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FOR SUSTAINABLE AND RESILIENT ENVIRONMENTS
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WB Institution: Džemal Bijedić University of Mostar, Bosnia and Herzegovina

Study on the needs, constrains and possibilities for the development of postgraduate study programme *Sustainable and resilient environments*

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Summary:

*The study presented in this document falls within the scope of the **Work Package 1.2: Analysis of needs, constrains and possibilities for curricula development**. It includes:*

- *general introduction with explained common need for study programmes (extract from the application),*
- *analysis of national regulations in terms of higher education and the level concerned, and comparison with the application proposal,*
- *national state in the fields Sustainability and Resilience: regulations, practice, existing study programmes; gap detection; comparison with the application proposal,*
- *consideration of national qualification framework and comparison with the European standards in higher education,*
- *institutional capacities in terms of development of study programme (institution description, staff capacity, equipment, space (premises), relevant knowledge base at lower levels of education - bachelor and master studies, existing teaching methodology, virtual mobility practice, etc.),*
- *educational material in national language about Sustainable and Resilient Environments - availability, scope, subjects, etc.,*
- *results of the survey done among students and working professionals (presentation of the survey sample, number of questioned persons and interpretation of results. The survey includes assessment of the knowledge about Sustainability and Resilience, critical issues recognition, actual practice review, etc.),*
- **conclusions with accented direction and conditions for curriculum development and foreseen contribution to the fields Sustainability and Resilience,** and
- *any other issues that individual WB partners find as relevant for further work within the scope of Work Package 2.*

The aim of the study is to set objective base for curricula development.

1. General introduction

The original idea for the project titled CREATING THE NETWORK OF KNOWLEDGE LABS FOR SUSTAINABLE AND RESILIENT ENVIRONMENTS (acronym KLABS) was born from educational and research activities and related awareness about the complex existing conditions. Project formula is research-oriented, meaning that the methodology for its development is based on realistic problem definition or, in another words, need for the project.

Indeed, the included region, that is Western Balkan, today is faced with significant challenges in the fields of sustainable development and adaptation to climate change; these challenges are visible in both urban and rural built environments, where the second are often undeservedly more underestimated.

Sustainability and resilience are two separate, but strongly interrelated concepts. The development process and its main credo by which the needs of present generation must be met in a way which will not compromise the ability of future generations to meet their own needs today is compounded by manifestation of past unsustainable actions in society - the climate change. Increased pressure on the environment thus doesn't origin just from the population, their activities or technology, but as well from the nature itself. Therefore, the sustainability - preservation or upgrade of the possibilities for future generations, and the resilience - development of adaptive capacity of the social environments to the climate change consequences, need to be studied concurrently.

Despite the scientifically proved facts, the measures to achieve sustainability and resilience in practice are rarely applied in subject Region. One of the main reasons for the current state is the lack of knowledge. "Malpractice" leaves significant and permanent damage in the environment and contributes to the increment of environmental, but as well social and economic risks.

In regard to the said, the project intends to contribute to the preparedness for coping with, managing and shaping the conditions of growing complexity. Through capacity building, the project aims to create the base for equipping the professionals with new competences and skills necessary to respond to the recognized needs of today's society and job market.

The overall broader objective is to support the modernization of higher education in WB Region by implementing strategic approach in the development of **innovative platform for the delivery of knowledge about sustainable and resilient environments.**

To define the form and scope of knowledge delivery, foreseen by KLABS project, the current state in higher education sector in included Western Balkan countries was studied. It was concluded that the separate study programmes related to sustainability are rare and mostly focused on energy aspect, while the programmes which would include comprehensive education on both sustainability and resilience do not exist at all.

The two topics are in overall rarely present in existing university curricula and are mostly delivered to the students in a form of isolated theoretical classes; this separation from the curriculum backbone reflects negatively on knowledge integration and its practical application in professional work and real life situations. Additionally, the past generations of students didn't get any in-institutional education in subject themes. Finally, to understand the two concepts and their complexity one must own the sufficient broader professional knowledge and skills.

All these considerations led to the conclusion that incorporation of the themes of sustainability and resilience into existing study programmes would not bring completely satisfying results, although would certainly help to develop knowledge base.

This is why KLABS project proposes the introduction of new postgraduate study programmes Sustainable and Resilient Environments. By doing this, the possibility to gain the knowledge opens not just to graduated students, but also to all working professionals who completed their studies long time before the terms sustainability and resilience were introduced at all, and they are therefore considered as important and large target group to be impacted by project.

2. Analysis of national regulations

The higher education system in Bosnia and Herzegovina (BiH) closely reflects the constitutional complexities of the country¹. The Constitution² defines BiH as an independent state consisting of two entities: the Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska (RS). Brčko District (BD) has been established as a separate administrative unit under the sovereignty of BiH³. The FBiH is made up of ten cantons. There are 14 governments in the country: 1 national, 2 entity-level, 10 cantonal and BD. This means that there are 14 different ministries/departments dealing with education in the country, including: the state-level Ministry of Civil Affairs of BiH, two

¹

http://eacea.ec.europa.eu/tempus/participating_countries/overview/bosnia_and_herzegovina_country_financial.pdf

² Article 3 of the Constitution of BiH

³ Article 1 of the Statute of Brčko District BiH, Official Gazette of Brčko District BiH, No 17-08

entity level ministries of education (Federal Ministry of Education and Science and Ministry of Education and Culture RS), 10 cantonal ministries of education, and an education department within the Government of BD.

At national level, education policies are coordinated by the Ministry of Civil Affairs of BiH in consultation with other relevant ministries. This Ministry is also responsible for international cooperation in areas of higher education at the state level, including promoting links between BiH and foreign higher education institutions and promoting the mobility of students and staff within the field of higher education in Europe and internationally. In FBiH, the main function of the Federal Ministry of Education and Science is to coordinate activities among the ten cantonal ministries of education. It does not have constitutional authority to create and implement higher education policies. In Republika Srpska, the Ministry of Education and Culture RS has full authority to develop and implement higher education policies in this entity.

Higher education in BiH is regulated by the Framework Law on Higher Education in BiH, which was adopted in July 2007. The Law sets the basic standards and principles for the area of higher education. In addition to the state level Law, the RS entity and the ten cantons in the FBiH entity, as well as BD, have their own laws and regulations in the area of higher education.

By Article 63 of the Law, on levels of the RS entity, the ten cantons in the FBiH entity, and BD, laws had to be harmonized with the state Law six months after its adoption. But, for example, Law on Higher Education in Herzegovina-Neretva Canton (HNK), where University "Džemal Bijedić" of Mostar is located, was adopted in March 2012.

Under the laws⁴, higher education in BiH is organized in the following three cycles:

- The first cycle; leading to an undergraduate degree - can be obtained after 3 or 4 years of full-time study, after a high school certificate has been obtained. It carries between 180 and 240 ECTS. The exceptions are studies in medical sciences, which can comprise up to 360 ECTS.
- The second cycle - leading to a Master degree or equivalent - lasts 1 or 2 years and can be obtained after completing undergraduate studies. It comprises between 60 and 120 ECTS. The first two cycles together account for 300 ECTS.
- The third cycle - leading to a doctoral degree (PhD) or equivalent lasts 3 years and comprises 180 ECTS.

One semester comprises 30 ECTS in each cycle. Studies can be organized in two semesters, e.g. fall and winter semester, and by the year of studies.

Higher education institutions in BiH include:

⁴ Framework Law on Higher Education in BiH, Article 5, and Law on Higher Education in HNK, Article 103

- University is defined as a higher education institution offering academic degrees in all three cycles, and studies in at least five different subject groups in at least three scientific areas, including: natural sciences, technical sciences, biomedicine and health, biotechnical sciences, social sciences, and humanities.
- College is defined as a higher education institution offering diplomas and degrees of the first cycle in at least one subject group in one scientific area.⁵

The basic act of any higher education institution in BiH is its statute. The statute is adopted by the Senate of the higher education institution, having previously obtained the opinion of the governing board of the HE institution. The statute must be harmonized with the laws on Higher Education in BiH. University governing bodies include are:

- 1) Governing Board,
- 2) Senate, and
- 3) Rector.

College governing bodies include:

- 1) Governing Board,
- 2) Senate, and
- 3) Director.

The Governing Board performs tasks laid down by the laws and the statute, and is responsible for the functioning of the higher education institution. It gives opinions on the statute, adopts general acts, financial and development plans, annual plans and reports, guides, monitors and assesses the work of the rector in areas of financial affairs, etc.

The Senate is the highest academic body of the higher education institution. It comprises representatives of academic staff and students. The Senate decides about all academic issues, especially issues related to teaching and scientific and artistic activities, adopts curricula, elects rectors and vice-rectors and academic staff, and performs other important tasks. University Senates adopt general acts proposed by units of the university. However, prior to their adoption these acts need to be agreed upon by the units and the opinion of the relevant ministry has to be obtained. These acts regulate issues such as the course name, the course schedule by semester, the number of courses by week for all courses, and other important issues.

The Rector is responsible for university management and is accountable to the Senate in relation to academic issues and to the Governing Board regarding business issues. The Rector represents and acts on behalf of the HE institution, organizes and manages the work, adopts individual acts, proposes general acts and development plans,

⁵ Framework Law on Higher Education in Bosnia and Herzegovina, Article 10, and Law on Higher Education in HNK, Article 9

develops and submits financial reports, participates in the work of the Rectors' Conference and performs other tasks and duties in accordance with the laws.

Universities may have organizational units, such as faculties, academies, colleges, or scientific institutes, that engage in teaching, scientific research or artistic work in one or more areas of education and science.

Quality assurance, licensing and accreditation of higher education institutions and/or programmes in BiH are governed by the Law. The Agency for Development of Higher Education and Quality Assurance was established under the Law, and became operational in December 2008. The Agency is responsible, among other things, for:

- 1) defining criteria for the accreditation of higher education institutions,
- 2) setting norms for minimum standards in the field of higher education,
- 3) defining criteria for the selection of local and international experts in charge of appraisal, quality review and recommendations,
- 4) providing recommendations to relevant ministries on criteria and standards for the establishment and closure of HE institutions,
- 5) restructuring of study programmes,
- 6) providing recommendations on criteria for licensing of HE institution and study programmes,
- 7) setting quality standards and quality analysis,
- 8) providing recommendations on student fees, and
- 9) representing the country in international organizations dealing with Quality Assurance in higher education.

For HNK, canton's Ministry of Education, Science, Culture and Sport can issue a certificate on accreditation of higher education institution or the study program, based on the Agency recommendations.⁶

3. Consideration of national qualification framework

National qualification framework is defined and regulated by: The Framework for Higher Education Qualifications in Bosnia and Herzegovina (2008), Standards and Guidelines for Quality Assurance in Higher Education in Bosnia and Herzegovina based on ESG from 2005 (2007), Basics of qualification framework in B&H (2011).

Law on the titles acquired by completion of higher education (2014) existing at the level of Republic of Srpska, but not in Federation Bosnia Herzegovina or national level.

⁶ Law on Higher Education in HNK, Article 27

In the field of higher education in Bosnia and Herzegovina there are three levels of education: the first, the second and the third cycle. According to qualification framework in B&H there are two types of postgraduate studies: master as the second cycle of higher education and doctorate as the third cycle. All three cycles of the B&H framework for higher education qualifications reflect and expand upon the 'Dublin Descriptors' adopted by Ministers of Education under the Bologna Process, following a decision of ministers to adopt a higher education system that is essentially based on three cycles. 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.

The BiH descriptors provide more detail than the Dublin Descriptors and are intended to be read with reference to each other. They describe the knowledge, skills and abilities associated with typical end cycle qualifications e.g. Bachelor's Degree, Master's Degree, and Doctorates. These descriptors are not meant to be prescriptive or exhaustive and need to be cross-referenced with other external reference points including national and international academic or professional subject specific guidance materials.

Qualifications that signify the successful completion of the second cycle (60-120 ECTS credits) are awarded to students who:

- 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:
 - critical evaluation of current research and academic work at the forefront of the discipline,
 - 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;

- 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.

4. Sustainability and resilience at national state

It is obvious that laws and regulations at all levels of territorial division in Bosnia and Herzegovina „cover“ all areas and on paper try to provide sustainable and resilient development at all relevant sectors. Strategies and action plans in Federation B&H and in Herzegovina-Neretva Canton are missing, as well in almost all cases, responsibility. Territorial division in Bosnia and Herzegovina makes difficult to have a clear strategy and plans for improving these areas.

For example, Ministry of construction and spatial planning in Federation of Bosnia and Herzegovina is on the cantonal level. Therefore, it is possible that cantons (10 cantons) have different ideas how to solve same problems. They try to solve it in the most inadequate way, if they solve it at all. On paper, everybody (except those who should be in charge of the matter) wants to help and improve the current situation. However, the specific aimed action is missing. The differences between the wishes and specific aimed action are sometimes even ridiculous; however, we mostly deal with political inconsistencies, different approaches, non-educated staff that is in charge and lack of financial means and knowledge.

Ministry of construction and spatial planning of Herzegovina Neretva Canton has following interesting tasks:

1. spatial planning and development
2. determining the conditions for spatial development for the buildings that are of importance to the Canton
3. enact regulations regarding usage of local space including zoning
4. following the situation in terms of construction operative
5. housing and municipal services
6. determining housing policy, including enactment of regulations on development and construction of housing units

7. reconstruction of housing and municipal services
9. concluding economic and financial agreements with other cantons with the consent of cantonal government and Ministry of finances
10. determining the conditions for carrying out of works in protected parts of nature
11. activities of informatization of space and environment
- 12. producing a concept of the programme for scientific and research activities for spatial and social development of the canton**

Institute for spatial planning and environment protection is within the Ministry of construction and spatial planning. Its mission primarily refers to planning, programming, projecting, usage, valorisation and protection of the space and measures for their implementation.

Furthermore, situation in Federation of Bosnia and Herzegovina is such that there are ministries with almost identical description of authorities on cantonal and federal level. It is the case of spatial planning and Ministry of agriculture, water management and forestry that exist both on the level of Herzegovina Neretva Canton and on the level of Federation of Bosnia and Herzegovina.

Main documents on the level of Federation of Bosnia and Herzegovina are:

- Law on agriculture
- Law on financial support in agriculture and rural development
- Law on agriculture land
- Law on waters
- Law on spatial planning and usage of land on the level of Federation of Bosnia and Herzegovina
- Law on taking over the law on housing relations

Main documents on the level of Herzegovina Neretva Canton are:

- Law on construction
- Law on spatial planning
- Law on waters
- Law on stimulating the development of small businesses and protection of traditional crafts
- Law on concessions
- Law on environment protection of Herzegovina Neretva Canton
- Law on protection of nature

From the surplus of our research, we can conclude that there is a certain level of conscience for sustainable development and resilience. Furthermore, it is clear that stakeholders at all levels are willing to change the current practice and go more for a sustainable future and resilient solutions.

In addition, it is evident that there is a possibility, at least according to papers, to reach stronger and more solid cooperation between the University and its surroundings – governing structures in improvement of sustainable future and resilient solutions.

5. INSTITUTIONAL CAPACITIES IN TERMS OF DEVELOPMENT OF STUDY PROGRAM

5.1. Short institutional description

Dzemal Bijedic University of Mostar was founded in 1977 as one of the pillars of the development of the Herzegovina region. Today University consists of eight faculties: Agro-Mediterranean Faculty, Faculty of Civil Engineering, Faculty of Economy, Faculty of Education, Faculty of Humanities, Faculty of Information Technologies, Faculty of Law, and Faculty of Mechanical Engineering. Study programs are organized according to the Bologna principles. Students come mostly from Herzegovina and mid-Bosnia, but also from the rest of the country. Additional University capacities include Institute of engineering, Institute for design and testing of materials and construction, Educational center, the International Centre for Philosophy, Institute for economic development, Institute of Biology and Chemistry, University Library, Multimedia Centre, International Relations Office, Quality Assurance Office, Centre for biotechnology and Centre for Career Development.

University mission is to organize a wide range of educational processes of different contents and levels, to perform theoretical, applied and emerging scientific research, to become one of the leaders in the education of young experts necessary for the development of economy and society, as well as to promote cultural and social development of our region and country.

The vision is to create relatively small and flexible university recognizable in the region of Mediterranean and further, with internationally recognized multidisciplinary educational programs based on the latest teaching methods according the needs of local, regional, and international labor market; to participate in the shaping of future and emerging knowledge and technologies; and to introduce international standards into education in order to become a generator of the society development.

As a part of the efforts to fulfil its mission and achieve the vision, University has good cooperation with national and international higher education and research institutions, as well as local entrepreneurship. Apart from close cooperation with seven other public Universities of B&H, and membership in B&H Rector Conference, Dzemal Bijedic University of Mostar has signed bilateral and multilateral Cooperation Agreements with Universities in Spain, Germany, Turkey, Italy, Serbia, Montenegro,

Slovak Republic, Finland, Austria, Macedonia, Egypt, and Norway. Together with its partners, and utilizing the teachers and students potential, the University is implementing a number of projects, funded from different programs and aiming a wide scope of goals, from purely scientific to almost completely socially oriented. The most numerous projects that University implemented after the war are Tempus projects, closely followed by DAAD and WUS-Austria supported projects, than IPA, FP, and of lately Mevlana supported staff and cooperation development. It is our firm determination to continue and strengthen our own potential in applications for Horizon 2020, as well as scientific projects funded by the Republic of Turkey, and other available sources.

Student Union of Dzemal Bijedic University of Mostar is an independent nongovernmental student organization, aiming to support students in their activities and to protect their rights. It is a member of Federation of Bosnia and Herzegovina Student Association, as well as of the European Student Organization. Students of three technical faculties are additionally organized in a branch of the BEST organization, as the only participating university branch from B&H. As active members, they organize competitions and summer schools in effort to provide additional value to traditional education.

5.2. Staff capacity

University „Dzemal Bijedic“ of Mostar has academic staff (professors, assistants and researchers) in various fields of science. It has several professors in the field of energy, civil engineering, sustainable development and resilient.

5.3. Equipment

There are the Institute for design and testing of materials and construction at the University.

The Institute of Mechanical Engineering is part of the Faculty of Mechanical Engineering and it is the scientific research unit. The following laboratories have been established at the Institute of Mechanical Engineering:

- Laboratory for welding,
- Laboratory for testing of materials,
- Laboratory for NDT,
- Laboratory for vibration and Laboratory for strain gauges.

Three new laboratories are established within the frame of the project TEMPUS RESi (Renewable Energy Studies in Western Balkan Countries):

- the Laboratory for Solar energy,
- the Laboratory for Geothermal energy and t
- the Laboratory for Wind energy.

We finish a tender procedure for the equipment purchasing. Delivery of the equipment is ongoing process.

The University has the classrooms for new study, but we need ICT equipment and the other equipment for sustainable development and resilient.

We strive Existing teaching methodology at the University to be consistent with the Bologna Process. We have not much experience with virtual mobility practice.

In the frame of TEMPUS RESi project (Renewable Energy Studies in Western Balkan Countries) we developed new master study program Renewable Energy Sources.

Master study programme - Renewable energy sources starts this academic year – 2015/16. The first semester is completed on schedule. Now the second semester is in progress. It is two years study program. The subjects in semesters are shown in the table:

	Modul	C/IF	L + E	ECTS
I semester	Mathematics III	C	45+45	6
	Applied Fluid Mechanics	C	30+30	6
	Applied Thermodynamics	C	30+30	6
	Maintenance of energy plants	C	30+30	6
	Elective module 1	IF	30+30	6
Total			165+165	30
II semester	Hydropower plants	C	30+30	6
	Solar power plants	C	30+30	6
	Windpower plants	C	45+15	6
	Biomass energy	C	30+30	6
	Geothermal energy	C	30+30	6
Total			150+150	30
III semester	Monitoring systems and energy managm.	C	30+30	6
	Method. of environm. impact assessment	C	30+30	6
	Research Project of Renewable Energy	C	30+30	12
	Elective module 2	IF	30+30	6

Total		150+150	30
IV semester	Master thesies	0	-
			30
Total		-	30

5.4. General information about the Master study program:

The name of the Master study program: Renewable energy sources

Level (cycle) - II cycle studies

2 years (4 semesters)

ECTS - 120

Profession - Master of Mechanical Engineering, the field of energetics, scientific sub-areas: Renewable energy sources

The field of education: Technical Sciences - Mechanical Engineering - Energy and Process Engineering.

6. NEW STUDY PROGRAM PROCEDURE

University has brought the procedures for developing and adoption of new study programmes on the session on the Senate in 2012. The procedure stipulates the system of responsibilities when developing and adopting new study programmes on Dzemal Bijedic University of Mostar and it also stipulates the content of the elaborate on justification regarding the carrying out with the new study programme. Procedure is unified for all new study programmes that are planned at the University as well as for those whose changes and updates exceed 40 percent of the study programme – changes and updates that include over 40 percent of study programmes are considered as new study programmes.

Main elements of procedures for development of new study programmes at the University are:

1. Appointing of the Commission for developing the study programme

According to the strategic plan of the organizational unit, the management of the organizational unit i.e. University management creates a working assignment and proposes appointment of the commission for development of study programme (hereinafter: Commission).

The description of working assignment includes:

- Main goal of the study programme (chapter 3.a)
- General data on study programme (chapter 1)

Apart from teaching staff and associates on the study programme, Commission also consist of representatives of the stakeholders.

The proposal of the working assignment and Commission is submitted to the teaching and scientific board of the organisational unit for discussion. If the teaching and scientific board confirms the working assignment and Commission, the proposal for development of new study programme is submitted to the Senate for discussion. If Senate gives its consent and confirms the working assignment, we start with development of new study programme. Otherwise, the management of the organizational unit should recreate the working assignment and propose appointment of the Commission, in the same procedure.

The deadline for giving the consent and confirming the working assignment and Commission on the Senate session is December 31, for news study programmes, which are planned to carry out in the following academic year.

2. Producing and content of the Study

Commission drafts the text of the Study with clearly defined elements. The result of the Commission's activities is Study on justification of developing new study programme.

New study programme, which is drafted and adopted by the University, whether it is the first, second or third cycle study programme, is in detailed explained in the Study on justification of developing a new study programme.

The Study must contain following chapters:

- A. Main data on University and organisation unit with the explanation regarding the experience and competence in educating a given profile of professionals**
- B. General data on study programme**
 - a. Name
 - b. Level (cycle)
 - c. Model
 - d. Number of ECTS
 - e. Type of study programme
 - f. Academic title awarded
 - g. Area of education
 - h. Way of carrying out of the teaching process
- C. Standardization with the needs of the society and labour market**
 - a. The goals of study programmes
 - b. Profile of the qualifications

- c. The learning outcomes
- d. Consultations with the stakeholders
- D. Standardization with the mission and the strategy of the University and the organisational unit**
- E. Curriculum**
 - a. Description of the curriculum,
 - b. List of compulsory and elective courses and/or modules with number of class hours necessary for their implementation and number of ECTS
- F. The Bologna principles in the curriculum**
 - a. Mobility in the curriculum
 - b. Flexibility of the curriculum
 - c. Students' practise (practical training)
 - d. Students' volunteerism
 - e. Obtaining of ECTS
- G. Programme of the courses**
 - a. Goals of the courses
 - b. Course learning outcomes
 - c. Content of the course
 - d. Aching methods
 - e. Exams and grading
- H. Matching with at least two study programmes from other institutions from counties –signatories of Bologna declaration**
- I. Financial construction – sustainability**
- J. Quality assurance elements**
- K. Additional explanation on study programme**
 - a. The conditions to enrol on the study programme,
 - b. Conditions to enrol while enrolled on other study programmes,
 - c. Curriculum with elements given on the forms enclosed (apart from elements given in chapter 5. and 6. the curriculum should describe the preconditions for enrolment of certain courses and groups of courses and the way to choose courses from other study programmes),
 - d. Possibility to employ graduated students,
 - e. Incorporation of syllabi of all courses,
 - f. Proofs of having necessary space, teaching staff and technical resources.

3. Adoption of the Study

Teaching and scientific board of the organisational unit discusses the quality of the Study on justification of developing a new study programme.

The very process can have two outcomes:

- The proposal is rejected and returned for improvements
- The proposal is accepted and submitted to Senate for adoption.

In the case of positive outcome of the discussion on Study teaching and scientific board of the organizational unit discusses and adopts the list of teaching staff in charge for carrying out the teaching process on the study programme.

4. Submitting the proposal of the Study to the Senate for adoption

In addition to the Study, the offices of the organisational unit prepare and submit to the Senate following documentation:

- Decision of the teaching and scientific board of the organisational unit to adopt the proposal of the Study on justification of developing a new study programme
- Decision on the proposal of the list of teaching staff in charge of carrying out the teaching process on the proposed study programme.

The Senate discusses the quality of the Study on justification of developing new study programme.

The very process can have two outcomes:

- The proposal is rejected and returned for improvements
- The proposal is accepted and submitted to Ministry in charge

The deadline for adoption new study programmes on the Senate session is April 30, for news study programmes, which are planned to carry out in the following academic year.

5. Submitting the proposal of the Study on justification on starting a new study programme to Ministry in charge

In addition to the adopted Study, offices of the University prepare and submit to the Ministry following documentation:

- Decision of the Senate to adopt the Study on justification to develop/carry out new study programme,
- Decision on teaching staff in charge of carrying out the teaching process on the very study programme,
- Proof of employment with full working hours of teaching staff and associates for all years of studying on which the higher education institution plans to carry out the teaching process,
- Decision on election to academic title of teaching staff from the indent above,
- Overview regarding the workload of teaching staff engaged on new study programme and other study programmes at the University,
- Programmes of the courses that are received from the organisational unit management.

Enclosed:

- Instructions and recommendations for the development of Study on justification of starting a new study programme
- Supporting forms
- List of courses
- Curriculum

The procedure is public and it is available, with all supporting attachments and guidelines at following link www.unmo.ba/dokumenti.aspx

7. ACCREDITATION AND LICENSING

There are two types of accreditation in Bosnia and Herzegovina:

- Accreditation of the institution/higher education institution – institutional accreditation
- Accreditation of every study programme separately – programme accreditation.

Bosnia and Herzegovina is currently going through the process of accreditation of higher education institution. The accreditation of study programmes has not yet started even though, there were certain projects (primarily TEMPUS projects) that made possible the accreditation of several study programmes at public higher education institutions. Precondition for accreditation of study programmes is that the very higher education institution is institutionally accredited. The second precondition for study programmes is that the very study programme has at least one generation of students who graduated the study programme that seeks the accreditation, because there is criteria for accreditation that measure and indicate the success of the study programme i.e. expected results, which is not possible to show if the given condition is not met.

If the study programmes in Bosnia and Herzegovina are not accredited, that does not imply that they are not good study programmes and that they are not in line with the highest educational standards. Accreditation is considered only as formal confirmation of meeting the defined criteria i.e. standards.

Dzermal Bijedic University of Mostar has clearly defined mechanisms of development and improvements of its study programmes, which primarily imply regular self-evaluations, analysis of success and quality of study programmes and other forms of analysis carried out by the University Management, management of the faculties and Office for quality assurance.

Accreditation of the institution and study programmes is based on known criteria and indicators on the level of Bosnia and Herzegovina. There are nine criteria and approximately thirty indicators that need to be described in details in our self-evaluation report for institutional accreditation while there are seven criteria for accreditation of study programmes. Criteria for accreditation of institutions and study programmes in Bosnia and Herzegovina are in line EGS – European Standards and Guidelines. At the moment, they are being standardized with revised ESG adopted at the conference of education ministers in Jeveren held last year. Detailed information can be found in official web page of the Agency for development of higher education and quality assurance at Bosnia Herzegovina (HEA) - link:

http://hea.gov.ba/kvalitet/dokumenti/Archive.aspx?template_id=52&pageIndex=1

Dzemal Bijedic University of Mostar is accredited higher education institution in Bosnia and Herzegovina higher education system.

In our case, system of licensing almost does not exist. We only need to inform the state administration body in charge of licensing about the new study programme we want to start and submit the Study of the justification. Ministry in charge can control the enrolment of students to specific study programmes through enrolment quotas. In the majority of cases, they only confirm our requests in terms of number of students and type of studying. Having in mind the aforementioned, it is clear that Dzemal Bijedic University of Mostar is sole bearer of the burden in terms of developing and implementing new study programme. Therefore, we have introduced internal procedures that are very strict and that stipulate an obligation to describe mentioned chapters in details. The Senate is the body in charge in terms of final decision for starting with new study programme.