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Curriculum (english version): Europe-specific supplementary qualification "Design and Construction in Existing Contexts"

Cooperation Partners

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1 Initial situation

The analysis of the economic initial situation of architects in Europe has revealed that the employment situation is steadily diminishing due to the shrinking contracting availabilities in the area of construction of new buildings, whereas an improvement can be recorded regarding the contracting situation in the context of renovation and modernisation. The analysis has also shown that there is a lack of transfer of specialised knowledge in the area of renovation and modernisation of established job profiles among graduates as well as experienced architects and engineers in Europe. These results have been confirmed by the first analysis on educational needs that was carried out by IFBau among 20.500 architects in August 2005. Vocational training is focused predominantly on aspects of construction of new buildings. The segment of renovation and modernisation is being neglected.

2 Objective and added value of the pilot project

The main concern of the educational project is the acquisition of competencies in order to improve the adaptability to the structures on the labour market. Furthermore, the project is supposed to support the professional qualification of architects and engineers with regard to global challenges and to develop and strengthen the willingness to take initiative and participate in lifelong learning, as well as to foster flexibility and mobility. For the qualified employees and managers in the field of design and construction, the high quality specialisation in the own branch represents the opportunity to position themselves in a sustainable niche within the European market and to improve their initial situation in the economic competitive field of the sector. The objective is to demonstrate to architects and engineers the increasing significance of buildings in existing contexts and the employment opportunities that result from main tasks such as extension, conversion, demolition and revitalisation and the submarkets developed from these activities. Economy, ecology and demography provide links for market niches, in which a specialisation can turn out to be highly profitable. The further advancing social change, which entails changing living and working conditions as well as recreational and organisational structures, demands the development of conversion concepts, as well as an innovative management of spaces, surfaces and vacancies in buildings in existing contexts depending on the corresponding sector-oriented particularities.

3 Target group

The project addresses active qualified employees and managers in the field of design and construction in Europe. Final or potential users within this target group are architects and engineers of the subject areas of architecture, interior design, urban development and town and country planning, as well as civil engineers and specialised engineers involved in design and construction in the areas of surveying, building services engineering, building physics, building chemistry and constructional engineering.

4 Qualification concept

The qualification concept comprises a further training concept consisting of two parts:

- Further training concept for the course "Design and Construction in Existing Contexts" as European core curriculum with sector-oriented approaches, which includes curricular modules for the initial and continuous vocational education and training in the field of design and construction of active qualified employees and managers in Europe. The innovative further training concept consists on the one hand of transnational modules concerning relevant contents and on the other hand of country-specific modules that highlight special national aspects.

Innovative instruments will be created within the framework of the pilot project and also through:

- Development of a transnational programme of exchange of experiences for the building practice in the specialised field of "Design and Construction in Existing Contexts" and an international pool of experts in practice reporting in the already mentioned specialised field. They will facilitate the access to theoretical and practical knowledge in the field of design and construction in existing contexts at European level by improving the transfer of knowledge and the professional contacts to specialised European qualified employees and managers, as well as promoting researchers in this special field.

5 Professional Action Competence and General Learning Goals

Within the framework of the qualification "Design and Construction in Existing Contexts", a deep understanding is developed of the quality of location and the potential of spaces and buildings in existing contexts. The aim is a high degree of interdisciplinary cooperation and focuses on European themes and therefore international activities.

The graduates internalise the motto of "lifelong learning". They develop competencies on European, national and sectoral levels, and meet global challenges by adapting to the changing structures of the job market. The focus of the qualification concept is the professional action competence with the goal of an increased ability to innovate. The participants learn therefore a wide range of technical competencies in the areas of conversion, revitalisation and renovation, which are then expanded on with methodological and social competencies.

5.1 Technical Competencies and Learning Goals

Definition:

Within the framework of the qualification "Design and Construction in Existing Contexts", technical competencies are defined as abilities to formulate technical criteria and relations and to solve tasks and problems typical for professional activities independently, responsibly and in a goal-oriented process. The focus goes beyond pure scientific understanding, rather to competencies that enable an action-oriented realisation of tasks.

Learning Goals:

The graduates

- understand the global connections of the construction economy and are able to think and act in European structures,
- see the area of Design and Construction in Existing Contexts in social, economic and historic relations and can realise successfully solutions in typical professional contexts,
- have wide-ranging technical knowledge of conservation, modernisation, maintenance and reuse of buildings and spaces and are capable of interdisciplinary networking with adjacent professional fields,
- recognise the potential of internationally valid content,
- comprehend the topic of Design and Construction in Existing Contexts in its regional, national and European dimension.

5.2 Methodological Competencies and Learning Goals

Definition:

Methodological competence is the ability to apply specific working techniques to solve problems methodologically. This competence for action expands on the methodological competencies acquired during undergraduate studies and from professional experience. It includes the ability to approach problem and task requirements in a goal-oriented way and to come to a positive result using specific methods.

Learning Goals:

The graduates

- know the most important instruments, methods and techniques of Design and Construction in Existing Contexts and can apply these in a practical and successful way,
- acquire practically oriented planning and problem solving abilities, and
- have implementation oriented process and project management skills in Design and Construction in Existing Contexts.

5.3 Social Competencies and Learning Goals

Definition:

To social competencies we include all attitudes and abilities that are necessary for communication and business relationships between people. They make it possible to understand one another, to discuss, to recognise and resolve constructively communication disruptions. In connection with the professional field of Design and Construction in Existing Contexts, these competencies are also marked by leadership ability and at the same time the development of social responsibility. Social competencies include also communication, intercultural and entrepreneurial competencies that are necessary for this topic and therefore are further detailed below.

5.4 Communication Competencies

Definition:

Communication competencies mean the ability to identify the communication situation and to steer it so that both own aims and needs are perceived, interpreted and illustrated as well as those of the communication partner.

Learning Goals:

The graduates

- can accept criticism and are able to constructively resolve conflict,
- moderate, negotiate and coordinate process during construction tasks in existing contexts considering thereby various user groups as well as stake holders,
- understand Design and Construction in Existing Contexts as an interdisciplinary process, and
- comprehend how to integrate representatives of different disciplines and interest groups during the project through empathy, understanding and cooperation.

5.5 Intercultural Competencies

Definition:

Intercultural competencies are understood as the communicative abilities required for the interaction with representatives and different European cultures. These competencies consider the coming together of various values, orientations, norms, expectations and attitudes. As a result, differing opinions and false interpretations can lead to communication disruptions. One main component of intercultural competencies is therefore the ability to empathise with international cooperation partners and their cultural differences.

Learning Goals:

The graduates

- can actively seek out new and maintain existing contacts with European partners,
- are flexible in their behaviour and can adapt to differing situations quickly,
- handle insecure, complex and ambiguous situations and do not feel disadvantaged,
- can intervene in a steering position in difficult discussion with international cooperation partners and resolve communication disruptions, and
- practice the ability of meeting seemingly foreign opinions, attitudes and behaviours without prejudice.

5.6 Entrepreneurial Competencies

Definition:

Entrepreneurial competencies are necessary in order to turn ideas into actions and realise projects successfully. This involves a complete understanding of the construction and real estate economies and the circumstances in which people live and work, as well as the recognition and evaluation of risks and opportunities that could arise from this. Entrepreneurial competencies require the ability to work effectively in a team as well as individually, initiative, successful manner and behaviour, active project management skills, and the conviction to achieve individual and mutual goals.

Learning Goals:

The graduates

- recognise chances and challenges of the changing markets, and are competitive and mobile,
- can analyse facts, evaluate, initiatively act, and assess risks, and
- understand the planning, calculation and implementation of national and international projects.
- Within the framework of developing and modifying the curriculum, this competence profile was transported into the qualification contents. Due to the clearly structured modular form, they can be easily used as an instrument for the planning of qualification units.

6 The structure of the European core curriculum

The European core curriculum with sector-oriented, national and transnational approaches comprises modular-structured curricular modules for the extra-occupational continuous training in the field of design and construction of active qualified employees and managers in Europe.

The curriculum's structure results from the training needs that have been determined within the specialisation "Design and Construction in Existing Contexts" and the resulting competencies required. The outcomes have been transformed into the transnational modules 1-7 and the four country-specific modules. Furthermore, observing the pending tasks (cf. full application of 10.2.2006, Pg. 16) for architects and engineers in design and construction contexts, especially projects carried out in European border regions imply transnational co-operation and require intercultural competencies. One of the recommendations of the evaluation report was to draw more attention to European orientation and intercultural competencies. This recommendation has been considered in the revision of the modules (module 2, module 3, module 6, module 7 and the new module 8).

In order to increase the individual added value of this further training for the participants, a selection of topics and open questions from the professional practice are to be gathered in the beginning of the training and later on will be taken up and be elaborated.

Transnational and country-specific modules:

At the beginning of the training, the structure of the transnational modules will address basic conceptual and planning aspects that are necessary for the specific requirements of design and construction in existing contexts. Furthermore, an understanding and sensitisation towards the activities of the disciplines involved in the project should be developed. In the ongoing process, the legal, constructional, socio-cultural, historic-cultural, energetic, environmental and economic selection of topic, tasks and problems within the context of design and construction in existing contexts will be presented and processed in a solution-oriented way.

The modules 7 "Project Management" and 8 "Intercultural Competence and European Professional Practice" are in this context vital for the objectives of the training course. They are to be carried out as early as possible after modules 1 and 2 are completed. With modules 3 to 6, the participants are able to deepen the different contents.

In order to ensure transnational cooperation, both European tutors and experts of science and practice will be included as initiators and training staff in the further training. The contents and selection of tasks are adapted to a European context.

The country-specific modules and the programmes of exchange of experiences highlight specific national aspects, in which the relocation for participants represents an essential element. General aspects are to be analysed in the beginning of the programme of exchange of experiences, such as economic aspects concerning the development of existing contexts, aspects of urban building and spatial planning in corresponding cities/countries, the biggest challenges for the concerned actors, as well as preservation of historic buildings and monuments. The determination of a basic main emphasis on the individual countries can take place afterwards. At least one day is to be planned for a national target group as country-specific programme.

Sequence scheme of country-specific modules and programme of exchange of experiences:

Date:	12/14-06-2008	19/21-06-2008	5/7-06-2008	26/28-06-2008	
Responsible:	GemArchitects	BHIK	WUT / Coqui	UTB	
Country language	LSM Prague: 2 Days English	LSM Budapest: 2 Days	LSM Warszawa: 2 Days	LSM Bratislava: 2 Days	overall: 3 days
English	1 combined day	1 combined day	1 combined day	1 combined day	
English	experience exchange program: 2 days	experience exchange program: 2 days	experience exchange program: 2 days	experience exchange program: 2 days	
Topics	urban development, landscape planning, cultural heritage	cultural heritage	law, urban development, landscape planning	project management	
					
TM	transnational moduls: Stuttgart - 25 participants have to choose at least one experience exchange program				
Date	September 2007 to July 2008				

7 Schedule

Due to the extensive subject matter, 18 two-day blocks with 16 teaching units of 45 minutes each will be scheduled for the training course. That signifies a duration of about 18 months with a three to four-week frequency concerning the meetings. The country-specific modules and the corresponding programme of exchange of experiences are planned as block offers with an overall duration of at least three days. The

participation in the programme of exchange of experiences and the country-specific module in at least one further European country is obligatory.

The programme of exchange of experiences will be held in English. The country-specific programmes may be conducted in English or in the national language.

8 Teaching and learning methods

Design and construction in existing contexts is such a complex matter that the requirements for architects and specialist engineers are many times higher than the ones for construction of new buildings. Building in existing contexts means to deal with existing architectonic, historic, sociocultural and economic circumstances and to integrate a number of stakeholders. Depending on the project, the work will be carried out in transnational contexts and in international teams. In order to cope with the complexity and to support the participants in their professional competencies, the teaching and learning methods that are to be selected have to be linked closely to a transfer of specialist knowledge and implementation strategies with a problem-oriented and practical approach.

Simulation of realistic processes (case studies, simulation games, role-plays)

Simulations have a great significance as they can recreate specific subject matters and problems of the professional practice in the specific field and enable the participants to simulate the complexity of tasks that are to be solved on an abstract basis, in order to understand them and to develop target-oriented as well as activity-oriented approaches of solution. Case studies are utilised to understand cases from the practice, in which a decision has to be made, and to develop relevant solutions and imaginative alternatives. They are particularly suitable for themes related to the development of concepts. Strategies of argumentation are tested in tasks of role-plays that have a great conflict potential and in which a high communicative competence is required in order to succeed, for instance in the area of renovation under operation. A European simulation game has also been planned and since the roles are internationally casted, it simulates excellently the transnational co-operation.

Expert inputs

The most important subject-specific contents will be concisely presented with the help of case studies to be discussed afterwards within the whole group or to be followed up in small groups.

Exercises

Their intention is to use specific instruments and methods (analysis methods, work techniques, etc.) in a practical way and individually or in groups.

Study visits

Study visits will be implemented in relation to selected fields of study. They will also include field studies. In addition to that, subject-specific study visits within Europe will be offered within the framework of the programme of exchange of experiences / country-specific modules, lasting several days.

9 Learning materials

The participants will receive seminar handouts of every module and CD-ROMs in specific fields of study. Furthermore, the project's website www.bauwerk-europa.eu and the integrated database with experts for practice reporting in the field of design and construction in existing contexts provide an extensive information source and facilitate the contact with organisations and specialists in the field of design and construction in existing contexts all over Europe (cf. qualification concept).

10 Conclusion

It is planned to provide a certification in levels, as well as a recognition within the framework of the European Credit Transfer System (ECTS) with the allocation of European Credit Points. The ECTS should be compatible with the European Credit Transfer System for Vocational Education and Training (ECVET). Since the present curriculum is based on the knowledge, skills and competencies that are to be acquired as they are necessary for design and construction in existing contexts and as it additionally corresponds to the workload, both the ECVET- system for vocational education and training and the ECTS- system for higher education can be used. ECVET-points will be assigned within the two first qualification levels and ECTS-points for all three levels until the master's degree.

The three certification levels can be acquired consecutively as follows:

Level 1: Comprises the certificate of the educational institution for the participation in the transnational modules and the programme of exchange of experiences. Participants have to complete at least 75% of the transnational modules and attend at least one international programme of exchange of experiences/country-specific module.

Level 2: Comprises a "higher education certificate" assigned by a college or university. In this case, participants must complete level 1, and additionally have to present a seminar paper and attend a colloquium. The seminar paper has to be presented within the framework of the colloquium accompanied by an oral exam.

Level 3: Comprises a master study that can be completed after level 2. Two specialisations are planned within the framework of the general educational concept: "Human Being and Space" and "Energy and Ecology".

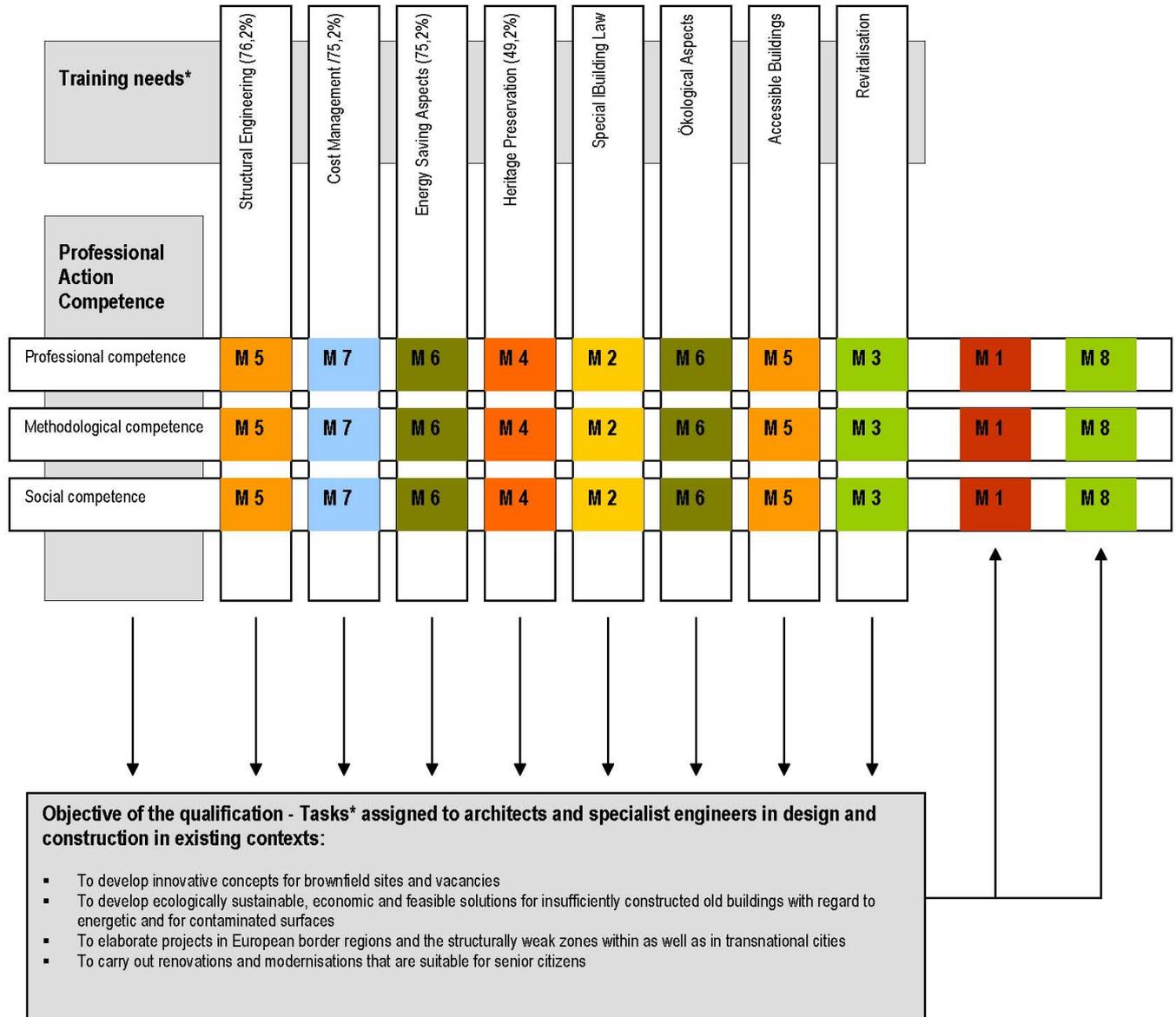
Maximal points assigned for each level:

- | | |
|---|----------------------|
| ▪ Certificate of the respective educational institution | 22 ECTS/ECVET-points |
| ▪ University/College Certificate | 8 ECTS/ECVET-points |
| ▪ Master's degree (course of studies and master thesis) | 90 ECTS-points |

Total points: 120 ECTS-points, thereof 30 ECTS/ECVET-points

All the points acquired in the different modules are outlined on the corresponding module cards (module 1- 8).

11 Training needs and professional action competence



- Underline
* cf. project application
- M 1 Module 1
 - M 2 Module 2
 - M 3 Module 3
 - M 4 Module 4
 - M 5 Module 5
 - M 6 Module 6
 - M 7 Module 7
 - M 8 Module 8

12 Content and methodological-didactic theme plan

12.1 Module 1: Conception and design in existing contexts

Workload / Total of hours: 120 h, Attendance: 48 h, Self-study: 72 h

ECTS: 4

ECVET: 4

General learning objectives:

The participants understand the complexity of design and construction in existing contexts on a historic, social, socio-cultural and economic basis, as they integrate the whole life cycle of a building into the design of a concept, in terms of sustainable development, and optimise the factors that have an impact on the design when interacting. Furthermore, the participants are expected to comprehend design and construction in existing contexts as an interdisciplinary process and to know which components are to be included into the development of renovation and conversion concepts, to use international experience and to be acquainted with the most relevant methods, tools and procedures in order to develop, plan and co-ordinate projects in an European context.

Specific learning objectives:

Professional competence:

The participants are able to:

- assess and transfer international experiences, and integrate them into European co-operation forms,
- develop sustainable concepts concerning revitalisation, conversion and renovation,
- appraise analysis and expert opinions considering country-specific characteristics and regulations and
- to integrate them into the conceptual development,
- understand current socio-scientific statements, operationalise and use the results,
- identify and use normative frameworks, explore their scopes, and ensure the principle of informal social control regarding concepts of utilisation.

Methodological competence:

The participants are able to:

- identify and assess technical, socio-cultural and economic basics, and integrate them into the conception,
- carry out strong and weak points analysis, assess the results and consider them during the project development,
- use measuring methods of building diagnostics in a reliable way, as well as understand and assess their results
- understand existing constructions and monuments and carry out historic-topographic analyses.

Social competence:

The participants are able to:

- identify possibilities for potential international co-operation and actively get in contact with international co-operation partners and adapt to their socio-cultural particularities,
- identify the potential of European and national funding possibilities and acquire them,
- integrate stakeholders from various disciplines and different target groups into the planning process, to explore scopes of interest and mediate between the parties,

- identify chances, measure risks and analyse and assess facts and circumstances and take initiative

Methods:

Expert input, national and international case studies, study visits, desk research

Contents:

- Elaboration of a concept
- Demography
- Project development
- European project co-ordination
- Crime prevention
- Financing and funding possibilities
- Building diagnostics
- Inventory and documentation

Proof of performance:

Development of a concept and presentation, teamwork possible

12.2 Module 2: Law

Workload / Total hours: 60 h, Attendance: 24 h, Self-study: 36 h

ECTS: 2

ECVET: 2

General learning objectives:

The participants are informed about the basic contexts of European law and are acquainted with the different relevant legal bases for construction projects in Europe. They are able to assess which laws and regulations are in force with regard to design and construction in existing contexts. Furthermore, they are able to familiarise with the existing regulatory frameworks that apply in Europe and co-operate with relevant institutions and partners. They master the construction and administrative regulations in their countries of origin, which should be used in construction projects in existing contexts and are able to integrate them into the design and implementation process.

Specific learning objectives and methods:

Professional competence:

The participants are able to:

- understand the basic contexts of European law and the legal bases of different European co-operation forms, become acquainted with different legal structures for construction in Europe and the European contract and public procurement law with regard to buildings, as well as assess the applications,
- familiarise with the country-specific planning and construction laws, as well as with the contract and public procurement law with regard to buildings and use it; they are acquainted with the legal requirements and regulations for construction projects in areas with and without development plan, identify the legal consequences and use the corresponding laws and regulations for their design work,
- apply statutory regulations that are to be complied regarding renovations in areas of development and urban renewal, and acquire the corresponding funding possibilities,
- identify scope and significance of the provision made to safeguard existing contexts and the protection of historical buildings and monuments and calculate which laws and regulations are to be taken, use them and analyse them with regard to possible changes of use.

Methodological competence:

The participants are able to:

- use specific legal forms under different premises,
- elaborate applications and applications for planning permission and submit them to the corresponding authorities,
- understand relevant contracts, intervene in the drafting of contracts and
- exhaust funding possibilities in relation to design and construction in existing contexts.

Social competence:

The participants are able to:

- initiate and negotiate European co-operations,
- negotiate the permission and implementation of construction projects with the corresponding authorities, work co-operatively and develop solutions,
- assess potential conflicts resulting from legal circumstances and contribute to find a solution.

Methods:

Expert input, case studies, desk researches

Contents:

- Legal frameworks of the European Union and the Four Freedoms
- International Building and Architects Law
- European Building Law
- European Building Contract Law, innovative building contract law forms in Europe, European Public Procurement Law
- Competition in Europe
- Country-specific Planning and Building Law
- Country-specific Building and Public Procurement Law
- Statutory requirements with regard to changes of use
- Development, urban renewal and renovation areas

Proof of performance:

Written case elaboration

12.3 Module 3: Urban, town and country planning

Workload / Total of hours: 60 h, Attendance: 24 h, Self-study: 36 h

ECTS: 2

ECVET: 2

General learning objectives:

The participants are able to identify transnational interests and classify them into the context of a European spatial development. They are able to analyse complex structures, see these analyses as a result of different processes that are in continuous development, and understand current tasks of the urban development and landscape architecture in Europe in dealing with existing structures in urban space. They become acquainted with the most important tools, methods and techniques for an urban and landscape planning assessment of constructions and architectural ensemble and are able to implement the results in connection with social requirements.

Specific learning objectives and methods:

Professional competence:

The participants are able to:

- appraise national and international trends in urban development and landscape architecture,
- identify internationally valuable subject-specific inputs and classify them into a country-specific context,
- search for information to assess the international and country-specific situation (urban development (UD), landscape architecture (LA)) and use it,
- understand and interpret historical development (UD, LA),
- observe the particularities of the existing context within the process of design (UD, LA),
- carry out socio-cultural determinations of position, categorise and conceptually consider statements about social framework conditions and influential criteria and
- implement the acquired insights of an integral planning activity according to the target group.

Methodological competence:

The participants are able to:

- elaborate city-planning and area-related inventories and analyses (UD, LA),
- carry out methodological determinations of position with regard to urban development, identify structural units and
- use procedural methods(SB, LA).

Social competence:

The participants are able to:

- identify and interpret the interests of different users and co-operate with them,
- communicate planning concepts in a user-oriented manner and, by doing so, increasing the approval for renovation plans and mitigating potential collisions of interest,
- determine market and socio-cultural trends and future task fields,
- identify und specify transnational interests and
- assess to what extent action plans are transferable and identify their limits.

Methods:

Expert inputs, study visits, international research, case studies in the field of analysis and interpretation, role-play

Contents:

- Urban development, forms of the European urban development
- City-planning inventory and analysis
- Landscape architectureUrban free space systems worldwide
- International and national free space typologies

Proof of performance:

Analysis und assessment of a real project

12.4 Module 4: Preservation of historical monuments

Workload / Total of hours: 60 h, Attendance: 24 h, Self-study: 36 h

ECTS: 2

ECVET: 2

General learning objectives:

The participants deal with cultural values from an international and national perspective in the context of constructions and architectural ensembles that are worthy of preservation and include questions with regard to the utilisation of monuments according to the regulations for historical monuments under socio-cultural and market-relevant aspects. They become acquainted with aspects that have to be considered with regard to monuments. They understand and use the most important tools, methods and techniques that are implemented in monuments.

Specific learning objectives:

Professional competence:

The participants are able to:

- identify social contexts of urban development, buildings and ensembles at national and international level and consider them during the design and implementation process,
- discuss the practice and problems of the urban renewal in Europe and develop strategies for solution,
- understand the organisation of the preservation of historical monuments and of the corresponding authorities in Europe and integrate them,
- identify and implement requests of urban preservation of historical monuments,
- consider funding programmes with regard to sustainable urban development in reconstruction processes,
- identify the specific legal requirements, act competently
- develop concepts for the utilisation of monuments and architectural ensembles according to the regulations for historical monuments and implement the preservation, conservation, renovation and/or maintenance resulting from them.

Methodological competence:

The participants are able to:

- carry out analyses of heritage and historic buildings,
- use different assessment and interpreting methods for monuments,
- document the results for administrations of monuments and field-related authorities and
- incorporate them systematically into the draft and planning process.

Social competence:

The participants are able to:

- deal with cultural values,
- practise a protective and responsible way of dealing with historical and authentic materials,
- gather requests of different groups of users, interpret them in terms of preservation of historical monuments and communicate the results in a target group specific manner,
- identify and specify transnational interests and co-operate in international teams,
- regard preservation of historical monuments as an economic factor and
- carry out analyses of strengths, weaknesses and potentials of monuments and buildings worthy to be preserved.

Methods:

Expert input, study visit, case studies, exercises

Contents:

- Basic principles of preservation of historical monuments
- Handling of monuments
- Utilisation and added value of monuments

Proof of performance:

Use of a method and/or a technique in a project of the own practice

12.5 Module 5: Constructional engineering

Workload / Total of hours: 120 h, Attendance: 48 h, Self-study: 72 h

ECTS: 4

ECVET:4

General learning objectives:

The participants become acquainted with the specific constructional requirements and design particularities of buildings in existing contexts and integrate them into the sustainable conception and planning, as well as into the implementation of construction projects. They are able to assess technical possibilities and typical weaknesses, to interpret corresponding damage symptoms, to develop, communicate and implement possible solutions. Furthermore, from the perspective of the effects of the demographic change on the existing living and working environment, the participants are able to identify how barriers in existing buildings can be avoided in advance or be reduced and to adopt the necessary measures. They work interdisciplinarily and integrate specialist engineers into the conception, planning and implementation.

Specific learning objectives and methods:

Professional competence:

The participants are able to:

- identify typical supporting structures and construction methods of old buildings, assess their strengths and weaknesses, integrate them into a sustainable renovation and identify and assess structural damages,
- understand and implement static standards that are to be considered in the renovation of old buildings,
- identify structural-physical problems in the context of constructional methods of solution,
- understand problems concerning fire prevention in existing contexts and develop fire prevention concepts,
- assess technical possibilities of renovation or conversion with regard to individual trades,
- describe the main planning requirements of a barrier-free environment, use the principle "promote independence, facilitate the use of means, make maintenance easier" and integrate the requirements for a barrier-free construction in time into the planning, in order to optimise spaces for handicapped people and avoid additional costs later on.

Methodological competence:

The participants are able to:

- use methodological approaches to clarify questions concerning static aspects,
- carry out an inventory of buildings, analyse the existing construction material, elaborate catalogues of measures and identify deficiencies systematically,
- develop concepts for fire prevention-related renovations, elaborate lists of priorities and calculate costs.

Social competence:

The participants are able to:

- integrate involved parties from different technical disciplines into the planning and implementation process and understand their methods of working and argumentation,
- integrate different user and target groups into the planning and implementation process and treat people that live under certain circumstances, with respect and appreciation,
- analyse and assess different situations, act with initiative and measure risks.

Methods:

Expert input, case study with assessment of repercussion of implemented renovation measures, role-play, exercises

Contents:

- Static aspects in the renovation of old buildings
- Structural-physical aspects in the renovation of old buildings
- Fire prevention
- Damages in buildings
- Barrier-free construction

Proof of performance:

To use the principle of a barrier-free environment in a renovation project of the own practice

12.6 Module 6: Energy and ecology

Workload / Total of hours: 90 h, Attendance: 40 h, Self-study: 50 h

ECTS: 3

ECVET: 3

General learning objectives:

The participants consider the design and construction in existing contexts as a holistic process. They integrate energetic and ecological questions into a sustainable planning and implementation, include the relevant surrounding of the object into their considerations and develop overall solutions that are optimised for the user. They are informed about relevant legislation and regulations in the European context, know about potentials to save energy, know how to deal with contaminated spaces and materials, dominate the therefore necessary tools and methods, are able to use them successfully and are experienced in an environmentally sustainable handling of resources.

Specific learning objectives:

Professional objectives:

The participants are able to:

- carry out integrative overall assessments about the object and its relevant surrounding,
- propose structural and technical measures, taking the cost and energy efficiency into account, supervise their implementation and use renewable ecological energy sources,
- comply to legal requirements which are substantial for the energy pass of buildings in existing contexts,
- apply the legal regulations that are substantial for the handling of contaminated sites, materials and spaces,
- identify and classify construction materials that are dangerous (critical) to health, remove (critical) construction materials and let them be disposed as well as choose alternative (uncritical) construction materials,
- take into account the technical requirements in handling contaminated sites, materials and spaces with regard to calls for tender, awards of contracts, construction management and conduction.

Methodological competence:

The participants are able to:

- apply in practice the most relevant tools, arithmetical procedures and und supporting instruments,
- identify and evaluate potentials for renovation in the context of assessments of existing contexts as experts,
- do calculations of profitability for buildings, define the future consumption of energy, develop scenarios for the future and exhaust funding possibilities.

Social competence:

The participants are able to:

- consider buildings under the perspective of a life cycle and behave in a responsible manner with regard to the environment,
- argue in participatory decision procedures from a professional perspective for the measures which are considered as being reasonable, advice the building owners and contribute to a decision making,
- identify the necessity of specialist services of engineers or experts, justify the expenditures associated with it in front of the owner, instruct them, evaluate and co-operate with specialist engineers during the design and construction phase.

Methods:

Expert input, case studies, assessment of repercussion, role-plays (counselling of clients)

Contents:

- Potentials concerning energy saving at construction sites in existing contexts
- Energy saving regulation (EnEV) and European legislation
- Energy pass for buildings
- Handling of resources
- Handling of contaminated sites, materials and spaces

Proof of performance:

Analyse buildings under energetic and/or ecological aspects and identify potentials for improvement

12.7 Module 7: Project management

Workload / Total of hours: 90 h, Attendance: 40 h, Self-study: 50 h

ECTS: 3

ECVET: 3

General learning objectives:

The participants understand and assess the potentials for the development of buildings and properties in the context of their location characteristics, develop strategies and implement those using suitable tools. They dominate design, process and cost management for construction measures in existing contexts and are acquainted with the most relevant analysis procedures, tools and methods in order to implement projects in an aim-oriented and successful manner. They co-ordinate and moderate meetings with representatives from different disciplines as well as interest groups and are capable of negotiating and approaching and solving conflicts in a constructive manner.

Specific learning objectives:

Professional competence:

The participants are able to:

- carry out a detailed analysis of the existing context and identify the potentials for development, detect the needs, evaluate the results and include the development of usage and spatial concepts as well as identify the renovation needs, propose certain interventions and initiate their implementation,
- elaborate, implement and further use strategies and operative plans,
- apply submission of tender and contract procedures according to VOB (German Construction Contract Procedures) and supervise the conduction of construction,
- verify the most frequently occurring causes for unforeseen obstacles and necessary supplementary services regarding constructions in existing contexts as well as develop strategies and measures to minimise risks,
- apply latest models, procedures, options of calculation and programmes in budget management and carry out cost calculation as well as monitoring of expenditures regarding construction measures in existing contexts,
- assess the chances and risks of construction measures in existing contexts with regard to types of contracted enterprises, types of contracts and specifications of tenders, put operative services for tender and contract,
- understand evaluation procedures and processes of existing context management.

Methodological competence:

The participants are able to:

- conduct the planning of demands with "Architectural Programming" and according to DIN 18025,
- define and supervise cost budgets for projects in existing contexts and calculate expenditures for the life cycle,
- elaborate schedules, plan the construction schedule, co-ordinate the logistics at the construction site and
- guarantee the smooth side by side of the running business and construction measure.

Social competence:

The participants are able to:

- co-ordinate and manage projects in all the stages of design and development, moderate meetings and forward results to the project team as well as to the contracting body in a transparent manner,
- clarify the needs of all parties concerned and mediate in situations of conflict,
- assess risks of projects in existing contexts and communicate to all parties concerned,

- negotiate beginning with offers until signing a contract and
- measure the benefit of external services.

Methods:

Expert input, role-play, integrative case study in combination with other modules, exercises

Contents:

- Management of space, areas and vacancies
- Management of existing contexts and object supervision
- Management of expenditures
- Special requirements with regard to call for tender and award of contract
- Special demands for construction management
- Moderation and presentation techniques

Proof of performance:

Moderation of a complex meeting with different groups of interest and written documentation

12.8 Module 8: Intercultural competence and European professional experience

Workload / Total of hours: 60 h, Attendance: 32 h, Self-study: 28 h

ECTS: 2

ECVET: 2

General learning objectives:

The participants comprehend intercultural acting as a dynamic process. They are able to adapt to intercultural cooperation and its cultural particularities and possess communication skills as well as technical and social competences that are essential in order to interact with representatives from different European cultural spheres. They distinguish themselves as individuals with the willingness for lifelong learning and mobility; they are flexible with regard to both attitude and action, and use synergy effects that result from the cooperation in international teams.

Specific learning objectives and methods:

Professional competence:

The participants:

- receive culturally relevant information about different countries or cultural spheres, are able to consider these in the process of planning and implementation and are capable to cope with multilingualism,
- have acquaintance with the basics of "diversity management" as a tool to accomplish set goals,
- understand culturally relevant studies and analysis of culturally challenging situations, are able to assess the relevance regarding the project, apply the resulting perceptions arising thereby and
- know about European networks and European cooperation forms in the thematic fields of architecture and specialist engineering and are capable of assessing and utilising these under different premises.

Methodological competence:

The participants are able to:

- apply learning strategies in order to adapt to the cultural particularities of international cooperation partners in a flexible manner,
- implement adaptation techniques and use them in order to meet the challenges of foreign cultures and integrate,
- apply moderation techniques in order to work in multinational teams,
- apply specific research tools and use international sources.

Social competence:

The participants are able to:

- actively build up and maintain in contact with international cooperation partners,
- identify cultural patterns of behaviour and values, assess cultural manners of expression,
- co-ordinate and manage processes in internationally staffed projects and mediate if necessary,
- co-ordinate and moderate negotiations with and meetings of internationally staffed teams, assess moods and conflict situations and deal with them in a constructive manner,
- identify reasons of disturbed intercultural communication and assess these, develop aim-oriented solutions and implement these and adapt to working and living conditions in the host country.

Methods:

Expert input, simulation game with direct feedback from other countries, international internet conference, exercises

Contents:

- Definition of culture/ concept of culture, cultural standards
- Prejudices and stereotypes, cultural patterns of behaviour and misunderstandings
- Basic principles of intercultural communication
- Intercultural competence
- Components of international management competence
- Framework for professionalism of architects and specialist engineers in Europe
- European cooperation forms
- Research tools and international sources
- Economic and technical interest grouping and networks
- across Europe

Proof of performance:

Colloquium

13 Transnationals modules and country specific modules/Appointments for experience exchange operational plan

Annotation:

The operational plan was created before the valorisation, therefore it contained the modules 1 to 7. Module 8 based on the results of the evaluation and the monitoring by the national agency at the 15th of april 2008 in Bonn.