecture | 6 |
| H312B119 | Architectural Experiment 1 | 12 |
| T150B216 | Architectural Materials | 3 |
| P175B158 | Computer Aided Architectural Design 1 | 6 |
| | Electives of Individual Health Education 2017 | 3 |

*2nd Semester*

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| H312B012 | Architectonic Development 1 | 12 |
| H313B103 | Theory of Architecture | 6 |
| T230B120 | Structures of Dwelling Houses | 3 |
| P175B159 | Computer-aided Architectural Design 2 | 3 |
| | Foreign Language Electives (Level C1) 2017 | 6 |

3rd semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| T230B202 | Structural Solutions of Public Buildings | 6 |
| T240B128 | Architectural Experiment 2 | 12 |
| T150B217 | Innovative Materials | 3 |
| T240B129 | Typology of Occupants | 3 |
| | Electives 1 | 6 |

4th semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| T240B130 | Architectonic Development 2 | 12 |
| T240B013 | Typology of Spaces | 3 |
| T220B129 | Engineering Systems of Buildings | 3 |
| | Electives 2 | 6 |
| | Electives of Philosophy 2017 | 6 |

5th semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| T240B134 | Architectural Experiment 3 | 12 |
| T240B135 | Joint Project | 3 |
| H312B120 | Sustainable Architecture | 3 |
| H313B104 | Critical Analysis of Architecture | 6 |
| | Electives 3 | 6 |

6th semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| T230B189 | Economics of Spatial Decisions | 3 |
| S110B103 | Spatial Legislation | 3 |
| PR00B219 | Practice of Architectural Design | 18 |
| | Optional Subjects 2017 | 6 |

*7th semester*

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| S240M105 | History of Urbanism | 6 |
| S240M106 | Space Syntax | 6 |
| S240M104 | Urban Planning 1 | 12 |
| | Electives 4 | 6 |

8th semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| S240M107 | Urban Planning 2 | 12 |
| S240M108 | Urban Theory | 6 |
| S240M109 | Sustainable Urbanism | 6 |
| | Electives 5 | 6 |

9th semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| M000M010 | Research Project | 18 |
| S240M011 | Sociology of Spaces | 6 |
| | Optional Subjects 2017 | 6 |

10th semester

| CODE | SUBJECT NAME | ETCS CREDITS |
|---|---|---|
| M000M100 | Master Final Degree Project | 30 |

## 6. POLAND – STATE UNIVERSITY OF APPLIED SCIENCES IN RACIBORZ

**Courses related directly to heritage protection and revitalization of monuments:**

1. History of architecture I (sem. 1, lectures 15 h.)
2. History of architecture I (sem. 2, lectures 15 h.)
3. History of architecture I (sem. 3, lectures 15 h.)
4. History of architecture I (sem. 4, lectures 15 h.)
5. History of town planning I (sem. 5, lectures 15 h.)
6. Introduction to monument conservation (sem. 5, project 30 h.)
7. History of Polish architecture (sem. 6, lectures 15 h., workshop 15 h.)
8. Vernacular art and architecture (sem. 6, workshop 15 h.)
9. Architectural detail (sem. 7, project 30 h.)

**Courses that include content (modules) related to heritage protection and revitalization of monuments:**

1. Architectural design studio II (sem. 4, lectures 15 h., workshop 75 h.)
2. Architectural design studio III (sem. 5, lectures 15 h., workshop 75 h.)
3. Architectural design studio VI (sem. 6, lectures 15 h., workshop 75 h.)
4. Final studio design (sem. 7, seminar 15 h., project 90 h.)

Topics of projects being completed during mentioned above courses are often related to the heritage architecture and urban complexes.

## 7. RUSSIA (MAGNITOGORSK STATE TECHNICAL UNIVERSITY)

| Design of Architectural Environment | | | | | | | |
|---|---|---|---|---|---|---|---|
| **7. SEMESTER COURSES** | | | | | | | |
| **COURSE ID** | **COURSE TITLE** | **COMPULSORY** | **LECTURE** | **PRACTICE** | **LAB** | **CREDIT** | **ECTS** |
| 7.1 | Summer Practice | Internship (Putoff) | 0 | 6 | 0 | 0 | 5 |
| 7.2 | Urban Planning Project | Compulsory | 2 | 2 | 0 | 3 | 4 |
| 7.3 | Architectural Design VII | Compulsory | 2 | 7 | 0 | 5 | 9 |
| 7.4 | Computer modeling and visualization project in Autodesk Revit | Compulsory | 1 | 2 | 0 | 2 | 2 |
| 7.5 | Parametric modeling workshop Rhinoceros / Grasshoppe. Level one. | Compulsory | 1 | 2 | 0 | 2 | 2 |
| 7.6 | Building Installation | Compulsory | 1 | 2 | 0 | 2 | 2 |
| 7.7 | Elective | – | – | – | | | 12 |
| 7.7.1 | Elective Course I | – | – | – | | | |
| 7.7.2 | Elective Course II | – | – | – | | | |
| 7.7.3 | Elective Course III | – | – | – | | | |
| TOTAL ECTS: | | | | | | | 36 |

| 7. SEMESTER (Elective I) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **COURSE ID** | **COURSE TITLE** | **COMPULSORY** | **LECTURE** | **PRACTICE** | **LAB** | **CREDIT** | **ECTS** |
| 7.7.1.1 | History, theory and practice of architecture and urban planning in socialism period | Elective Course I | 2 | 0 | 0 | 2 | 2 |
| 7.7.1.2 | Socialistic Buildings in Magnitogorsk | Elective Course I | 2 | 0 | 0 | 2 | 2 |
| 7.7.1.3 | Architecture and construction of Magnitogorsk (1929–1990 years) | Elective Course I | 2 | 0 | 0 | 2 | 2 |
| 7.7.1.4 | Industrial Architecture of Southern Urals | Elective Course I | 2 | 0 | 0 | 2 | 2 |
| 7.7.1.5 | Contemporary architecture Magnitogorsk city (1991-present) | Elective Course I | 2 | 0 | 0 | 2 | 2 |
| 7.7.1.6 | CONTEMPRORARY ART Southern Urals | Elective Course I | 2 | 0 | 0 | 2 | 2 |

| 7. SEMESTER (Elective Course II) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **COURSE ID** | **COURSE TITLE** | **COMPULSORY** | **LECTURE** | **PRACTICE** | **LAB** | **CREDIT** | **ECTS** |
| 7.7.2.1 | Formation of tourist centre: international experience | Elective Course II | 2 | 0 | 0 | 2 | 2 |
| 7.7.2.2 | Design of tourist centres and complexes | Elective Course II | 1 | 2 | 0 | 2 | 3 |
| 7.7.2.3 | Formation of environment tourist centre for small towns and medium-sized cities | Elective Course II | 2 | 0 | 0 | 2 | 2 |
| 7.7.2.4 | Urban planning territories nanoCAD | Elective Course II | 1 | 2 | 0 | 2 | 3 |
| 7.7.2.5 | Typology of recreational and tourist complexes | Elective Course II | 2 | 0 | 0 | 2 | 2 |

| 7. SEMESTER (Elective Course III) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **COURSE ID** | **COURSE TITLE** | **COMPULSORY** | **LECTURE** | **PRACTICE** | **LAB** | **CREDIT** | **ECTS** |
| 7.7.3.1 | Computer modeling and visualization project in Autodesk Revit (mod. reconstruction / restoration) | Elective Course III | 1 | 2 | 0 | 2 | 3 |
| 7.7.3.2 | Architectural morphology and typology | Elective Course III | 2 | 0 | 0 | 2 | 2 |
| 7.7.3.3 | Method comparative study in architecture | Elective Course III | 2 | 0 | 0 | 2 | 2 |
| 7.7.3.4 | Southern Urals Fortified Settlements in 18th–16th Century BC | Elective Course III | 2 | 0 | 0 | 2 | 2 |
| 7.7.3.5 | World experience historical reconstruction of ancient architecture | Elective Course III | 2 | 1 | 0 | 2 | 3 |

| 8. SEMESTER COURSES | | | | | | | |
|---|---|---|---|---|---|---|---|
| COURSE ID | COURSE TITLE | COMPULSORY | LECTURE | PRACTICE | LAB | CREDIT | ECTS |
| 8.1 | Urbanism and Planning Legislation | Compulsory | 2 | 2 | 0 | 2 | 4 |
| 8.2 | Architectural Design VIII | Compulsory | 2 | 6 | 0 | 5 | 9 |
| 8.3 | Construction Economy and Management | Compulsory | 2 | 1 | 0 | 2 | 3 |
| 8.4 | Science Philosophy | Compulsory | 2 | 1 | 0 | 2 | 3 |
| 8.5 | Contemporary Architecture | Compulsory | 2 | 3 | 0 | 2 | 5 |
| 8.6 | Elective | Compulsory | 2 | 3 | 0 | 2 | 5 |
| 8.6.1 | Elective Course I | – | – | – | – | – | 12 |
| 8.6.2 | Elective Course II | – | – | – | – | – | |
| 8.6.3 | Elective Course III | – | – | – | – | – | |
| | Total ECTS: | | | | | | 36 |

| 8. SEMESTER (Elective I) | | | | | | | |
|---|---|---|---|---|---|---|---|
| COURSE ID | COURSE TITLE | COMPULSORY | LECTURE | PRACTICE | LAB | CREDIT | ECTS |
| 8.6.1.1 | Conservation of Wall Painting and Mosaics | Elective Course | 2 | 0 | 0 | 2 | 2 |
| 8.6.1.2 | Conservation in Museums | Elective Course | 2 | 0 | 0 | 2 | 2 |
| 8.6.1.3 | New Buildings in Historical Environments | Elective Course | 2 | 0 | 0 | 2 | 2 |
| 8.6.1.4 | Revitalization industrial buildings | Elective Course | 2 | 0 | 0 | 2 | 2 |
| 8.6.1.5 | Competitive Project in specialization | Elective Course | 2 | 0 | 0 | 2 | 2 |
| 8.6.1.6 | Portfolio Design in specialization | Elective Course | 2 | 0 | 0 | 2 | 2 |

| 8. SEMESTER (Elective Course II) | | | | | | | |
|---|---|---|---|---|---|---|---|
| COURSE ID | COURSE TITLE | COMPULSORY | LECTURE | PRACTICE | LAB | CREDIT | ECTS |
| 8.6.2.1 | Building and planning Programming for tourist centres | Elective Course II | 1 | 2 | 0 | 2 | 3 |
| 8.6.2.2 | Landscape Planning | Elective Course II | 2 | 0 | 0 | 2 | 2 |
| 8.6.2.3 | Routing visual navigation for tourist centres | Elective Course II | 2 | 0 | 0 | 2 | 3 |
| 8.6.2.4 | Competitive Project in specialization | Elective Course II | 2 | 0 | 0 | 2 | 2 |
| 8.6.2.5 | Portfolio Design in specialization | Elective Course II | 0 | 2 | 0 | 2 | 2 |

| 8. SEMESTER (Elective Course III) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **COURSE ID** | **COURSE TITLE** | **COMPULSORY** | **LECTURE** | **PRACTICE** | **LAB** | **CREDIT** | **ECTS** |
| 8.6.3.1 | Conservation and revitalization dilapidated buildings | Elective Course III | 2 | 1 | 0 | 2 | 3 |
| MIM460 | Antiquity Cities | Elective Course II | 2 | 0 | 0 | 2 | 2 |
| MIM450 | Protection not urban heritage | Elective Course III | 2 | 1 | 0 | 2 | 3 |
| 8.6.2.4 | Competitive Project in specialization (Project In Studio) | Elective Course III | 0 | 2 | 0 | 2 | 2 |
| 8.6.2.5 | Portfolio Presentation (In Studio) | Elective Course III | 0 | 2 | 0 | 2 | 2 |

| Course Schedule | |
|---|---|
| **1st Week:** | Formation of tourist centre: international experience |
| **2nd Week:** | Formation of environment tourist centre for small towns and medium-sized cities |
| **3rd Week:** | Design of tourist centres and complexes |
| **4th Week:** | Design of tourist centres and complexes (Project) |
| **5th Week:** | Typology of recreational and tourist complexes |
| **6th Week:** | Urban planning territories nanoCAD |
| **7th Week:** | Urban planning territories nanoCAD |
| **8th Week:** | Midterm exam |
| **9th Week:** | Landscape Planning |
| **10th Week:** | Building and planning Programming for tourist centres |
| **11th Week:** | Building and planning Programming for tourist centres |
| **12th Week:** | Routing visual navigation for tourist centres |
| **13th Week:** | Routing visual navigation for tourist centres |
| **14th Week:** | Competitive Project in specialization (Project In Studio) |
| **15th Week:** | Portfolio Presentation (In Studio) |
| **16th Week:** | Final Exam |
| **17th Week:** | Final Exam |

## 8. RUSSIA (ST. PETERSBURG UNIVERSITY OF CULTURE)

**Course: SPBGIK – "Cultural heritage goods description and analysis"**

Lectures – 18 hours, practice classes – 36 hours

**The course purpose and scope** heritage study skills practical development, as well as of the ability to identify aesthetic, artistic, documentary, historic, scientific, spiritual, religious significance of cultural heritage goods.

**Course: SPBGIK – «Authentication and expert study of the pieces of applied art and painting»**

Lectures – 36 hours, 72 practice classes

**The course purpose and scope:** familiarization with contemporary diagnostics methods and material engineering analysis, teaching how to generalize the received results of the physicochemical research of the materials of the monuments and chose the appropriate, scientifically justified restoration methods; the development of comparative and stylistic analysis skills and interdisciplinary research skills within the framework of diagnostic and heritage studies.

**Course: SPBGIK «Legal foundation for monuments and sites reconstruction, re-creation and protection»**

Lectures – 14 hours, practice classes – 28 hours

**The course purpose and scope:** studies of the basic legal acts, regulating cultural heritage restoration, reconstruction and protection sphere activities in the Russian Federation, which are necessary to know for a contemporary expert in the sphere of heritage goods restoration and protection.

**Course: SPBGIK – «Scientific and methodological basis for the cultural heritage protection»**

Lectures – 18 hours, practice classes – 36 hours.

**The course purpose and scope:** study of the heritage sites and monuments types and kinds of groups and subgroups system; of the methods of the cultural heritage study and its criteria, of the formats of the Heritage Sites and Monuments State Register, basic principles of heritage sites and monuments documentation.

**Course: SPBGIK – «Stocks/funds/collections and restoration documentation»**

Lectures – 18 hours, practice classes 36 hours

**The course purpose and scope:** study of the stocks/funds/collections and restoration special documentation features, museum, archives, libraries stocks/funds/collections special features, ability to work with published and unpublished resources in settling professional decisions, basic practical skills of maintaining special stocks/funds/collections /restoration documentation.

**Course: SPBGIK – «International cultural heritage protection system»**

Lectures – 18 hours, practice classes – 18 hours

**The course purpose and scope:** the study of the history and work of the international organizations, involved into the heritage protection; study of the international legal norms and rules on the intergovernmental cooperation in preserving and use of cultural heritage, the study of international events, aimed at preventing monuments and sites from decay, destruction, burglary both in time war and peace and securing favourable conditions for international cultural values exchange.

## 9. BULGARIA (UNIVERSITY OF ARCHITECTURE CIVIL ENGINEERING AND GEODESY)

**Course: Preservation of Architectural Heritage**

ЕВРОПЕЙСКА СИСТЕМА ЗА ТРАНСФЕР НА КРЕДИТНИ ЕДИНИЦИ (ECTS) ИНФОРМАЦИОНЕН ПАКЕТ — EUROPEAN CREDIT TRANSFER SYSTEM (ECTS) INFORMATION PACKAGE

**IX семестър Профилиращо ниво** — **Semester IX Specialization level**

**Архитектура - Опазване на архитектурното наследство** — **Architecture - Preservation of Architectural Heritage**

| Идент.No на курса / Course Id | Сигнатура / Code | Учебна дисциплина | лек. / lect | упр. / sem | Л+У / L+S | самост/практ. / self pr. | Обща заетост / Total | ECTS | оценяване assess-ment (^) | Subject | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ■ **Задължителни курсове** | | | | | | | | | | | **Compulsory courses** |
| 013.06.1 | **PAHSCbCSA** | Опазване на архитектурното наследство - специализиран курс | 30 | | **30** | **90** | **120** | **4** | и(е) | Preservation of Architectural Heritage - Specialized Course | *spec. module* |
| 013.06.2 | **PAHP1bCSA** | Опазване на архитектурното наследство - I преддипломен проект | | 120 | **120** | **120** | **240** | **8** | зп(рр) | Preservation of Architectural Heritage - Pre - Diploma Project I | *spec. module* |
| 013.06.3 | **PHSP3bCSA** | Опазване на исторически селища и райони - преддипломен проект | | 90 | **90** | **90** | **180** | **6** | зп(рр) | Preservation of Historical Settlements and Regions - Pre - Diploma Project | *spec. module* |
| 070.00 | **MUPAbCBA** | Управление в градоустройството и архитектурата | 30 | | **30** | **30** | **60** | **2** | то(с) | Management in Urban Planning and Architecture | |
| 071.00 | **SOCAbCBA** | Социология на архитектурата | 30 | | **30** | **30** | **60** | **2** | и(е) | Sociology of Architecture | |
| 072.00 | **OCbCBA** | Организация на строителството | 30 | | **30** | **30** | **60** | **2** | и(е) | Organization of Construction | |
| *Общо студентско натоварване и кредити за семестъра от задължителни курсове* | | | 120 | 210 | 330 | 390 | 720 | 24 | | *Total students' workload and credits per semester from cumpulsory courses* | |
| ■ **Задължителни курсове ( по дисциплина по избор )** | | | | | | | | | | | **Compulsory courses ( on subject by student's choice )** |
| 010.00 | | Дисциплини по избор - IX семестър | 45 | 45 | **90** | **90** | **180** | **6** | | Elective disciplines - semester IX | *3 by choice >* |
| **ОБЩО** | | | 165 | 255 | 420 | **480** | **900** | **30.0** | | | **TOTAL** |

**Легенда:** (+) Кредитните точки от факултативните курсове се прибавят към сумата от задължителните — (+) Add credits of facultative courses to the sum of credits of compulsory course **Legend**

(^) Оценяване/Assessment: и(е)-изпит/exam; ито(с+е)-изпит+текуща оценка/continuous&examination; зп(рр)-защита на проект/project presentation; з(р/f)-зачот/pass/fail; то(с)-текуща оценка/continuous assessment; (>) продължава/continu

**IX семестър Профилиращо ниво** **Semester IX Specialization level**

**Архитектура - Опазване на архитектурното наследство** **Architecture - Preservation of Architectural Heritage**

| Идент.No на курса Course Id | Сигнатура Code | Учебна дисциплина | лек. lect | упр. sem | Л+У L+S | самост/практ. self pr. | Обща заетост Total | ECTS | оценяване access-ment (^) | Subject | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ■ **Избираеми курсове** | | | | | | | | | | | **Elective courses** |
| 010.00 | | Дисциплини по избор - IX семестър | | | | | | | | Elective disciplines - semester IX | > |
| 010.01' | **ECOUPbESA** | Екология в териториално - селищното устройство и архитектурата | 30 | | **30** | **30** | | **2** | и(e) | Regional and Urban Planning and Architecture Ecology | |
| 010.02' | **AECbESA** | Архитектура на инженерните съоръжения | 30 | | **30** | **30** | | **2** | и(e) | Architecture of Engineering Constructions | |
| 010.04' | **TARbESA** | Теория на архитектурата | 30 | | **30** | **30** | | **2** | и(e) | Theory of Architecture | |
| 010.05' | **CANbESA** | Културна антропология на града | 30 | | **30** | **30** | | **2** | и(e) | Cultural Anthropology | |
| 010.06' | **PAHbESA** | Опазване на архитектурното наследство | 30 | | **30** | **30** | | **2** | и(e) | Preservation of Architectural Heritage | |
| 010.10' | **EEBPbESA** | Енергоефективно поведение на сградите | 15 | 15 | **30** | **30** | | **2** | то(c) | Energy Efficient Building Performance | |
| 010.12' | **ARLbESA** | Архитектурно осветление | 15 | 15 | **30** | **30** | | **2** | и(e) | Lighting in Architecture | |
| 010.16' | **REGPPbESA** | Регионално планиране - проект | | 30 | **30** | **30** | | **2** | то(c) | Regional Planning - Project | |
| 010.21' | **SARbESA** | Устойчива архитектура на сградите | 30 | | **30** | **30** | | **2** | и(e) | Sustainable Architecture | |
| 010.22' | **CIAMMbESA** | Съвременни изображения, архитектурни медии и модели | 30 | | **30** | **30** | | **2** | и(e) | Contemporary Images, Architectural Media and Models | |
| 011.01 | RBLKSLbEBA | Жилищни сгради - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Residential Buildings - Specialized Course | · |
| 011.02 | PBLKSLbEBA | Обществени сгради - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Public Buildings - Specialized Course | · |
| 011.03 | IBLKSLbEBA | Промишлени /аграрни/ сгради - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Industrial (or Agrarian) Buildings - Specialized Course | · |
| 011.04 | INTSCbEBA | Интериор - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Interior - Specialized Course | · |
| 011.05 | DASCbEBA | Дизайн за архитектурата - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Industrial Design for Architects - Specialized Course | · |
| 011.06 | ASSCbEBA | Архитектурни конструкции - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Architectural Structures - Specialized Course | · |
| 011.07 | BRSCbEBA | Реконструкция на сгради - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Buildings Reconstruction - Specialized Course | · |
| ■ **(+) Факултативни курсове** | | | | | | | | | | | **(+) Free choice courses (optional)** |
| 012.01' | **AIT3bFSA** | Специализирани компютърни технологии | 15 | 15 | **30** | **30** | | **2** | то(c) | Advanced Information Technologies | |
| 012.02 | **CAAbFSA** | Съвременна американска архитектура | 30 | | **30** | **30** | | **2** | то(c) | Contemporary American Architecture | |

**Легенда:** (+) Кредитните точки от факултативните курсове се прибавят към сумата от задължителните (+) Add credits of facultative courses to the sum of credits of compulsory course **Legend**

(^) Оценяване/Assessment: и(e)-изпит/exam; ито(c+e)-изпит+текуща оценка/continuous&examination; зп(pp)-защита на проект/project presentation; з(p/f)-зачот/pass/fail; то(c)-текуща оценка/continuous assessment; (>) продължава/continu

ЕВРОПЕЙСКА СИСТЕМА ЗА ТРАНСФЕР НА КРЕДИТНИ ЕДИНИЦИ (ECTS) ИНФОРМАЦИОНЕН ПАКЕТ — EUROPEAN CREDIT TRANSFER SYSTEM (ECTS) INFORMATION PACKAGE

**X семестър Профилиращо ниво** — **Semester X Specialization level**

**Архитектура - Опазване на архитектурното наследство** — **Architecture - Preservation of Architectural Heritage**

| Идент.No на курса / Course Id | Сигнатура / Code | Учебна дисциплина | лек. / lect | упр. / sem | Л+У / L+S | самост/практ. / self pr. | Обща заетост / Total | ECTS | оценяване access-ment (^) | Subject | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **■ Задължителни курсове** | | | | | | | | | | | **Compulsory courses** |
| 013.06.4 | **AHCSCbCSA** | Архитектура и исторически контекст | 30 | | **30** | **60** | **90** | **3** | и(e) | Architecture and Historical Context | *spec. module* |
| 013.06.5 | **RAMSCbCSA** | Реставрация на архитектурните паметници - специализиран курс | 30 | | **30** | **60** | **90** | **3** | и(e) | Restoration of Architectural Monuments - Special Course | *spec. module* |
| 013.06.6 | **RAMP2bCSA** | Реставрация на архитектурните паметници - преддипломен проект | | 90 | **90** | **150** | **240** | **8** | зп(pp) | Restoration of Architectural Monuments - Pre - Diploma Project | *spec. module* |
| 013.06.7 | **BHCP4bCBA** | Сгради в исторически контекст - преддипломен проект | | 120 | **120** | **120** | **240** | **8** | зп(pp) | Buildings in Historical Context Pre - Diploma Project | *spec. module* |
| *Общо студентско натоварване и кредити за семестъра от задължителни курсове* | | | 60 | 210 | 270 | 390 | 660 | 22 | | *Total students' workload and credits per semester from cumpulsory courses* | |
| **■ Задължителни курсове ( по дисциплина по избор )** | | | | | | | | | | | **Compulsory courses ( on subject by student's choice )** |
| 010.00 | | Дисциплина по избор | 15 | 15 | **30** | **30** | **60** | **2** | | Elective discipline | *1 by choice >* |
| **■ Практически занятия или извънсеместриални курсове** | | | | | | | | | | | **Practical work or additional courses** |
| 014.05 | **PDPRbCPA** | Преддипломна практика по профил | | | | **180** | **180** | **6** | з(p/f) | Pre Diploma Field Practice | *5 weeks* |
| **ОБЩО** | | | 75 | 225 | 300 | **600** | **900** | **30.0** | | | **TOTAL** |
| **■ Избираеми курсове** | | | | | | | | | | | **Elective courses** |
| 010.00 | | Дисциплини по избор - X семестър | | | | | | | | Elective disciplines - semester X | |
| 010.03* | **CARRbESA** | Съвременни архитектурни явления | 15 | 15 | **30** | **30** | | **2** | и(e) | Contemporary Architecture | |
| 010.09* | **PRPAbESA** | Практикуване на професията "Архитект" | 15 | 15 | **30** | **30** | | **2** | и(e) | Practicing the Architectural Profession | |
| 010.10* | EEBPbESA | Енергоефективно поведение на сградите | 15 | 15 | **30** | **30** | | **2** | то(c) | Energy Efficient Building Performance | |
| 010.11* | **EPSDbESA** | Политика за опазване на околната среда и устойчиво развитие | 15 | 15 | **30** | **30** | | **2** | и(e) | Environmental Protection Policy and Sustainable Development | |
| 010.13* | **COLAbESA** | Цветът в архитектурата | 15 | 15 | **30** | **30** | | **2** | и(e) | Colour in Architecture | |
| 010.14* | **HHRBbESA** | История на високите сгради | 15 | 15 | **30** | **30** | | **2** | и(e) | History of High Rise Buildings | |
| 010.16* | **REGPPbESA** | Регионално планиране - проект | | 30 | **30** | **30** | | **2** | то(c) | Regional Planning - Project | |
| 010.17* | **AANbESA** | Архитектурна антропология | 15 | 15 | **30** | **30** | | **2** | и(e) | Arhitectural Anthropology | |
| 010.19* | **SOLAbESA** | Слънчева архитектура | 15 | 15 | **30** | **30** | | **2** | и(e) | Solar Architecture | |
| 010.20* | ARACbESA | Архитектурна акустика | 15 | 15 | **30** | **30** | | **2** | и(e) | Architectural Acoustics | |
| 010.22* | **CIAMMbEBA** | Съвременни изображения, архитектурни медии и модели | 15 | 15 | **30** | **30** | | **2** | и(e) | Contemporary Images, Architectural Media and Models | |
| 010.23* | URBSCbEBA | Градоустройство - специализиран курс | 30 | | **30** | **30** | | **2** | и(e) | Urban Planning - Specialized Course | . |

**Легенда:** (+) Кредитните точки от факултативните курсове се прибавят към сумата от задължителните — (+) Add credits of facultative courses to the sum of credits of compulsory course **Legend**

(^) Оценяване/Assessment: и(e)-изпит/exam; ито(c+e)-изпит+текуща оценка/continuous&examination; зп(pp)-защита на проект/project presentation; з(p/f)-зачот/pass/fail; то(c)-текуща оценка/continuous assessment; (>) продължава/contin

**X семестър Профилиращо ниво** **Semester X Specialization level**

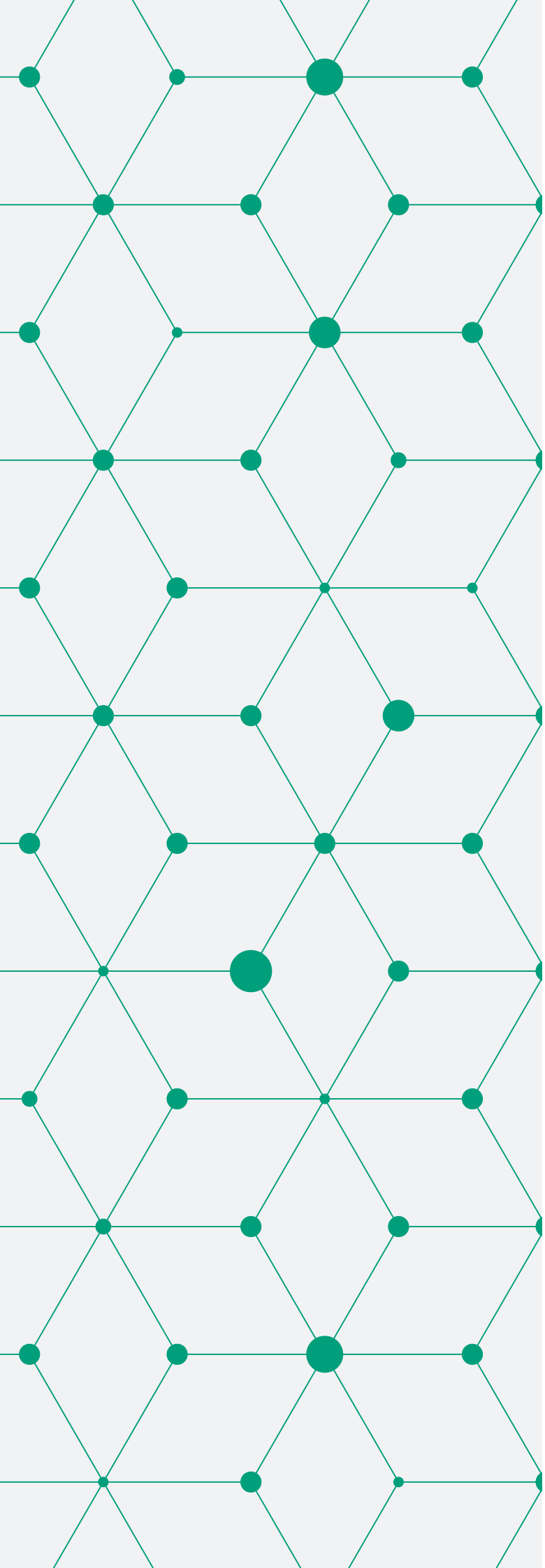
**Архитектура - Опазване на архитектурното наследство** **Architecture - Preservation of Architectural Heritage**

| Идент.No на курса Course Id | Сигнатура Code | Учебна дисциплина | лек. lect | упр. sem | Л+У L+S | самост/ практ. self pr. | Обща заетост Total | ECTS | оценяване access-ment (^) | Subject | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ■ (+) Факултативни курсове | | | | | | | | | | | (+) Free choice courses (optional) |
| 012.01'' | **AIT3bFSA** | Специализирани компютърни технологии | 15 | 15 | **30** | **30** | | **2** | то(с) | Advanced Information Technologies | |



**Легенда:** (+) Кредитните точки от факултативните курсове се прибавят към сумата от задължителните (+) Add credits of facultative courses to the sum of credits of compulsory course **Legend**

(^) Оценяване/Assessment: и(е)-изпит/exam; ито(с+е)-изпит+текуща оценка/continuous&examination; зп(рр)-защита на проект/project presentation; з(р/f)-зачот/pass/fail; то(с)-текуща оценка/continuous assessment; (>) продължава/continu



# 06

# THE TEACHING OF HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES IN EMILIA-ROMAGNA

MASSIMILIANO CASAVECCHIA, CINZIA CORTESI

## INTRODUCTION

### STRUCTURE OF THE REPORT

The report is divided into three parts: introduction, questions, conclusions. The first part contains information about the purpose and structure of the report, the survey methodology and the profile of those who filled out questionnaires.

The second part shows questions and answers deduced from it, concerning different qualifications and skills required from architects by the world of work; the purpose is to find an employment to those who wants to have a career in heritage protection and urban revitalization. The answers – listed below to the questions – belong to professionals who come from the same world of work, in order to make a comparison: building contractors, engineering firms, utility companies, local authorities, etc.

The third and last part contains conclusions, preceded by general considerations required to understand the complexity of the context, followed by critical evaluation of resulting data. Finallyit contains courses programs and teaching models.

### OBSERVATION FIELD

As for a methodological point of view, it was preliminarily identified as an observation field - represented by the all world between builders - in which architecture/engineering graduates could find many job opportunities. Different entities were scrupulously considered: Universities, local authorities that regulate processes and finance interventions (municipality and superintendents to artistic heritage), architecture and engineering firms for project development and implementation, building contractors belonging to the industry system. Private and individual studios and artisans companies were left out on purpose, not to consider sufficiently structured to provide adequate answers to themes concerned and not significant in terms of absorption of new specialized figures. It is important to remark the fact that nowadays the job market in general, but even more the one that works with the subject of heritage protection and urban revitalization, looks for highly specialized skills, a higher level that could not necessarily be satisfied by single professional or artisan dimensions. It is relevant to say that recovery operations should not, however, be confused with the revitalization process, that involves many other means and actions.

## REFERENCES

Almost twenty builders were selected for the observation field, especially among small-medium industries: big local companies were difficult to be traced in addition to the fact that they are much more interested in the infrastructure sector. Furthermore, following people were also involved: two university references specialized in architecture and engineering, three municipalities and two superintendents to the fine arts.

## QUESTIONNAIRE STRUCTURE

The questionnaire asks four questions in which the participant could write the answers fully free to the formulation. The advantage is to grant greater freedom of expression, but the disadvantage is that the answer is difficult to subsequently classify into predetermined categories. This created, encoding problems, because some responses were generic or imprecise.

## CONTENTS AND FORM OF THE QUESTIONS

In relation to the content of the questions, replies were obviously influenced by provided suggestions and by the different specific backgrounds they come from (builder, technical director, administrative officer, engineer, architect, commercial – administrative, etc.). A positive aspect is to have many different points of views because a single interviewer could have given distorted answers: it can be directed to the uniqueness of the case or be unprepared, because it does not have necessary information or has never reflected in it. Another major topic is the misunderstanding of the terms “rehabilitation” and “revitalization”: they are translated in Italian with idioms that causes confusion within the difficult work that involves huge parts of the urban structure and considers a social issue with a simple restoration work and existing requalification.

## RECOGNITION POLICY

Three different methods were used to detect data by questionnaires.

- One-to-one interviews;
- Telephone interviews: necessary to those that were not received before deadline;
- Self-compiled questionnaires: the ones who compiled it without interviewer’s involvement;
- Apart from the answering phase, the questionnaire has been sent previously and the aim explained, clarifying question issues.
- In addition to the one-to-one interviews, also group surveys were conducted with the presence of an operator who has assisted document drawing up.

## ORGANIZATION AND SURVEY RESULTS

Survey process has been planned into several stages, in order to collect as much data as possible regarding the subject. Some employees have been qualified to distribute and retrieve questionnaires, providing all basic information useful to compile it. Employers have been “tested” compiling previously the questionnaire so that to comply the aim of the project. Firstly, a preliminary ascertainment has been conducted to collect people’s willingness to participate ; then, special interviews have been conducted in order to analyze this whole issue and put together complete answers. The most delicate phase of the interview has been the one in which interviewers had to decide whether to they would collaborate or not. Questionnaires have been translated into Italian and has been guaranteed anonymity in order to obtain the best answers. Finally, fourteen responses have been edited (30 questionnaires have been delivered): two local authorities (a municipality and a superintendence), two Universities (university professors from different Universities), two engineering firms and eight building contractors.

# PART II

## Determination of the qualifications and skills required in working with heritage protection and urban rehabilitation/in light of the practical experience/ / based on the information gathered in the Questionnaires – Part I/

### 2.1. WHAT ISSUES/PROBLEMS RELATED TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES SHOULD BE TAUGHT ON ARCHITECTURAL STUDIES?

Italian Universities are well recognized in restoration and heritage protection abroad.

However, it is seen that young architects, once graduated, face problems working in the early instances because of the difference between theory and practice.

Local entities, university professors, building contractors, engineers and architects, in fact, agree on some issues that might be taught in order to fill these gaps and improve university education.

First of all teaching activities should be conformed to the acquisition of the basic principles for the knowledge, protection and preservation of the assets that make up the historical and artistic heritage, cultural and technological aspects of our architectural memory, with historical and critical awareness and adequate technical expertise. The primary aim should be the determination of the methods of investigation on the architectural texts in order to set up and carry out the design of interventions to preserve and pass on the existing architectural and cultural heritage, to estimate its actual value starting by their relation with the past and not to assume the indiscriminate conservation.

To do that it is important that students should have great knowledge of:

- history of architecture and urban history;
- critical and basic techniques for architectural and urban surveys;
- relation between pre-existing and new buildings;
- urban regeneration processes, implementation tools and financial support;
- conservation and restoration/rehabilitation theories;
- state of conservation analysis.
- basic legislation about artistic heritage protection and authorization procedures;
- basic legislation about building and planning procedures and authorization procedures;
- basics archaeology and in particular of archaeological emergency;
- reconstruction principles of those architectural and artistic elements compromised by environmental or accidental events;
- materials and techniques for the restoration and consolidation of historical buildings, also the latest in reinforced concrete;
- economical evaluation of projects starting from the construction of a business plan until the drafting of quantities;
- energy efficiency;
- fire prevention.

Then, a significant aspect is to practice and improve the profession before graduation, attending at least once to:

- workshops;
- internships at companies.

It allows graduate students to enter the world of work in a better way, with much more practice knowledge, both in design and in building-law so that it is clearly defined what kind of work is possible to be realized.

## 2.2. WHAT QUALIFICATIONS SHOULD THE ARCHITECTS HAVE IN THE FIELD OF HERITAGE PROTECTION AND REVITALIZATION HISTORICAL CITIES?

Architects and engineers should first know how to critically evaluate the value and state of preservation of artefacts and historical centres. Highlighting, then, as frequently seen that in Italy engineers and architects are not able to collaborate and keep in mind what competes to a figure rather than another (thus creating different problems), it would be helpful if the two professional formations were really specialized in the direction of their own discipline and not claiming to be able to satisfy the needs of both formal and structural in every detail. Obviously, though, both must have basic knowledge in the respective scope. Furthermore, in addition to the collaboration architect-engineer, a thorough knowledge of the object of intervention is required to get a good result of work: to do that, it is necessary to gather as much information useful to the critical understanding of the artefact. The cooperation should also take place with specialists from other disciplines, such as archaeologists, geologists, cartographers, etc., in the preliminary design phase, and with builders and specialized building contractors in the execution phase.

As a result of above mentioned statements, professionals must develop a critical thought in order to assess the state of manufactures, in terms of structural conditions, potential value, historic dating, starting from a good preliminary analysis.

To do that it would be appreciated if students manage to learn the following methods, principles and software:

- knowledge of specific 3D programs;
- knowledge of specific BIM programs;
- knowledge of specific computing programs (ACCA primus);
- knowledge of specific programs and tools for architectural surveys;
- ability to detect and manually represent parts or entire buildings;
- ability to evaluate the technical conditions on buildings;
- critical ability to analyze historical values of a particular building to understand construction techniques used;
- ability to analyze also the intervention from a social and economic point of view;
- knowledge of ancient restoration techniques and of those for the restoration of modern buildings;
- ability to coordinate a working group made up of specialized professionals.

## 2.3. CHARACTERISTICS OF THE GENERAL APPROACH TO HERITAGE PROTECTION AND REVITALIZATION OF HISTORICAL CITIES, WHICH SHOULD BE TAUGHT AT THE FACULTIES OF ARCHITECTURE

The attitude towards the heritage protection, industrial archaeology, rather than the revitalization of historic town centres is different according to the European countries, in continuing with cultural traditions that are often different.

Tendency in Italy -a country where history, tradition and memory are highly influential- is to store every single artefact without regarding its real value. However, nowadays, this is not at all the correct position to assume: passive musealization may have been considered just a collector's act, archival, where quantity overwhelm quality. Fortunately, the modern trend is to follow a thought much more similar to Paul Valery's. In one of his texts (*Le problème des Musées*, Œuvres, Paris, Pleiade II, pp. 1290 ff.) he wrote: *"I do not like too much museums. There are admirable, but no one is delicious. The classification ideas, conservation and public utilities, which are fair and clear, have few relationships with delights."* Quality must prevail over quantity: it is important to study, analyse and understand whether a ruin, an archaeology rest (underground or uncovered, outdoor or indoor), an artefact in good condition. Consequently it is necessary to develop a critical thought, in order to be able to determine which is the most appropriate intervention to do, while respecting the manufacture: it is not just an executive matter, but also how to protect and revitalize it, once restored distinguishing the elements that are positively considered to remain as a testimony for the collective memory and what can be replaced. Franco Minissi supports active museums and musealization, based on educational and didactic methods: the same attitude should be used for this type of intervention. Not necessarily all buildings must be preserved, as well as should not be demolished and rebuilt totally forgetting what was there before and

changing the urban composition. Constructions may have been reused, changed them function, just maintaining the façade but making use of alternative elements, but keeping in mind the relationship between old and new. Similarly, it can be thought for the cities: changes are required - also adapting to contemporary needs - but always keeping in mind composition principles that generated it. Urban spaces can be filled to mend the urban fabric, not necessarily through physical constructions, but perhaps by the use of greenways and parks. Future architects and engineers are to be taught in this way: the protection heritage and revitalization of historic town centres will be an increasingly essential topic, because cities are going to be filled and retrained, responding to impoverished, abandoned and unused areas, rather than expanding in new ones.

Besides, a great sensitivity for beauty is strongly required to intervene in historic centres. Beauty is not a topic considered in universities because it is considered as a reactionary topic: the current design culture is overwhelmed by modernity, which is considered without giving importance to the context.

It is necessary to study history, from antiquity to the modern, considering this aspect not as the solution to all problems, but as the problem to be solved.

Three important and modern attitudes are the new, appropriate ways of approaching to heritage protection and revitalization of historic centres:

- going over the traditional approach, that recognizes the primacy of heritage protection over contemporary needs;
- adopting a critical evaluation (case by case) to operate in procedures such as the reconstruction and the restoration;
- positively evaluating the eligibility of large interventions in historic centres considered as a continuation of their development, distinguishing what should remain as testimony for the collective memory, and what may instead be replaced.

To do that, Faculties of Architecture need to prepare students in following aspects:

- to define the state of conservation, thanks to inspections and analysis;
- to implement a complex of direct and indirect actions to limit degradation processes of the materials involved and ensure their preservation, safeguarding the cultural value;
- to research documentation and archiving as a support for design and restoration works;
- to analyse and elaborate data related to the constituent materials, the technique of execution and the state of conservation of the goods;
- to plan direct interventions;
- to do thorough conservation and restoration works;
- to direct and coordinate external operators engaged in complementary activities for restoring;
- to perform research, testing and teaching in the field of conservation and restoration;
- to control the physical and environmental conditions of artefacts and artworks.

## 2.4. OTHER POSITIVE AND NEGATIVE REMARKS ON CURRENT EDUCATION OF ARCHITECTS AND THEIR ATTITUDE TO HERITAGE PROTECTION AND REVITALISATION OF HISTORICAL CITIES

Protection and revitalization of historic town centres is a relevant topic – in order to avoid compromising all those characteristics of community values – representing a possible future development, considering also damages, destructions, neglect and abandonments, caused by natural disasters (e.g.: floods or earthquakes such as those that has recently hit the inland areas of central Italy).

Give back vitality to abandoned or damaged historic town centres represents a sustainable development that could create new possibilities of work related to the use of sites for tourism and cultural purposes, to their temporary use in congressional purpose and/or for shows/events, etc.

However, architect and engineer training, particularly in the Italian context - characterized by a strong historical identity – strongly turns towards the unconditional protection of the heritage, constituting a limit for the development of the city.

In fact, it frequently happens that university teachings separate the more theoretical aspect to the practical ones causing some problems:

- lack of depth study on the issues of urban regeneration;
- lack of knowledge of the revitalisation principles in historical towns in addition to the process of urban regeneration;
- superficial or partial knowledge of history of architecture, especially about the contemporary experience;
- excessive respect towards historical architecture, without having a critical capacity to recognize the real value of buildings and the process that leads to a redevelopment;
- a general positive attitude towards the heritage protection, looking for its real value, but in an extreme conservative way.

On the contrary, a more systematic training program should have been proposed: especially focused on heritage protection, it might include much more modern and specific courses with the aim of preparing students to be able to know and control the timing of intervention and the final cost, in order to realize a project as complete as possible:

- museum design;
- interior design;
- history of contemporary architecture;
- history of art;
- aesthetic theories;
- knowledge of social issues;
- economical evaluation of projects.

# CONCLUSIONS

To interpret all data collected in the questionnaires, it is necessary to carry out some preliminary considerations. Some of these are related to the continuation, at least in Italy, of the construction industry crisis that has generated little interest in a questionnaire oriented to the formation of people who may not be included in the workforce for years.

Others are related to the structure of degree programs in Italy, so that some of the participants explicitly refer to the position of the architect-engineer that are now operating in the construction field, even with a diversified (or at least hoped to be so) kind of education.

Others clarify the term "regeneration", which is clearly considered in the Italian Legislative orientation, in the particular one of the Emilia Romagna Region and in the collective consciousness.

## The construction industry in Emilia Romagna

Talking about the construction sector, it has been lost in the region Emilia Romagna, 64 billion Euros of investments from 2008 to 2014, over 10 thousand companies have failed, with the consequence of losing about 31 thousand jobs. In 2015, the bleeding partially stopped and in 2016 confirmed the perception of a situation which tends to stabilize. Bureaucracy complexity and the lack of finances are not creating many prospects for a revival of the sector.

Social partners are dialoguing with the Region Entities, with a dual goal: to quickly rewrite the planning rules and the land use in a simple and clear way, pointing to the energy and seismic upgrading of buildings and to immediately unlock public investment, giving priority to interventions against hydro geological problems. These are extremely pragmatic purposes for entrepreneurs, concerned that the sector is worth 10% of the national GDP and rises to 25% with the economic related; if the crises doesn't stop we could not talk about economic recovery.

Some signs of recovery come from sales (very limited) and from housing loans to households, but it is still far to imagine being able to take the opportunity given by the processes of urban regeneration. There is too much unsold and construction sites are stopped.

The recent survey on the economic situation in 2015 about the construction signed by Unioncamere Emilia-Romagna confirms the stop of the decay, with a + 1.9% in the turnover of the sector - first positive sign since 2007 - despite a further outflow from the sector of other 1,552 companies in the region. The real driving force can only come from the departure of the large infrastructure projects on the Via Emilia, form the Cispadana to the Modena-Sassuolo, from the Passante of Bologna to Ferrara by the sea; the theme concerning buildings and constructions is still far away.

## The protection of historic centres between conservation and innovation

The theme of the recovery of historic centers has always been characterized by the basic dualism of the investigative perspective: on one hand conservation needs of ancient contexts, which are the origin of current cities; on the other hand innovation is required, dictated by the search of new forms of expression in architecture. In the debate over the opposing meanings between "conservation" or "innovation", is now barren and obsolete, the urban culture is moving towards the need of new rules or solutions, preferably specific, to deal with countless and sometimes complex problems of "old towns" or rather of the "built", passing from the conceptual base of "recovery", "redevelopment", "revitalization", to the "regeneration" of the existing buildings. Reasons that have been given to raise this debate includes also large abandoned parts of post-industrial cities, buildings that have lost their original function - situated in the town centre - and, constructions raised up after the Second World War - considered inadequate and unsustainable nowadays - which are confronted with the fear that the "new" overwhelms the identity traces of our past, reflecting on the purely abstract reality and arbitrary models.

Starting from this position - to which contribute almost all the forces involved, but in particular local authorities and superintendents - it still seems to emerge one

strong approach, long theorized, where the new stands in dialogue with the past to build contemporary cities.

The lack of courage, however, could be exceeded from the rapid succession of the events; so much that, while discussing the model and how to operate, may arise the possibility that the good itself, worthy of protection, loses its physical characteristic. This is dramatically happening in the areas devastated by the earthquake in Emilia Romagna and in Abruzzo and Molise.

Priorities imposed by the current situation require research and verification of potential and critical issues regarding the building laws currently available, to start a new development of those cities that passes necessarily by the analysis of the built to evaluate their potential characteristics in terms of urban regeneration, where "old" and "new" take a decisive role to reaffirm the cultural continuity with the past and the ability of a contemporary culture to represent itself with the use and shapes of buildings (whether existing or newly built), within an urban and deconstructed context, denser, not only physically but also ideologically, sustainable from an environmental perspective, but especially qualified from the social point of view. Topics that need to be examined are related to manners and techniques that deal with postponed interventions, responding to the theme of protection, without closing to a significant development, also in economic and social terms, but in respect of the real identity of the goods, if only this quality emerges from a critical analysis and not only from a temporal condition.

On the contrary to what written above, prospects of restoration of historic centres are now blocked by a complex, abundant and ineffective regulatory legislation, by the private economic and financial commitment and by an apparent respect of the morphological and typological characters of the urban settlement, often erased by inappropriate interventions.

As for it, the quality of the operators (municipal technical engineers-architects, designers, entrepreneurs) becomes relevant: it is fundamental to restart from a serious consideration to act on the legal rules governing the creation and incentives starting the process of urban regeneration, with administrative simplifications and the introduction of liberalizations in each sector.

An approach aimed to improve of the architectural quality, based on the energy and environmental issues of the existing buildings, on respect and protection of them, is not good enough: it is necessary to go over, thinking even about themes such as urban regeneration and environmental rehabilitation, providing extraordinary expansion, demolition and reconstruction interventions with surface increases, maintaining those parts of the historic fabric that represent not only the historical sediment of the community, but also the operational guidelines for the new. Identification of buildings to be removed is the first thing to do, focusing on those that are not consistent with the urban and architectural landscape and the ones that let to change the original urban planning.

Besides, according to this theme, social housing is remarkable: it includes restoration of existing dilapidated buildings by replacement, demolition or reconstruction. It consists in editing forms, as well as changes of destination of uses and thinking of useful services for them and for the business.

Therefore it would be helpful to turn the formation in such a direction, enhancing cultural, technical and methodological achievements, because interviews highlight the importance and the need of post-graduate and specialized courses to create the optimal conditions for the regeneration of urban fabrics, providing measures to enable entrepreneurs to intervene on the "deconstructed", "de-structured" and "densificated" existing buildings and urban contexts, if only they involve shape changes, critically establishing critically the compatibility and the value of interventions on buildings.

## The structure of education in the university

For the purposes to understand to whom a training project based on urban generation is offered, it should borne in mind that nowadays, degree courses are entitled "Building Engineering-Architecture": this type of graduate program sees the European recognition, in accordance to the CEE Directive 384/85, that provides the harmonization of professionals in the architecture and engineering field within member countries.

The program combines knowledge of architecture and civil engineering to create a complete figure in the field of design, that turns to be able to follow a job from conception to realization.

The training is similarly based on the ones of the most important schools of architecture and engineering in Europe and it's often characterized by a strong commitment to internationalization.

The structure is organized in two levels of study: Bachelor's degree (achievable in three years) and Master (achievable with a further two years) or One-cycle (five years), that maintains an unified course in the five years. As provided by the national legislation, students - once graduated in Building Engineering-Architecture - can enrol in professional registers of the Order of Engineers, civil and environmental sectors and in the Order of Architects, sectors of architecture, urban planning, landscaping, conservation of architectural and environmental heritage. They can also subscribe to a particular section of the Order of Agronomists and Forest. In such a complexity, it is difficult to place all the opinions collected in the questionnaires because some weak-

nesses that have been identified could be related to non-identifiable factors, including the didactic structuring of the chosen path.

### The strengthening of existing degree courses

Since you cannot make a synthesis capable of directing the educational structure of the degree programs except for a general vision, it may perhaps be useful to produce a critical review of the best answers to the questionnaire, excluding repetitions, generality and redundant or irrelevant answers.

However, in general, it can be said that - apart few add-on modules - the will is to strengthen active teachings in those degree courses where subjects such as the history of architecture, restoration, law, design and survey, etc., are already present, in addition to a cultural orientation that study the theme of regeneration with all topics that regard also social and economic points of view.

## MASTER ON URBAN REHABILITATION

Establishing a Master's degree on urban regeneration would be the best hypothesis to the continuing on the theme of heritage protection and urban revitalization.

The aim of the Master is to offer young architects and engineers a complementary and integrative knowledge oriented to the promotion, implementation and government of the processes of urban regeneration; in particular:

- competencies to design urban projects, dealing also with the participatory planning issue;
- competencies to deal with issues concerning urban regeneration in its complexity, not only as a construction complexity, but also regarding the socio-economic matter;
- planning and management skills also linked with the themes of environmental sustainability, mobility, technological infrastructure, green system, constraints and building laws.

The master aims to provide to students the following skills:

- ability to use a multidisciplinary working method for analysing, operating and managing urban regenerations, based on sustainable development models;
- development of a design thought, based on a critical evaluation of issues linked with protection of emergencies, undefined and valueless urban context, as well as to a responsible resources consumption;
- ability to edit an economic evaluation of a project in relation to the multiple factors involved in its definition;
- knowledge of technical GIS analysis directed to the comparison of the land use in the years;
- knowledge of BIM representation techniques directed to collect, combine, control and analyse project characters;
- ability in elaborating appropriate regeneration strategies for basic elements in metropolitan areas: mobility networks, infrastructure system; services dislocation; redevelopment areas for brown field and degraded sites and urban voids; building densification; cultural heritage and local identity protection; urban and landscape ecology; economic management for redevelopment projects.

## PROPOSAL OF TRAINING PROGRAM:

- Planning and Urban Design for the Urban Regeneration, Icar/21
- Technical Urban Design for Urban Regeneration, Icar/20
- Contemporary History and Examples of Urban Regeneration, Icar18
- Urban Sociology, Sps/10
- Urban Economics, Icar/22
- Geographic Information Systems, Icar/06
- BIM Representation Techniques, Icar/17
- Urban and Territorial Advanced Survey, Icar/17
- Regeneration of the Existing Building Heritage, Icar/10
- Structural Regeneration of Buildings, Icar/09
- Regeneration of the Urban Landscape, Icar/15
- Architectural Design for Urban Regeneration, Icar/14
- Workshop
- Stage
- Final Test

ISBN: 978-83-7947-262-8

Project SURE: Sustainable Urban Rehabilitation in Europe.

Erasmus+ Call: 2016; KA2 – Cooperation for Innovation and the Exchange of Good Practices Strategic Partnerships for higher education

Polski Komitet Narodowy ICOMOS

This project has been funded with support from the European Commission.