



WP2

Development of curricula

Lead Organisations of WP2: **UNS - Serbia**

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Analysis of study requirements with Bologna standards

Institutional and legal framework of higher education - Law on Higher Education

The Bologna Declaration was signed in 1999 by ministers responsible for higher education from 29 European countries. One year before the Bologna Declaration, Sorbonne declaration was signed in Paris. These events and texts initiated a European cooperation process that has radically changed higher education. Reforms have affected countries within and beyond Europe, and the number of official signatory countries has risen to 48, with Belarus the most recent state to join in 2015.

Bologna Process started with signing Bologna Declaration and aims to create a unified European system of university teaching and research by 2010 while recognizing the diversity of national specificities (culture, language, tradition, etc.).

The key ideas arising from the Bologna Declaration and ministerial meetings and conferences (meeting in Prague 2001, Berlin 2003, Bergen 2005, etc.) are:

- Establishment of a European Higher Education Area,
- Adoption of a new study structure consisting of 3 cycles,
- Promoting student and teacher mobility,
- Adoption of a system of comparable degrees.

Serbia signed the Bologna Declaration on 18 September 2003. The Law on Higher Education (LHE) adopted on 10 September 2005 regulates the system of higher education in Serbia. This law introduced the principles of the Bologna Declaration and the Lisbon Convention and created the basis for Serbia's inclusion in the European Higher Education Area. Based on the adopted Law on the LHE from 2005, institutions in higher education were formed, which, by adopting the necessary documents, enabled the implementation of the accreditation process in 2006 (Pavlovic, 2011).

One of the important part of this procedure is establishing of the professional teams of reviewers, elected by the Accreditation Commission, further to the announced public invitation, from among the ranks of the internationally recognized domestic and foreign university teachers, scholars, artists and experts from scientific or artistic fields, as specified in the LHE. The process of adaptation to the Bologna Declaration in Serbia was described by Slavkovic and Eisuke (2009). The first accreditation of colleges in Serbia that was in accordance with LHE and Standards started on 15 December 2006.

Higher education in Serbia is provided by universities and colleges that are either public or private. Academy of Applied Studies has also been envisaged by the law, but no such institution has been founded yet. All higher education institutions must be accredited before obtaining a working license issued by the Ministry of Education, Science and Technological Development. The Ministry is the governmental authority in charge of higher education. It

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recommends educational policies to the Government, plans admission policies for students, allocates financial resources to higher education in institutions, and acts as a general supervisor of the overall higher education development. Another authority in charge of higher education is the National Council for Higher Education (NCHE). It is the highest institution in the Republic of Serbia, which, according to the Law on Higher Education, is responsible for ensuring the development and improvement of the quality of higher education. The National Council establishes a separate working body called the Accreditation and Quality Evaluation Commission to carry out tasks related to the accreditation and quality evaluation of higher education institutions and their individual units and those related to the evaluation of study programmes. The Conference of Universities of Serbia and the Students' Conference of Universities of Serbia are the two consultative bodies. They also act as very important factors in the governing of higher education.

Analysis of the system of the undergraduate and graduate studies and system of ECTS credits comparing to the Bologna Declaration

Every person who finishes a four-year secondary school has open access to higher education in Republic of Serbia. According to the latest 2011 census, 10.59% of the population of Serbia have higher education qualifications.

Serbia joined the Bologna Process in 2003. The adoption of the Law on Higher Education (2018) supporting the implementation of the Bologna Process followed in **2005**. This law formally introduced:

- the European Credit Transfer System;
- three-cycle system of study;
- diploma supplement.

Higher education is divided into **three levels**:

- The first level (Bachelor Studies);
- The second level (Master Studies, Specialized Studies);
- Third level (PhD Studies).

The first cycle leads to a qualification (in many countries labelled "Bachelor") which is obtained after successful completion of a study programme with 180-240 the European Credit Transfer and Accumulations System (ECTS) credits. The second cycle leads to a qualification (in many countries labelled "Master") which is obtained after successful completion of a study programme with 60-120 ECTS credits. These ranges for undergraduate and graduate programmes that have been defined with the development of the Framework of Qualifications for the European Higher Education Area. Like the degree structure, it should provide comparable and transferable qualifications and facilitate mobility and recognition irrespective where and how learning outcomes have been achieved. European and national qualifications frameworks are based on ECTS in terms of quality (learning outcomes) and quantity (workload).



At the 2003 conference in Berlin, for the first time, doctoral studies and synergies between the European Higher Education Area (EHEA) and the European Research Area (ERA) have been discussed. Whereas the Bologna Declaration referred to two cycles which include all programmes of tertiary education (“The second cycle should lead to the master and/or doctorate degree as in many European countries”), the 2003 Berlin Ministerial Communiqué consequently defined doctoral programmes as the third cycle.

In 1999 the Bologna Declaration included ECTS among the main objectives to be achieved by countries participating in the Bologna Process. Through the reforms implemented in the course of the Process, ECTS has become a key tool of the European Higher Education Area (EHEA). ECTS is adopted as the national credit system in most countries of the EHEA. By using learning outcomes and workload in curriculum design and delivery, ECTS places the student at the centre of the educational process. Moreover, using credits makes it easier to create and document flexible learning pathways, thus allowing students greater autonomy and responsibility. (European Commission/EACEA, 2015)

According to the Law on Higher Education (2018), every study programme is defined through the number of ECTS. Each course within the study programme is valued through the number of ECTS. The total sum of ECTS varies from a minimum of 180 for three year programmes to a minimum of 240 ECTS for four year programmes at the bachelor level. At the master level a number of ECTS may vary from minimum of 60 to 120 ECTS depending on the length of the programme (one or two years). Programmes at the Ph.D. level comprise at least 180 ECTS.

The higher education system in Serbia offers two types of studies:

1. Academic studies realized at universities;
2. Applied studies organized either at colleges of applied studies or at universities.

The first level of studies includes:

1. Undergraduate Academic Studies (Bachelor) – lasting for 3-4 years, carrying 180 to 240 ECTS;
2. Bachelor of Applied Studies – lasting for 3 years, carrying 180 ECTS.

The second level of studies includes:

1. Master Academic Studies – lasting for 1-2 years and carrying 60 to 120 ECTS;
2. Master Applied Studies – lasting for 2 years and carrying at least 120 ECTS for students who have previously achieved 180 ECTS;
3. Specialized Applied Studies – lasting for 1 year and carrying 60 ECTS;
4. Specialist Academic Studies – lasting for 1 year and carrying 60 ECTS, for students who have achieved at least 300 ECTS in previous studies.

The third level of studies includes Doctoral Academic Courses (Ph.D.), including a minimum of 3 years of study or 180 ECTS. In the field of medical science (studies of medicine, dentistry

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and veterinary medicine), integrated courses are organized. They are 6 years long and carry a minimum of 360 ECTS. Pharmacy studies also offer integrated courses that carry 300 ECTS.

Basic features of the ECTS system:

- total student workload consists of attending lectures and exercises, consultations, preparation for teaching, seminar papers, projects, master's thesis, etc.
- 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or 30 ECTS credits per semester;
- one ECTS credit corresponds to 25-30 hours of student work;
- Student works 40 hours a week on average;
- ECTS credits are awarded to each syllabus of the study program (course, module, study program, thesis, dissertation, etc.);
- the number of ECTS credits per subject is determined after the students passed the exam;
- ECTS credits points are not grades, nor are they replaced.

The student's success in the exam is expressed in grades from 5 to 10 with the corresponding number of credits allocated for each grade: grade 6 (six) from 51 to 60 credits, grade 7 (seven) from 61 to 70 credits, grade 8 (eight) from 71 to 80 credits, grade 9 (nine) from 81 to 90 credits and grade 10 (ten) from 91 to 100 credits. Grade 5 is not entered on the student report card.

The ECTS promotes the mobility of students in the European Higher Education Area with the possibility of transferring and accumulating points earned in different institutions, facilitating the recognition of diplomas among European countries.

In the higher education system of Serbia, the academic year runs from October 1 to September 30 of the following year and is composed mainly of two, semester-long, parts - a semester, carrying 30 points each.

University of Belgrade, Faculty of Forestry

The first level of studies (Bachelor with honours) are undergraduate studies. This level is relevant primarily for the labor market. At the first level of the studies within the first study cycle, the students not only acquire theoretical knowledge, but sufficient competencies, both general and professional, which enable them to continue studying at the next study level.

These study programs of undergraduate studies last for 4 years, after which the students obtain 240 ECTS and the professional titles:

- Graduate forest engineer – students who graduate from the study program Forestry
- Graduate engineer of technologies, management and design of furniture and wood products – students who graduate from the study program Technologies, management and design of furniture and wood products



- Graduate engineer of landscape architecture – students who graduate from the study program Landscape architecture
- Graduate forest engineer – students who graduate from the study program Ecological engineering for soil and water resources protection.

The study program of master's degree studies lasts for one year (2 terms) and the students obtain 60 ECTS upon graduation. It is implemented as four different study programs:

Forestry, Technologies, management and design of furniture and wood products, Landscape Architecture and Ecological engineering for soil and water resources protection.

Upon graduation from the master's degree study program students obtain the following academic titles:

- Master engineer of forestry (Forestry)
- Master engineer of technologies, management and design of furniture and wood products
- Master engineer of landscape architecture
- Master engineer of forestry (Ecological engineering for soil and water resources protection)

The study program of doctoral academic studies lasts for 3 years (6 semesters) and the students acquire 180 ECTS. It is organized as a single study program with 4 modules:

Forestry, Technologies, management and design of furniture and wood products, Landscape architecture, and Ecological engineering for soil and water resources protection.

University of Novi Sad, Faculty of Agriculture

The first level of studies - Bachelor studies allows students to acquire theoretical and practical knowledge, sufficient general and professional competencies which enables them to continue studying at the next study level.

These study programs of Bachelor studies last for 4 years, after which the students obtain 240 ECTS and the professional titles of Bachelor of Sciences in: Organic Agriculture, Agroecology And Environmental Protection, Agricultural Economics, Agricultural Engineering, Agritourism And Rural Development, Agroindustrial Engineering, Crop Science, Fruit Science And Viticulture, Horticulture, Landscape Architecture, Phytomedicine, Animal Science, Veterinary Medicine, Water Management.

The study program of master's degree studies lasts for one year and the students obtain 60 ECTS upon graduation. It is implemented as 16 different study programs.

The study program of doctoral academic studies lasts for 3 years and the students acquire 180 ECTS. It is organized as three study programs: Agronomy, Agroeconomisc and Veterinary Medicine.



University of Niš, Faculty of Occupational Safety

Educational activities of the Faculty of Occupational Safety are organized on three levels. The levels of study are: First degree studies (basic academic studies), Second degree studies (graduate academic studies –master) and Third degree studies (doctoral academic studies).

Within the basic academic studies, the Faculty has a two study programs:Occupationa Safety and Environmental Safety. The basic academic studies last for 4 years and after which the students obtain 240 ECTS.

Master academic studies last for 1 year and the students obtain 60 ECTS upon graduation. Master studies include five study programs:Occupational Safety Enginnering, Fire Protection Enginnering, Environmental Engineering, Emergency Management and Communal System Management.

Doctoral academic studies last for 3 years and the students acquire 180 ECTS. Doctoral studies include two study programs:Occupational Safety Enginnering and Environmental Engineering.

Analysis of redibility and comparability of degrees and Diploma Supplements

The Diploma Supplement (DS) is a transparency instrument developed by the Council of Europe, the European Commission and UNESCO-CEPES between 1996 and 1998. The DS is a document attached to a higher education diploma. It gives a detailed description of its holder's learning outcomes, and nature, level, context, content, and status of individual study components. It includes: the name of the holder of the Supplement, the qualification and its level and function, the contents and achieved results, certification of the Supplement, information on the national higher education system under which the Supplement was issued, and other relevant information. The DS helps higher education institutions, employers, recognition authorities and other stakeholders more easily understand graduates' skills and competences. The DS aims to promote transparency and recognition in order to facilitate mobility, access to lifelong learning opportunities, and graduate employability. It, therefore, represents a response to the twin challenges of both higher education and labor market internationalization. (EAHEA, 2018).

Analysis of the mobility of students, teachers and researchers

The trend for internationalization is growing across the EHEA. However, mobility flows and the level of engagement in internationalization activities vary considerably from country to country. There has been a significant increase in the use of targets to support and monitor progress in student mobility with only one quarter of all countries now having no targets for either incoming or outgoing student mobility.

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There continue to be substantial differences between countries with regard to portability of domestic student financial support. Only around one-third of EHEA countries enable domestic financial support to be portable for credit and degree mobility. Moreover, there is almost no support facilitating the mobility of students from under-represented groups in the majority of countries. Staff mobility targets are also reported by almost half of all EHEA countries but often refer only to a general objective of increasing the numbers of mobile staff (European Commission/EACEA/Eurydice, 2018).

University of Belgrade

The University of Belgrade has a very long tradition in academic and cultural exchange, as well as inter-university and international cooperation with universities within the country and abroad. The University of Belgrade has also a great experience in cooperation with international organizations focusing on higher education. This is clearly shown by the bilateral agreements of cooperation concluded with more than 180 universities on every continent, membership in European university associations and networks. The University of Belgrade takes active part in European programs as a grant holder and partner in many projects. UB is a partner in many mobility programs (ERASMUS, CEEPUS, bilateral agreements), as well.

University of Novi Sad

The academic community of the University of Novi Sad, which comprises more than 50,000 students and 5,000 staff, at 14 faculties and 2 scientific institutes, shapes its own future alongside other scientific and educational institutions belonging to the European Higher Education Area, but is equally open towards collaboration with institutions situated in other parts of the world. The University of Novi Sad fulfills its mission in the domain of science, education and knowledge transfer in accordance with the system of values generally accepted in developed European countries and applies the academic standards set out in international agreements signed and ratified by the Republic of Serbia. University of Novi Sad has bilateral agreements of cooperation concluded with more than 140 universities in around 40 countries and is partner in ERASMUS mobility programs with more than 200 universities in 30 countries. Current exchange programs also take place under COST actions, CEEPUS, CEI (Central European Initiative), Creative Europe, etc.

University of Niš

The University of Niš maintains rich bilateral and multilateral collaboration with many academic and research institutions and associations from the country and abroad. Close links with foreign partners are kept through the membership in various international and interuniversity associations, through international programs and projects, or on the basis of contracts on direct collaboration. The University of Niš participates in many international programs such as ERASMUS, CEEPUS, MEVLANA, TEMPUS, HORIZON 2020, etc.



Promoting the mobility of academic staff has become increasingly important in European higher education policy. Academic mobility is usually considered an element of human resources development and an aspect of the quality improvement of higher education and research at national higher education institutions. Thereby, mobility and internationalization are the key aspects of Bologna process as pointed out in the “Mobility Strategy 2020 for the European Higher Education” adopted by European Higher Education Area ministries. University of Niš aims at promoting academic mobility through agreements on academic cooperation with other countries and their higher education institutions, thus increasing its participation in the research initiatives of the EU. The University of Niš has established contract-based cooperation with a number of foreign partners, more than 130 universities worldwide in more than 30 countries.

National Framework for Qualifications (NQF) in higher education

Another priority of the Bologna Process is the development of a National Framework for Qualifications (NQF) in higher education. Such a framework should describe the qualifications that make up a higher education system, with an emphasis on what holders of qualifications know, understand and are able to do with a given qualification (learning outcomes). The framework should also describe the way in which the various qualifications of a system interact and the way in which learners can move between qualifications. National frameworks should be elaborated within the overarching framework of qualifications of the European Higher Education Area adopted by Ministers of Education in Bergen in 2005. Such a system should ensure transparency among universities both within Serbia and internationally and promote mobility. Like all countries of the Bologna Process, Serbia has committed itself to elaborate a national framework for qualifications compatible with the overarching framework for qualifications in the EHEA by 2010.

Through this component, the project should assist Serbia in developing a generic (non-subject related) NQF using “Dublin descriptors” as a benchmark and at the same time to pilot the generic framework on two to three individual qualifications /study programs. Good progress can also be observed in the implementation of national qualifications frameworks (NQFs). Most countries have established a national qualifications framework for higher education, self-certified it to the Framework for Qualifications of the European Higher Education Area (QF -EHEA) and it is used by national authorities in public policy. In most countries, NQFs for higher education are integrated into NQFs for lifelong learning, which suggests widespread efforts in using NQFs for coordinating qualifications across sectors and levels of education.

Although many countries have now completed their NQF, there remain a few where development is slow or not moving. These countries are missing the opportunity to increase the transparency of their qualifications system both within and outside the country.



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