



ARCHITECTURE AND URBANISM

Second cycle study programme

Faculty of Architecture, Civil Engineering and Geodesy

Second cycle study programme Architecture and Urbanism at the University of Banja Luka and Faculty of Architecture, Civil Engineering and Geodesy was developed within the European Commission Erasmus+ capacity building project in the field of higher education entitled „Creating the Network of Knowledge Labs for Sustainable and Resilient Environments“ (KLABS).

Sustainability and resilience of the built environment are becoming important topics in the Western Balkan countries. The importance is reflected, mainly, through the efforts of harmonization of national legal frameworks with the European Union framework. The education sector follows these trends to a very limited degree. Study programs dealing with the topic of sustainability are scarce in the Western Balkan countries and mainly focused on energy efficiency aspects. Specialized programs that imply comprehensive education about the sustainability and resilience of the built environment in the Balkan region do not exist. The lack of adequate knowledge, visible in significant and lasting environmental damage, affects the increase of ecological, social and economic risks, but also poses an aggravating factor in the European area of education and labor market.

The second cycle study program Architecture and Urbanism is dedicated to the reaffirmation of the Architect/Urbanist profession in the Western Balkan countries, in the context of the contemporary society challenges that are reflected in the dynamic spatial and climate changes. The main characteristics of the urban and built environment today are the constant change and complexity. The urban problem requires a comprehensive and interdisciplinary approach to thinking, designing and planning the urban and built environment and the new generation of professionals capable of dealing with the stated challenges of contemporary society. Therefore, the focus of the curriculum is on the sustainability and resilience concepts in the national and local context of designing and thinking buildings, cities, landscapes and territories. In addition, the study program puts these concepts on the operational level by introducing students to a

wide range of techniques and tools for assessing and analysing built environment and spatial processes in a range of spatial scales.

Emphasizing a trans-disciplinary and trans-scalar design oriented approach, the study programme equip students with theoretical and methodological knowledge that will allow them to think, analyse and design built environment in **a comprehensive manner**. This means understanding of relation between different spatial scales, social processes and natural context, as a precondition of sustainability and resilience. The aim of the study programme is to deliver professionals who will understand the importance of **an integrated approach** to planning and design and are able to cooperate with professionals from a range of disciplines of the built environment, citizens and other actors. In addition, to deliver **socially responsible professionals** who are committed to cultural sustainability and social relevance of spatial design over desire to produce high quality aesthetic.

The academic title acquired after the completion of the study program is **Master of Architecture and Urbanism - 300 ECTS**.

Curriculum

The study program provides **the one-year curriculum** in the research and analysis of the built environment at different scales aimed at identifying integrated architectural and urban solutions in the context of sustainability and resilience.

The study programme is organized in two semesters. While the first semester integrates theoretical, analytical and design explorations, the second one is entirely devoted to development of master thesis. Students must complete and pass 60 credits, made up of 12 credits for basic theoretical courses, 18 credits for approved elective disciplinary courses, 10 credits for methodological course, and 20 credits for the master thesis. Students are encouraged to use the curriculum to develop their theoretical knowledge and analytical skills and deploy these in pursuit of their own research interests.

The first two basic theoretical courses (6+6 ECTS) provides students with in-depth theoretical knowledge about principles of sustainability and resilience, their historical perspectives and connectivity, with special focus on relation of different urban scales and global-local dichotomy.

The second block of two elective disciplinary courses (9+9 ECTS) provides students with knowledge of methods, techniques and tools for contemporary analysis and assessment of urban environment at integrated scales. Elective courses are divided in two groups, so student can choose one course from each group. The first group of elective courses is about design methodologies and techniques for urban transformation of four distinctive urban layers: infrastructure systems, water landscapes, green structures and built environment. While the second group is aiming at the generally applicable methodologies and tools for urban transformation: analytical design tools, parametric design tools, urban regeneration methodology. The each course is organized as a studio design project of real-life cases by application of the gained knowledge of methods, techniques and tools offered to students.

The third block (5 weeks) in the second semester has one methodological course (10 ECTS) which provides students with knowledge of methods for comprehensive research into a specific subject and develop the related design solution, as well as more traditional modes of academic research. During this course the students will define their final thesis problem and thesis structure which will be presented at the end of course and approved by corresponding department.

The fourth and final block (10 weeks) is intended for master thesis development and finalization (20 ECTS). The master thesis provides students with an opportunity to conduct comprehensive research into a specific subject/problem and develop the related design solution. They are encouraged to choose the subject/problem of their interest at the very beginning of the study programme.

COURSE LIST

PROGRAMME ARCHITECTURE AND URBANISM

SEMESTER 1

30 ECTS

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|---|--|
| 1 | Concepts and Principles of Sustainability and Resilience in the Built Environment 6 ECTS |
| 2 | Urbanisation in Western Balkan Countries 6 ECTS |
| 3 | Elective course I 9 ECTS |
| 4 | Elective course II 9 ECTS |
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Electives courses

- Group I
- Sustainability and Resilience of Infrastructural systems 9 ECTS
- Water space and landscape design 9 ECTS
- Green space and landscape design 9 ECTS
- Architecture of city and landscape 9 ECTS

Electives courses

- Group II
- Analytical urban design 9 ECTS
- Parametric design 9 ECTS
- Regenerative design 9 ECTS
- Virtual Mobility Window 9 ECTS

SEMESTER 2

30 ECTS

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- | | |
|---|------------------------------------|
| 1 | Urban research methodology 10 ECTS |
| 2 | Master thesis 20 ECTS |
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New learning methods, IT and e-learning

The study programme combines a range of teaching and learning techniques, including field work, essay writing, seminar debating, with a focus on an elective studio design project at the end of the first semester. The final master thesis provides students with an opportunity to conduct comprehensive research into a specific subject and develop the related design solution.

The study programme foresees utilisation of software for parametric urban and architectural design, as well as of on-line connectivity software and equipment for organisation or attendance to the virtual lectures of guest lecturers from other higher education institutions in the country and abroad, that is, the lecturers from commerce and other sectors. The programme also implies the use of an existing electronic platform at the Faculty of Architecture, Civil Engineering and Geodesy, which will serve to accommodate teaching and learning materials, and is available to teachers, associates and students. The collection of published material, developed according to the content and needs of the study programme, entitled [Reviews of Sustainability and Resilience of the Built Environment for Education, Research and Design](#), is available to students in electronic format through open access.

Learner-centred approach

The programme Architecture and Urbanism implements the "learner-centred approach" through the definition of flexible learning paths based on learning outcomes and provided through a large number of elective courses, where the students are offered the possibility to select topics according to their own profession, interests and plans for future career development. The percentage of elective courses in the study program is 60.00%.

Integration of research with education

The students will work with UBL and FACEG teaching staff who are actively involved in academic and applied research, as well as through consultancy with WB region practitioners from a range of disciplines of the built environment, industry representatives, local authorities and citizens. The establishment of the Centre for Integrated Design and Sustainability at the FACEG is considered as 'window' for this interdisciplinary cooperation and real-life problem engagement. The Bosnia and Herzegovina cities, settlements, villages, buildings and landscapes will be considered as 'laboratory' where ideas, visions and scenarios about sustainable and resilient environment can be tested and refined. The study programme Architecture and Urbanism is conceptualised as a methodological combination of research and design, and is oriented towards integral observation of different spatial dimensions: architecture, city and wider territory.

Enrolment

The University of Banja Luka and Faculty of Architecture, Civil Engineering and Geodesy have enrolled 20 students (as planned) to the study programme Architecture and Urbanism in the academic year 2017/2018. The access to the study programme is given to a person who has achieved 240 ECTS during the previous education, i.e. a person who has completed five-year or master academic degree in the field of architecture and urbanism.

The admission of candidates will start after public announcement. Candidates' ranking list for enrolment is formed by evaluation based on the following criteria:

- Average grade achieved during previous academic studies (max. 50 points),
- Entrance exam passed (max. 50 points).

Foreign citizens may enrol to the study programme under the same conditions as national citizens, within the total envisaged number of students (number of perspective foreign students is 5).

Competencies

EU + BIH Qualifications of Second cycle studies (60-120ECTS)

The Dublin Descriptors are generic (non-subject specific) statements of the typical expectations of achievements and abilities associated with qualifications that represent the end of each Bologna cycle. They are built on the following elements: **knowledge and understanding, applying knowledge and understanding, generic cognitive skills, making judgements, communication skills and learning skills, learner autonomy, accountability and working with others.**

have demonstrated a systematic understanding and mastering of knowledge in their field of study/discipline that is founded upon, and extends and/or enhances, that is typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context;

can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;

apply conceptual thinking and abstraction with a high level of proficiency and creativity, which will enable the:¼ critical evaluation of current research and academic work at the forefront of the discipline,¼ evaluation of different methodologies, development of critical opinion and the raising of alternative solutions;

have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements;

EU qualifications of architects

Such studies shall be **balanced between the theoretical and practical aspects** of architectural training and shall ensure the acquisition of

an ability to create architectural designs that satisfy both aesthetic and technical requirements;

an adequate knowledge of the history and theories of architecture and the related arts, technologies and human sciences;

a knowledge of the fine arts as an influence on the quality of architectural design;

an adequate knowledge of urban design, planning and the skills involved in the planning process;

an understanding of the relationship between people and buildings, and between buildings and their environment, and of the need to relate buildings and the spaces between them to human needs and scale;

an understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors;

an understanding of the methods of investigation and preparation of the brief for a design project;

Competencies Integral design: Architecture, City and Landscape

Integrating architectural, urban and landscape theory with a design-based research approach, the curriculum aims to address the contemporary urban challenges in term of urban, environmental and social sustainability and resilience. Students will be equipped with conceptual and practical knowledge and tools to develop integrated approaches towards urban transformation.

DISCIPLINARY COMPETENCES

In-depth knowledge of theories and principles of sustainability and resilience, the relation between the two concepts and their declination in architectural, urban and landscape theories and design solutions.

In-depth knowledge of theories and principles that connect space and society, where the built environment and its functions are considered as human-environment system.

In-deep knowledge of the pressing contemporary spatial, environmental and social issues and the complex challenges of the urban society, both at local and global level.

In-depth knowledge of the historical development of contemporary ideas and theories in architecture, urban and landscape design.

In-deep knowledge of methods, tactics and tools for research and analysis of the built environment at different scales aimed at identifying integrated architectural, urban and landscape design solutions.

can communicate their conclusions, and the knowledge and rationale underpinning these using appropriate language(s), to specialised and non-specialised audiences clearly and unambiguously;

are able to take their own knowledge to a higher level, deepen the understanding of their field of study/discipline and continuously develop their own new skills through individual learning and self-development;

have the learning skills to allow them to continue to study in a manner that may be largely self-directed and autonomous;

have acquired interpersonal and teamwork skills appropriate to a variety of learning and employment contexts and also demonstrate leadership and/or initiative and make a contribution to change and development.

an understanding of the structural design, constructional and engineering problems associated with building design;

an adequate knowledge of the physical problems and technologies and of the function of buildings so as to provide them with internal conditions of comfort and protection against the climate;

the necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations;

an adequate knowledge of the industries, organisations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning.

METHODOLOGICAL COMPETENCES

Curriculum will provide students with abilities:

To think critically and to incorporate the dynamics of contemporary urban complexity and spatial phenomena within a clear conceptual framework;

To conduct a research through design, where the project is considered a producer of knowledge;

To initiate a contextual and flexible dialogue within the framework of a strategic bargaining with the different stakeholders or affected by the design proposal in order to achieve a better understanding of the implementation process;

To design a scenario based strategy and to promote a wider perspective on the consequences of decisions and actions on shaping the current and future built environment;

To develop capacity and skills to communicate and write about research and design process and outcomes.

Compatibility with regulations, standards, guidelines and good practice

The curriculum is based on previous research on: national education of architects and its compliance with EU regulations; the visibility of topics of sustainability and resilience in the legal documents of higher education and curriculums; institutional capacities for the development of a new study program; the existence of literature and textbooks on the topic of sustainability and resilience in national language; students' surveys and teachers' questionnaires about the interest in the topics and the development of a new study program.

The second cycle study program Architecture and Urbanism is equivalent to level 7 of the International Standard Classification of Education (ISCED) and level 7 of the European Qualifications Framework (EQF). The programme is in line with the Bologna Principles, national regulations in the field of higher education, EU and Bosnia and Herzegovina Qualifications for Second Cycle Studies and EU Qualifications for Architects.

The structure and content of the study programme are in line with 2017-2025 Development Strategy of the University of Banja Luka, Strategy for Scientific and Technological Development of Republic of Srpska 2017-2021, UNESCO Global Action Programme for Education for Sustainable Development, Goals of the Agenda 2030 for Sustainable Development.