FACULTY OF CIVIL ENGINEERING,
ARCHITECTURE AND GEODESY

UNIVERSITY OF MOSTAR
FACULTY OF CIVIL ENGINEERING,
ARCHITECTURE AND GEODESY

UNIVERSITY
OF MOSTAR

ARCHITECTURE AND URBAN PLANNING
UNDERGRADUATE UNIVERSITY
STUDY PROGRAMME
CURRICULUM

Mostar, April 2023

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1. INTRODUCTION

The curriculum of the undergraduate university study programme Architecture and Urban Planning is the result of the regular review process, which began with the Decision of the Senate at the session held on 26 February 2022 (No. 01-993-1 / 22). The regular revision procedure was carried out according to the *Rulebook on the procedure of adopting new and revisions of existing study programmes* (No. 01-993-1 / 22). It stipulates that the Committee coordinates the development of a revised curriculum. The Committee also includes student representatives and external users, and the scientific-teaching council of the Faculty of Civil Engineering, Architecture and Geodesy submits their proposal to the University Senate for adoption.

In order to involve all stakeholders in the process of improving the study programme, a public hearing was held on 13 April 2023 at the Conference Hall of the Faculty of Civil Engineering, Architecture and Geodesy.
The conclusions of the public debate were taken into account during the development of the curriculum.

In addition to the conclusions of the public debate, the recommendations of the Expert Committee from the last institutional accreditation in 2020 were taken into account. The recommendations include practical work outside the University (where applicable), application of legal and internal acts on the minimum share of pre-examination obligations in the final grade of all courses, and the application of modern teaching methods with the student at the centre of the teaching process.

Also, during the development of the curriculum, all strategic tasks in the strategic area of education from the *University Development Strategy 2018-2023*, which relate to the curriculum and teaching process, were carried out (more in the chapter "3.1. Connection with the Development strategy of the University of Mostar).

In addition, when making decisions on the type of changes, all relevant statistical data and survey results collected and conducted in the period since the last revision/adoption of the study programme were analysed:

- Results of student surveys
- Monitoring the development of technologies in architecture and urban planning
- Monitoring the needs of the labour market

Taking into account all the above, the following changes have been made in this revised curriculum in comparison to the existing one:

- The learning outcomes of the study programme and individual courses are harmonized with Bloom's taxonomy and a matrix of learning outcomes has been created. Syllabi for individual courses are arranged accordingly.

- The name of the core course in the 3rd year of study, 6th semester, Introduction to Integrated Design, has been supplemented. The abbreviation BIM (*Building Information Modeling*) is added to the existing course name, and now the course reads: *Introduction to Integrated Design - BIM*.

2. GENERAL INFORMATION ABOUT THE STUDY PROGRAMME

Study programme:	Architecture and Urban Planning
Cycle:	1st (undergraduate)
Type:	University study programme
Scientific area:	Technical Sciences
Scientific field:	Architecture and Urban Planning
Academic title:	Bachelor of Architecture and Urban Planning
Abbreviation of the academic title	univ. bacc. ing. arch.
EQF qualification level:	6
Duration of the study programme:	6 semesters
ECTS:	180
Language:	Croatia
Mode of study:	Full time
Awarding institution:	University of Mostar
Institution administering study programme:	University of Mostar, Faculty of Civil Engineering, Architecture, and Geodesy
Study programme objectives:	The main objective of the study programme of Architecture and Urban Planning is education of personnel with a high level of expertise to perform complex and creative work in the field of Architecture and Urban Planning, which has an interdisciplinary and multidisciplinary nature. The objectives of the study programme is: - development of a complete basis for acquiring knowledge, competences and skills in the area of architecture and urban planning - development of creative and critical thinking skills -developing a tendency towards team work and mastering the specific practical skills needed to perform the profession - education of professionals who have versatile knowledge in the field of profession - promoting good architectural practice and monitoring the achievements of the profession in the world and in our country - to take professional and moral responsibility for one's

	own work and be aware of the aspects and effects of one's own actions - accept the necessity of constant professional development and continuous education throughout life
Study programme competencies:	General (generic) competencies: - the ability to analyse and exchange information, ideas, problems and solutions with expert and lay persons, - the ability to adapt to changes in technology and working methods within lifelong education, - the ability to effectively cooperate in professional groups and adapt to the demands of working environment, - the ability to understand the influence of architecture and urban planning on the society and environment, and clearly formed moral and ethical attitude in solving professional problems, - the ability to apply the acquired knowledge and practices in further professional and academic education, - the ability to critically evaluate arguments, assumptions and data when making decisions, and solve professional problems in a creative way. Academic (specific) competencies: - the ability to apply the acquired knowledge in all groups of study courses and technology in architecture and urban planning, - the ability to prepare and conduct experiments, and analyse and interpret the results, - the ability to detect, identify, describe and solve professional problems, - the ability to recognize interactions between design, construction and user requirements, - the ability to use common software tools to create documents, presentations, carry out calculations and simulations, - the ability to design structures at the basic level, - the ability to lead a small construction work, - the ability to dimension smaller building structures, - the ability to participate as an associate in planning, design, realisation, supervision and maintenance of larger construction work.
Study programme learning outcomes:	1. Recognize and define the technical and artistic role of architecture and urban planning in society and community. 2. Collect, analyse and interpret information essential for

	the development of a design solution. 3. Understand the relationship between people and buildings, between buildings and their environment, and understand the need to relate buildings and spaces between them to human needs and scale. 4. Acquire design knowledge and skills in the research of spatial aspects by applying methods of studying, designing and understanding the architectural programme assignment. 5. Identify the key components of the development of the history of architecture and urban planning that stimulate modern design solutions and develop thought in architecture. 6. Know the basic principles, typologies, theoretical concepts and the language used to express ideas in the discipline of architecture and urban planning. 7. Conceive and independently develop parts of architecture and urban planning documentation for medium complex buildings. 8. Develop parts of the project documentation that meet user's requirements within the limits set by building regulations, cost factors, and construction management of less complex structures. 9. Identify, draw and apply knowledge about structural systems, materials and technical solutions in different building structures. 10. Know physical problems, and the technology and function of buildings so as to provide them with internal conditions of comfort and protection against the climate, in the framework of sustainable development. 11. Evaluate the designed or constructed architectural and urban planning solution from the aspect of architectural theory. 12. Identify the system of values of architectural and urban planning activity for the purpose of contributing to civic awareness of society and community, and to know the activity, organization and procedures through which the project is realized. 13. Define and classify urban planning and spatial plans with the application of urban planning elements and

	indicators in the system of comprehensive spatial planning. 14. Describe laws and apply knowledge from mathematics, informatics, BIM technology and modelling in architectural and urban planning design. 15. Apply the synthesis of different media to the whole of architectural design. 16. Identify the fundamental laws of statics in the application and realization of architectural projects. 17. Understand architectural structural systems and their connection with construction solutions. 18. Use professional terminology of a foreign language in professional expression and develop the ability to communicate and work in a team.
Opportunities after graduation:	Continuing the study, university graduate study of Architecture and Urban Planning Employment
Accreditation:	The University of Mostar received a Decision on Institutional Reaccreditation on 14 January 2020 from the competent Ministry of Education, Science, Culture and Sports of the HNŽ on the recommendation of the Agency for Development of Higher Education and Quality Assurance of BiH, after which the University was registered in the State Register of Accredited Higher Education Institutions.

3. BASIC CHARACTERISTICS OF THE STUDY PROGRAMME

3.1. Connection with the Development strategy of the University of Mostar

In the *Development Strategy of the University of Mostar 2018 - 2023* in the strategic field of education, several strategic goals are related to the curriculum and its elements.
Objective 1 defines that the University, in cooperation with stakeholders, will develop, approve, implement and continuously monitor and improve study programmes at all levels. The following tasks arise from clearly defined learning outcomes related to labour market needs, following the European Qualifications Framework (EQF):
- task 1: clearly define the objectives and anticipated learning outcomes of each study programme and harmonize the content of the study programme with them, following the appropriate level of the European Qualifications Framework and the qualification standard
- task 2: Introduce a transparent and consistent process of revision and improvement of study programmes with the participation of students and other stakeholders
- task 5: ensure realistic allocation of ECTS credits, through a defined system of ECTS coordination at all study levels
- task 6: improve the interdisciplinarity of all study programmes by enabling elective courses at the university level.

Objective 3 refers to the development of a wide network of teaching bases, including organizations from different fields of activity, to establish cooperation that will enable the connection of practice, science, art, and higher education. The following tasks arise from it:
- task 2: increase the number of hours and the share of teaching practice in the study programmes and the share of ECTS credits acquired by it
- task 3: increase the number of bachelor/master papers related to practical work by the topic and content.

3.2. Compliance with the achievements of a certain scientific/artistic area and labour market and connection with the standards of occupations/qualifications

Objectives, competences and learning outcomes of the study programme for the undergraduate university study of Architecture and Urban Planning at the Faculty of Civil Engineering, Architecture and Geodesy, University of Mostar are developed on the basis of available documents at complementary public faculties of civil engineering, architecture and geodesy in BiH and abroad and other available publications as well as EU Directives on regulated professions:

- Official Gazette of BiH, number 10/16 of 16 February 2016 - Decision of the Council of Ministers of BiH on the adoption of the Roadmap for implementation of the EU directive on regulated professions: Directive 2005/36/EC and Directive 2013/55/EU, Part 8 Architecture, article 46-49.

"Reviewing the relevant legal regulations in BiH, experts came to the conclusion that regulated professions exist in BiH (health, architecture, veterinary medicine), but there is no regulated education. Regulating education will ensure that professionals from certain study programmes have similar or identical learning outcomes, skills and competencies. Ensuring equal learning outcomes is the responsibility of educational institutions."

- Directive 2005/36/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 7 September 2005 on the recognition of professional qualifications;
- 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 (IMI Regulation), Article 46. Training of architects

DIRECTIVE 2013/55/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, of 20 November 2013, specifies the following article:

"Article 46.

Training of architects

1. The training of architects shall comprise:

(a) a total of at least five years of full-time study at a university or a comparable teaching institution, leading to successful completion of a university-level examination; or

(b) not less than four years of full-time study at a university or a comparable teaching institution leading to successful completion of a university-level examination, accompanied by a certificate attesting to the completion of two years of professional traineeship in accordance with paragraph 4.

2. Architecture must be the principal component of the study referred to in paragraph 1. The study shall maintain a balance between theoretical and practical aspects of architectural training and shall guarantee at least the acquisition of the following knowledge, skills and competences:

(a) the ability to create architectural designs that satisfy both aesthetic and technical requirements;

(b) adequate knowledge of the history and theories of architecture and the related arts, technologies and human sciences;

(c) knowledge of the fine arts as an influence on the quality of architectural design;

(d) adequate knowledge of urban design, planning and the skills involved in the planning process;

(e) 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;

(f) understanding of the profession of architect and the role of the architect in society, in particular in preparing briefs that take account of social factors;

(g) understanding of the methods of investigation and preparation of the brief for a design project;

(h) understanding of the structural design, and constructional and engineering problems associated with building design;

(i) adequate knowledge of 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, in the framework of sustainable development;

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

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

3. The number of years of academic study referred to in paragraphs 1 and 2 may in addition be expressed with the equivalent ECTS credits.

4. The professional traineeship referred to in point (b) of paragraph 1 shall take place only after completion of the first three years of the study. At least one year of the professional traineeship shall build upon knowledge, skills and competences acquired during the study referred to in paragraph 2. To that end, the professional traineeship shall be carried out under the supervision of a person or body that has been authorised by the competent authority in the home Member State. Such supervised traineeship may take place in any country. The professional traineeship shall be evaluated by the competent authority in the home Member State."

Since no occupational standard or qualification standard has been defined at any level in BiH, the following documents have been taken into account:

- *Decision on the standard classification of occupations in the FBiH (Official Gazette of the FBiH*, Vol. XI, No. 40, No. 8, 2004), which lists occupations under the category "*Gender 2. Experts and Scientists*" **2141 ARCHITECTS, URBAN PLANNERS AND TRAFFIC ENGINEERS**.

Architects and urban planners research, advise and design, manage construction, professionally supervise, and plan and manage maintenance work in the field of building construction (residential, business and industrial buildings, hospitals, halls, and the like), plan spatial development and create spatial plans and other physical planning documents and monitor their implementation. These activities include:

a) development and improvement of existing architectural theories and methods;

b) management of project development and building construction design, interior design, garden and landscape architecture design; development of architectural designs for other buildings (pumping stations and the like);

c) harmonization of projects with public and other interests in the process of obtaining a building permit;

d) preservation and revitalization of culture monument buildings;

e) conceiving high-rise buildings, developing conceptual solutions and designs, developing studies and research, consultations and other activities as a basis for developing the main design and helping the investor in making decisions related to a venture investment;

f) supervision of noise and vibration protection, thermal protection and energy saving projects;

g) provision of advisory services in all phases of construction;

h) study of technological aspects of individual construction products, supervision and quality assurance and consulting on them;
i) professional supervision of high-rise buildings;
j) physical planning and design;
k) design of road, railway, air, sea, river (inland navigation) and postal traffic (local, suburban, international) systems, development of traffic studies, traffic planning, dealing with traffic safety, supervising the maintenance of vehicles, vessels and facilities;
l) maintaining technical cooperation and consultation with other relevant experts;
m) preparation of scientific papers
n) related tasks
o) supervision of other associates

Competencies and learning outcomes from all the above documents are implemented in the competencies and learning outcomes at the level of the study programme listed in chapter "2. General information about the study programme". They are realised in core courses, in order to ensure that all students achieve them with the acquired qualification. The coverage of those learning outcomes at the level of the study programme with learning outcomes at the level of core courses is shown in chapter 3.12. Matrix of learning outcomes

3.3. Comparability with the study programmes in the country and abroad

The curriculum is comparable to complementary public faculties of civil engineering, architecture and geodesy in BiH and abroad.

Comparability is reflected exclusively in the competencies and learning outcomes at the level of study programmes and in the duration of studies, while the study programme retains its specifics mainly through the structure, course names, and ECTS credits.

3.4. Openness to student mobility

Student mobility is defined by the *Rulebook on international mobility*, which refers to administrative support for students, student mobility documents, insurance, method of application, the procedure for recognizing mobility and information package. The unique recognition methodology is defined at the university level by the Senate Decision on the adoption of a single form for the *Decision on recognition of courses, ECTS credits, grades, and professional practice during student mobility*, which is recorded in the diploma supplement. Students can find information on mobility programmes and accompanying forms on the University's website and through the web page for international cooperation at the Faculty of Civil Engineering, Architecture and Geodesy, as well as the assistant for international cooperation who forwards information from the university's International Relations Office to student representatives.

3.5. Conditions for enrolment in the study programme and transfer from other study programmes

The *Rulebook on study* of the University of Mostar defines the right to enrol in undergraduate, graduate, and integrated study programmes, which is done through a public competition. The Senate, at the proposal of the scientific-teaching / artistic-teaching council of the organizational unit, and with the consent of the Governing Board of the University and the competent Ministry of Education, Science, Culture and Sports of HNŽ, announces a public tender. It is published in the daily press, on the website and bulletin board of the Faculty of Civil Engineering, Architecture and Geodesy, and it contains information on the conditions for enrolment, entrance examination, tuition fees, criteria for selecting candidates, and other information.
When transferring from other study programmes, a request is submitted to the dean of the Faculty of Civil Engineering, Architecture and Geodesy, and the appropriate committee decides on the possibilities and conditions for enrolment.

3.6. Conditions for enrolment in the next semester and year of study and graduation

Conditions for enrolment in the next semester and higher year of study are defined by the *Rulebook on study* of the University of Mostar and the Rulebook on study of the Faculty of Civil Engineering, Architecture and Geodesy.
The study programme ends with writing and defending a Bachelor's thesis that carries 15 ECTS credits.
The manner and procedure of defending the bachelor thesis and the methodology of its preparation are defined in the Rulebook on writing and defending the Bachelor's Thesis of the Faculty of Civil Engineering, Architecture and Geodesy.

3.7. Organization of study programme

The study programme is organized through a total of six semesters (two semesters per academic year), and classes are conducted according to the schedule of classes through fifteen weeks per semester.
Introduction of distance learning in individual courses can be approved by the head of the department with adequate argumentation of the need to introduce online teaching in a particular course.

3.8. Structure of the study programme

The structure of the study programme is reflected in the number of hours of each type of teaching and teaching in total, the number of hours of practice, and the number of hours of

independent student work in the total student workload of **180** ECTS credits, or 180 x 30 = 5400 hours of work.

According to the *Rulebook on the procedure for adopting new and revisions of existing study programmes* (No. 01-993-1/22), only core courses are listed in the curriculum, a student can acquire 180 ECTS credits only through core courses.

Besides core courses at the level of the FCEAG, i.e., in addition to 30 ECTS credits per semester, a student can choose university elective courses from the list adopted by the Senate each academic year, which are recorded in student's diploma supplement.

The purpose of university elective courses is to acquire competencies not provided by the study programme, but that can help students achieve competitiveness in the market and contribute to building one's personality through education.

Structure of the study programme including certain types of teaching, practice and independent work is given in the following tables.

Year of study: first									
Winter semester									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		l	t	S					
FGAGARB101	Architectural Design I	15	45	0	60	0	90	150	5.0
FGAGARB102	Drawing I	0	45	0	45	0	45	90	3.0
FGAGARB103	Descriptive Geometry and Perspective	30	60	0	90	0	90	180	6.0
FGAGARB104	Architectural Structures and Materials I	30	45	0	75	0	105	180	6.0
FGAGARB105	Mathematics	30	30	0	60	0	60	120	4.0
FGAGARB106	History of Architecture I	30	0	0	30	0	30	60	2.0
FGAGARB107	History of Art I	30	0	0	30	0	30	60	2.0
FGAGARB108	English for Architects I/ German for Architects I	30	0	0	30	0	30	60	2.0
In total		195	225	0	420	0	480	900	30.0
ECTS for core courses									30.0
ECTS for elective courses									0.0
ECTS IN TOTAL									30.0

Year of study: first									
Summer semester									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		l	t	S					
FGAGARB209	Architectural Design II	15	45	0	60	0	90	150	5.0
FGAGARB210	Drawing II	0	45	0	45	0	45	90	3.0
FGAGARB211	Architectural Computer Graphics I	15	45	0	60	0	60	120	4.0
FGAGARB212	Architectural Structures and Materials II	30	45	0	75	0	105	180	6.0
FGAGARB213	Load-Bearing Structures I	30	45	0	75	0	105	180	6.0
FGAGARB214	History of Architecture II	30	0	0	30	0	30	60	2.0
FGAGARB215	History of Art II	30	0	0	30	0	30	60	2.0
FGAGARB216	English for Architects II/ German for Architects II	30	0	0	30	0	30	60	2.0
In total		180	225	0	405	0	495	900	30.0
ECTS for core courses									30.0
ECTS for elective courses									0.0
ECTS IN TOTAL									30.0

Year of study: second									
Winter semester									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		l	t	S					
FGAGARB317	Residential Buildings I	30	75	0	105	0	135	240	8.0
FGAGARB318	Urban Planning I	15	60	0	75	0	75	150	5.0
FGAGARB319	Modelling I	15	30	0	45	0	15	60	2.0
FGAGARB320	Architectural Computer Graphics II	0	45	0	45	0	45	90	3.0
FGAGARB321	Architectural Structures and Materials III	15	30	0	45	0	45	90	3.0
FGAGARB322	Load-Bearing Structures II	30	30	0	60	0	90	150	5.0
FGAGARB323	Installations	15	15	0	30	0	30	60	2.0
FGAGARB324	History of Architecture III	15	0	0	15	0	15	30	1.0
FGAGARB325	History of Art III	15	0	0	15	0	15	30	1.0
In total		150	285	0	435	0	465	900	30.0
ECTS for core courses									30.0
ECTS for elective courses									0.0
ECTS IN TOTAL									30.0

Year of study: second									
Summer semester									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		l	t	S					
FGAGARB426	Residential Buildings II	30	75	0	105	0	135	240	8.0
FGAGARB427	Urban Planning II	30	60	0	90	0	90	180	6.0
FGAGARB428	Urban Sociology	15	0	0	15	0	45	60	2.0
FGAGARB429	Modelling II	15	30	0	45	0	15	60	2.0
FGAGARB430	Load-Bearing Structures III	30	30	0	60	0	90	150	5.0
FGAGARB431	Building Physics	30	0	0	30	0	30	60	2.0
FGAGARB432	Construction Management	30	15	0	45	0	45	90	3.0
FGAGARB433	Contemporary Architecture	15	0	0	15	0	15	30	1.0
FGAGARB434	Modern Art	15	0	0	15	0	15	30	1.0
In total		225	210	0	435	0	465	900	30.0
ECTS for core courses									30.0
ECTS for elective courses									0.0
ECTS IN TOTAL									30.0

Year of study: third									
Winter semester									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		l	t	S					
FGAGARB535	Educational and Community Facilities	30	120	0	150	0	180	330	11.0
FGAGARB536	Urban Planning III	30	60	0	90	0	90	180	6.0
FGAGARB537	Fundamentals of Spatial Planning	30	0	0	30	0	60	90	3.0
FGAGARB538	Energy Efficiency and Sustainable Architecture	30	0	0	30	0	60	90	3.0
FGAGARB539	Metal and Timber Structures	30	30	0	60	0	60	120	4.0
FGAGARB540	Introduction to the Theory of Architecture	30	0	0	30	0	60	90	3.0
In total		180	210	0	390	0	510	900	30.0
ECTS for core courses									30.0
ECTS for elective courses									0.0
ECTS IN TOTAL									30.0

Year of study: third									
Summer semester									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Indepenent work	Workload hours, in total (I.+II.+III.)	ECTS
		l	t	S					
FGAGARB641	Design Studio in Urban Planning and Architecture – Bachelor's Thesis (Business Buildings)	30	240	0	270	0	180	450	15.0
FGAGARB642	Environmental Protection	30	0	0	30	0	60	90	3.0
FGAGARB643	Urban Traffic Areas	30	0	0	30	0	60	90	3.0
FGAGARB644	Architectural Management	30	0	0	30	0	60	90	3.0
FGAGARB645	Introduction to Integrated Design - BIM	15	15	0	30	0	30	60	2.0
FGAGARB646	Conservation of Built Heritage	15	0	0	15	0	45	60	2.0
FGAGARB647	Architecture of Croatia and BiH 20th century	15	0	0	15	0	45	60	2.0
In total		165	255	0	420	0	480	900	30.0
ECTS for core courses									30.0
ECTS for elective courses									0.0
ECTS IN TOTAL									30.0

3.9. The optimal number of enrolled students concerning space, equipment, and number of teachers

Enrolment quotas before the beginning of each academic year are adopted by the Governing Board of the University, at the proposal of the Senate, and with the consent of the competent ministry.
Students can study as full-time students. Full-time students are those who study according to the programme with a full teaching schedule. Full-time students pay their costs by themselves.

3.10. Resources required to conduct the study programme

Teachers from the University and teachers from reference higher education institutions in academic ranks from the relevant scientific area, field, and branch participate in the implementation of the study programme. Data on the structure of teaching staff by rank and education, gender and age structure, scientific research productivity, mobility, and project activities of teaching staff are regularly monitored through the bodies from the quality assurance system. These data are processed at the level of the study programme and organizational unit, and are published in annual reports.

The building of the Faculty of Civil Engineering, Architecture and Geodesy has a total of 3641,37 m^2 of physical resources required for the implementation of study programmes, of which:
lecture rooms:

- "A" (75.5 m^2), 68 seats,
- "B" (75.5 m^2), 68 seats,
- "C" (75.5 m^2), 68 seats,
- "STUDIO" (140.5 m^2), 72 seats,
- "F" (50.3 m^2), 32 seats,
- "G" (50.3 m^2), 32 seats,
- "H" (50.3 m^2), 32 seats,
- "AMPHITHEATRE" (150.8 m^2), 126 seats,
- "GAMMA" (41.65 m^2), 22 seats,
- "DELTA" (47.6 m^2), 30 seats,
- "Computer room 1" (50.3 m^2), 30 seats, 18 computers,
- "Computer room 2" (49.0 m^2), 30 seats, 10 computers.

Based on the signed cooperation agreements in the implementation of the study programme, the resources of other institutions (workplaces for practical teaching) are used:
- the City of Mostar
- Hering d.d. Široki Brijeg
- Ministry of Construction and Physical Planning of HNŽ

- Građevinski istraživački centar d.o.o. Mostar
- IGH d.o.o. Mostar
- Elektroprivreda HZ HB Mostar
- Integra d.o.o. Mostar
- Alfatherm, d.o.o. Mostar

3.11. Study programme quality assurance system

The purpose, goal, structure, operation and areas of evaluation of the quality assurance system of the University of Mostar are defined by the *Rulebook on the structure and operation of the quality assurance system of the University of Mostar*.

According to the *Rulebook*, the quality assurance system at the University of Mostar consists of permanent bodies of the quality assurance system at the university level: the Quality Assurance and Improvement Committee and the Quality Assurance and Improvement Office. The Faculty of Civil Engineering, Architecture and Geodesy is operated by the Quality Assurance and Improvement Committee, which consists of the Vice-Dean for Academic Affairs, the Quality Coordinator, the representative of the teaching staff, the student representative, and the representative of the administrative and technical staff. The Quality Coordinator of the Faculty of Civil Engineering, Architecture and Geodesy is also a member of the Quality Assurance and Improvement Committee.

The *Rulebook* defines the competencies and activities of each body from the quality assurance system. Bodies from the quality assurance system carry out regular activities defined by the University *Quality Assurance Manual at the University of Mostar*, which relate to conducting surveys and monitoring and data processing. Based on the implemented activities, annual reports are prepared at the level of the study programme, organizational unit, and the University.

3.12. Matrix of learning outcomes

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
1	FGAGARB101-1		X																
	FGAGARB101-2			X															
	FGAGARB101-3	X																	
	FGAGARB101-4				X														
2	FGAGARB102-1	X								X						X			
	FGAGARB102-2	X								X						X			
	FGAGARB102-3	X								X						X			
	FGAGARB102-4	X								X						X			
	FGAGARB102-5	X								X						X			
	FGAGARB102-6	X								X						X			
3	FGAGARB103-1				X														
	FGAGARB103-2				X														
	FGAGARB103-3				X														
	FGAGARB103-4				X														
	FGAGARB103-5				X														
	FGAGARB103-6				X														
4	FGAGARB104-1									X								X	
	FGAGARB104-2									X									
	FGAGARB104-3									X								X	
	FGAGARB104-4								X										
5	FGAGARB105-1														X				
	FGAGARB105-2														X				
	FGAGARB105-3														X				
6	FGAGARB106-1	X																	
	FGAGARB106-2	X																	

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
7	FGAGARB107-1	X				X													
	FGAGARB107-2	X				X													
	FGAGARB107-3	X				X													
	FGAGARB107-4	X				X													
8	FGAGARB108-1																		X
	FGAGARB108-2																		X
	FGAGARB108-3																		X
	FGAGARB108-4																		X
9	FGAGARB209-1		X																
	FGAGARB209-2			X															
	FGAGARB209-3	X																	
	FGAGARB209-4				X														
10	FGAGARB210-1	X								X						X			
	FGAGARB210-2	X								X						X			
	FGAGARB210-3	X								X						X			
	FGAGARB210-4	X								X						X			
	FGAGARB210-5	X								X						X			
	FGAGARB210-6	X								X						X			
11	FGAGARB211-1														X				
	FGAGARB211-2														X				
	FGAGARB211-3														X				
12	FGAGARB212-1									X								X	
	FGAGARB212-2									X								X	
	FGAGARB212-3								X	X									
	FGAGARB212-4								X	X									
13	FGAGARB213-1																X		
	FGAGARB213-2																X		

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
	FGAGARB213-3																X		
14	FGAGARB214-1	X																	
	FGAGARB214-2	X																	
	FGAGARB214-3	X																	
15	FGAGARB215-1	X				X													
	FGAGARB215-2	X				X													
	FGAGARB215-3	X				X													
	FGAGARB215-4	X				X													
16	FGAGARB216-1																		X
	FGAGARB216-2																		X
	FGAGARB216-3																		X
	FGAGARB216-4																		X
17	FGAGARB317-1		X	X	X														
	FGAGARB317-2		X	X	X														
	FGAGARB317-3		X	X	X														
	FGAGARB317-4		X	X	X														
18	FGAGARB318-1					X													
	FGAGARB318-2						X												
	FGAGARB318-3													X					
	FGAGARB318-4											X							
	FGAGARB318-5							X											
19	FGAGARB319-1	X	X	X	X											X			
	FGAGARB319-2	X	X	X	X											X			
	FGAGARB319-3	X	X	X	X											X			
	FGAGARB319-4	X	X	X	X											X			
20	FGAGARB320-1														X				
	FGAGARB320-2														X				

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
	FGAGARB320-3														X	X			
	FGAGARB320-4														X	X			
21	FGAGARB321-1										X								
	FGAGARB321-2											X							
	FGAGARB321-3									X									
22	FGAGARB322-1									X									
	FGAGARB322-2									X							X		
	FGAGARB322-3									X							X	X	
	FGAGARB322-4									X							X	X	
	FGAGARB322-5									X							X	X	
	FGAGARB322-6									X							X	X	
23	FGAGARB323-1				X														
	FGAGARB323-2				X														
	FGAGARB323-3							X											
	FGAGARB323-4							X											
24	FGAGARB324-1	X																	
	FGAGARB324-2	X																	
25	FGAGARB325-1	X				X													
	FGAGARB325-2	X				X													
	FGAGARB325-3	X				X													
	FGAGARB325-4	X				X													
26	FGAGARB426-1		X	X	X														
	FGAGARB426-2		X	X	X														
	FGAGARB426-3		X	X	X														
	FGAGARB426-4		X	X	X														
27	FGAGARB427-1	X																	
	FGAGARB427-2		X																

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
	FGAGARB427-3			X															
	FGAGARB427-4						X												
	FGAGARB427-5												X						
	FGAGARB427-6													X					
28	FGAGARB428-1			X															
	FGAGARB428-2												X						
	FGAGARB428-3	X																	
29	FGAGARB429-1	X	X	X	X											X			
	FGAGARB429-2	X	X	X	X											X			
	FGAGARB429-3	X	X	X	X											X			
	FGAGARB429-4	X	X	X	X											X			
30	FGAGARB430-1									X									
	FGAGARB430-2									X							X		
	FGAGARB430-3									X							X		
	FGAGARB430-4									X							X		
	FGAGARB430-5									X							X		
	FGAGARB430-6									X								X	
31	FGAGARB431-1										X								
	FGAGARB431-2		X								X								
	FGAGARB431-3		X						X		X								
	FGAGARB431-4		X								X								
32	FGAGARB432-1								X										
	FGAGARB432-2								X										
	FGAGARB432-3								X										
	FGAGARB432-4								X										
	FGAGARB432-5								X										
	FGAGARB432-6								X										

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
33	FGAGARB433-1	X																	
	FGAGARB433-2	X																	
34	FGAGARB434-1	X				X													
	FGAGARB434-2	X				X													
	FGAGARB434-3	X				X													
35	FGAGARB535-1	X																	
	FGAGARB535-2		X																
	FGAGARB535-3				X														
	FGAGARB535-4							X											
36	FGAGARB536-1					X													
	FGAGARB536-2						X												
	FGAGARB536-3							X											
	FGAGARB536-4											X							
	FGAGARB536-5													X					
37	FGAGARB537-1																		
	FGAGARB537-2																		
	FGAGARB537-3																		
	FGAGARB537-4																		
38	FGAGARB538-1										X								
	FGAGARB538-2									X	X								
	FGAGARB538-3										X								
	FGAGARB538-4														X				
39	FGAGARB539-1		X																
	FGAGARB539-2									X									
	FGAGARB539-3																X		
	FGAGARB539-4																	X	
40	FGAGARB540-1	X																	

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GARB-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
	FGAGARB540-2					X	X												
	FGAGARB540-3															X			
	FGAGARB540-4	X																	
	FGAGARB540-5											X							
41	FGAGARB641-1		X																
	FGAGARB641-2													X					
	FGAGARB641-3				X														
	FGAGARB641-4									X									
	FGAGARB641-5											X							
	FGAGARB641-6							X											
42	FGAGARB642-1			X															
	FGAGARB642-2			X															
	FGAGARB642-3										X								
43	FGAGARB643-1		X																
	FGAGARB643-2			X															
	FGAGARB643-3											X							
44	FGAGARB644-1												X						
	FGAGARB644-2												X						
	FGAGARB644-3												X						
	FGAGARB644-4												X						
	FGAGARB644-5												X						
	FGAGARB644-6								X										
45	FGAGARB645-1														X				X
	FGAGARB645-2								X										X
	FGAGARB645-3								X										
	FGAGARB645-4								X										
46	FGAGARB646-1	X																	

	IU-STUDY PROGRAMME/ IU-COURSE	IU-FGAG ARB-1	IU-FGA GAR B-2	IU-FGAG ARB-3	IU-FGAG ARB-4	IU-FGAG ARB-5	IU-FGAG ARB-6	IU-FGAG ARB-7	IU-FGAG ARB-8	IU-FGAG ARB-9	IU-FGAG ARB-10	IU-FGAG ARB-11	IU-FGAG ARB-12	IU-FGAG ARB-13	IU-FGAG ARB-14	IU-FGAG ARB-15	IU-FGAG ARB-16	IU-FGAG ARB-17	IU-FGAG ARB-18
	FGAGARB646-2	X																	
47	FGAGARB647-1	X																	
	FGAGARB647-2	X																	

4. STUDY PLAN

Year of study: first							
Winter semester							
Course code	Course title	Course status	Hours of teaching			Hours of practice	ECTS
			L	t	s		
FGAGARB101	Architectural Design I	core	15	45	0	0	5.0
FGAGARB102	Drawing I	core	0	45	0	0	3.0
FGAGARB103	Descriptive Geometry and Perspective	core	30	60	0	0	6.0
FGAGARB104	Architectural Structures and Materials I	core	30	45	0	0	6.0
FGAGARB105	Mathematics	core	30	30	0	0	4.0
FGAGARB106	History of Architecture I	core	30	0	0	0	2.0
FGAGARB107	History of Art I	core	30	0	0	0	2.0
FGAGARB108	English for Architects I/ German for Architects I	core	30	0	0	0	2.0
ECTS for core courses							30.0
ECTS for elective courses							0.0
ECTS IN TOTAL							30.0

Year of study: first							
Summer semester							
Course code	Course title	Course status	Hours of teaching			Hours of practice	ECTS
			l	t	s		
FGAGARB209	Architectural Design II	core	15	45	0	0	5.0
FGAGARB210	Drawing II	core	0	45	0	0	3.0
FGAGARB211	Architectural Computer Graphics I	core	15	45	0	0	4.0
FGAGARB212	Architectural Structures and Materials II	core	30	45	0	0	6.0
FGAGARB213	Load-Bearing Structures I	core	30	45	0	0	6.0
FGAGARB214	History of Architecture II	core	30	0	0	0	2.0
FGAGARB215	History of Art II	core	30	0	0	0	2.0
FGAGARB216	English for Architects II/ German for Architects II	core	30	0	0	0	2.0
ECTS for core courses							30.0
ECTS for elective courses							0.0
ECTS IN TOTAL							30.0

Year of study: second							
Winter semester							
Course code	Course title	Course status	Hours of teaching			Hours of practice	ECTS
			l	t	s		
FGAGARB317	Residential Buildings I	core	30	75	0	0	8.0
FGAGARB318	Urban Planning I	core	15	60	0	0	5.0
FGAGARB319	Modelling I	core	15	30	0	0	2.0
FGAGARB320	Architectural Computer Graphics II	core	0	45	0	0	3.0
FGAGARB321	Architectural Structures and Materials III	core	15	30	0	0	3.0
FGAGARB322	Load-Bearing Structures II	core	30	30	0	0	5.0
FGAGARB323	Installations	core	15	15	0	0	2.0
FGAGARB324	History of Architecture III	core	15	0	0	0	1.0
FGAGARB325	History of Art III	core	15	0	0	0	1.0
ECTS for core courses							30.0
ECTS for elective courses							0.0
ECTS IN TOTAL							30.0

Year of study: second							
Summer semester							
Course code	Course title	Course status	Hours of teaching			Hours of practice	ECTS
			l	t	s		
FGAGARB426	Residential Buildings II	core	30	75	0	0	8.0
FGAGARB427	Urban Planning II	core	30	60	0	0	6.0
FGAGARB428	Urban Sociology	core	15	0	0	0	2.0
FGAGARB429	Modelling II	core	15	30	0	0	2.0
FGAGARB430	Load-Bearing Structures III	core	30	30	0	0	5.0
FGAGARB431	Building Physics	core	30	0	0	0	2.0
FGAGARB432	Construction Management	core	30	15	0	0	3.0
FGAGARB433	Contemporary Architecture	core	15	0	0	0	1.0
FGAGARB434	Modern Art	core	15	0	0	0	1.0
ECTS for core courses							30.0
ECTS for elective courses							0.0
ECTS IN TOTAL							30.0

Year of study: third							
Winter semester							
Course code	Course title	Course status	Hours of teaching			Hours of practice	ECTS
			l	t	s		
FGAGARB535	Educational and Community Facilities	core	30	120	0	0	11.0
FGAGARB536	Urban Planning III	core	30	60	0	0	6.0
FGAGARB537	Fundamentals of Spatial Planning	core	30	0	0	0	3.0
FGAGARB538	Energy Efficiency and Sustainable Architecture	core	30	0	0	0	3.0
FGAGARB539	Metal and Timber Structures	core	30	30	0	0	4.0
FGAGARB540	Introduction to the Theory of Architecture	core	30	0	0	0	3.0
ECTS for core courses							30.0
ECTS for elective courses							0.0
ECTS IN TOTAL							30.0

Year of study: third							
Summer semester							
Course code	Course title	Course status	Hours of teaching			Hours of practice	ECTS
			l	t	s		
FGAGARB641	Design Studio in Urban Planning and Architecture – Bachelor's Thesis (Business Buildings)	core	30	240	0	0	15.0
FGAGARB642	Environmental Protection	core	30	0	0	0	3.0
FGAGARB643	Urban Traffic Areas	core	30	0	0	0	3.0
FGAGARB644	Architectural Management	core	30	0	0	0	3.0
FGAGARB645	Introduction to Integrated Design - BIM	core	15	15	0	0	2.0
FGAGARB646	Conservation of Built Heritage	core	15	0	0	0	2.0
FGAGARB647	Architecture of Croatia and BiH 20th century	core	15	0	0	0	2.0
ECTS for core courses							30.0
ECTS for elective courses							0.0
ECTS IN TOTAL							30.0

5.