**UNIVERSITY OF BANJA LUKA**

**GUIDELINES FOR DEVELOPMENT**

**AND IMPROVEMENT**

**OF STUDY PROGRAMS**

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CONTENTS:

1. INTRODUCTION ........................................................................................................ 5
2. PRINCIPLES .............................................................................................................. 5  
   2.1. Openness to the public and citizens ................................................................... 5  
   2.2. Alignment with the needs of society and the labor market .................................. 6  
   2.3. Consistency with the mission and strategy of the University ............................... 6  
   2.4. Student at the center of the teaching process ..................................................... 6  
   2.5. Promotion of mobility ........................................................................................... 7  
   2.6. Lifelong learning .................................................................................................. 7  
   2.7. Quality assurance ................................................................................................ 8
3. REFERENCE PROCESSES AND DOCUMENTS...................................................... 8
4. GUIDELINES AND RECOMMENDATIONS ............................................................. 11  
   4.1. Alignment with the needs of society and the labor market ................................ 11  
   4.1.1. Objectives of the study program .................................................................... 11  
   4.1.2. Qualification profile ........................................................................................ 12  
   4.1.3. Learning outcomes ........................................................................................ 12  
   4.1.4. Consultations with stakeholders .....................................................................16  
   4.2. Consistency with the mission and strategy of the University ............................ 17  
   4.3. Curriculum ......................................................................................................... 17  
   4.4. Recommendations for developing the curriculum in a new way ...................... 19  
   4.4.1. Mobility in the curriculum ............................................................................... 19  
   4.4.2. Flexibility of the curriculum ............................................................................ 19  
   4.4.3. Student practice (practical training) ............................................................... 20  
   4.4.4. Allocation of ECTS credits ............................................................................. 21  
   4.5. Course syllabi ................................................................................................... 22  
   4.5.1. Course objectives .......................................................................................... 22  
   4.5.2. Learning outcomes of the course .................................................................. 22  
   4.5.3. Course content .............................................................................................. 23  
   4.5.4. Teaching methods ......................................................................................... 23  
   4.5.5. Examination and evaluation .......................................................................... 24  
   4.6. Compatibility with study programs from other institutions ................................ 24  
   4.7. Quality assurance elements ............................................................................ 25  
   4.8. General information about the study program ................................................. 25
5. PROCEDURE FOR DEVELOPING STUDY PROGRAMS .................................... 26  
   5.1. Appointment of a committee for developing or improving the study program .. 27  
   5.2. Development and improvement of the study program...................................... 27  
   5.3. Adoption of the Feasibility Study for the implementation of the study program . 28  
   5.4. Submission of the proposed Feasibility Study for approval by the University Senate ......................................................................................................................28  
   5.5. Submission of the proposed Feasibility Study to the Ministry of Education and Culture for licensing ................................................................................................. 28  
   5.6. Improvement of curricula and programs for the study program ........................ 29
6. STANDARDS RELATED TO CURRICULA ........................................................ 29
7. References........................................................................................................ 31

**INTRODUCTION**

Quality standards in higher education [4, Standard 1.2] require higher education institutions to establish procedures for developing and approving study programs. The Act [1] and related bylaws [2] also address this issue. The standards promote new European concepts of higher education, while the Act focuses on the formal requirements that study programs must meet in order to be licensed and accredited.

This procedure has been created to integrate the requirements of the Act and Standards, supplement them with necessary explanations and facilitate the development and revision of study programs by development teams. It serves both as a guideline and a regulation, contributing directly to quality improvement. The primary focus is on *qualification frameworks and learning outcomes*, being the most valuable results of the Bologna Process [10], but are still not fully adopted in our system.

This procedure should not be expected to provide a detailed guide for structuring curricula and study programs, as such procedure does not exist. Developing study programs is a highly creative process with no perfect or best approach. Instead, this document should be seen as a set of recommendations for designing curricula aligned with the demands of 21st-century higher education. It discusses what, according to Bologna literature, should be adopted and implemented, providing recommendations and guidelines rather than specific solutions.

* 1. **PRINCIPLES**

Since the launch of the Bologna reform, some ideas, perspectives and solutions have gained such significance that they can rightfully be considered fundamental principles of higher education. On the path to the European higher education area, it is essential to adopt and implement all the positive principles that characterize the Bologna Process. In this context, study programs should be guided by at least the following principles:

* Openness to the public and citizens,
* Alignment with the needs of society and labor market demands,
* Consistency with the mission and strategy of the University,
* A student-centered teaching process,
* Enhancing mobility,
* Lifelong learning,
* Quality assurance and continuous improvement.

**1.1. Openness to the Public and Citizens**

One of the key principles of modern higher education is the dissemination of information and free access to it. To facilitate the decision-making process for prospective students and to improve employment or further study opportunities for graduates, study programs must clearly outline competencies, curricula, progression rules and other relevant details.

Accordingly, *the objectives and learning outcomes* of each study program must be defined in a timely manner and made accessible to all interested parties—primarily students, but also their parents, employers and public institutions.

**1.2. Alignment with the needs of Society and Labor Market**

The development of new study programs, as well as the revision of existing ones, can only be carried out based on clear indicators of societal and labor market needs. The qualifications obtained upon graduation should be based on an identified and recognized demand within society. Therefore, *needs analysis* must be the starting point and *employability* should be a key prerequisite for both the introduction of new study programs and the continuation of existing ones.

**1.3. Consistency with the University’s Mission and Strategy**

Another important principle of the Bologna reform is the alignment of university activities and the documents that guide them. For instance, it is not enough to have a quality assurance policy; it must also be obvious how it contributes to achieving the university’s mission, vision and strategy, how it is linked to them, and how it is derived from them.

According to this principle, the objectives and learning outcomes of study programs must reflect the university’s mission and vision and be in accordance with its strategic framework.

**1.4. Student at the Center of the Learning Process**

Study programs must become more student-centered. *Placing the student at the center of the learning process* is a new educational approach that focuses on the student and their needs. The role of instructors expands with new tasks. They must identify student needs, guide them and monitor their progress. The primary goal is to foster student development in all aspects of education—not only in discipline-specific knowledge and skills but also in general, so-called "soft" skills, such as foreign languages, information technology, communication skills, teamwork, critical thinking etc.

This approach is demanding, even for more developed countries. It requires new teaching and learning methods, as well as effective support and guidance structures that ensure the personal development of each student by addressing their needs, interests, inclinations and talents. Such a transformation has significant implications for curricula, content delivery, teaching methods and assessment systems. Their reform is necessary that will emphasize *learning outcomes* and provide *more flexible*, student-oriented educational pathways. This is not an easy, one-time task but an ongoing process aimed at achieving higher-quality learning outcomes.

**1.5. Enhancing Mobility**

Mobility is one of the key elements of the Bologna Process, emphasizing the importance of spending a significant period of study—such as a semester or trimester—abroad, either at a university or in a practical setting. The significance of this concept is reflected in the goal set by European education Ministers at the Leuven Conference in 2009 [9], aiming for at least 20% of students to be "mobile" by 2020. Mobility is not only expected from students but also from teachers and researchers. It is believed that increasing mobility will enhance the quality of study programs and research work, contribute to personal development, improve employability and strengthen international cooperation between individuals and institutions.

Even though there are various obstacles that hinder mobility in our environment, raising awareness of its importance and the benefits it brings is crucial for students, educators and society as a whole. Mobility provides students with opportunities to expand their knowledge, master foreign languages and gain experience in different social and cultural environments. For societies with developing economies, such as ours, some of the most valuable benefits of mobility include access to advanced technologies, modern laboratory equipment, experienced researchers, and other resources that may be lacking at domestic universities. Mobility serves as a chance to get to the forefront of contemporary knowledge.

Implementing joint study programs with foreign universities and integrating *"mobility windows"* into curricula are among the most practical solutions to increase mobility.

**1.6. Lifelong Learning**

Lifelong learning is a concept that emerged as a response to the gap between education of younger and older generations. It is based on the idea that knowledge and skills can and should be acquired at all stages of life, from preschool age to retirement. The primary goal of this concept is to enable individuals to refresh, expand and improve their fundamental knowledge, helping them adapt to the demands of a constantly changing job market. While the economic benefits of lifelong learning—such as competitiveness and job retention—are emphasized, its importance extends beyond employment. It also supports personal career management and active participation in economic and social life. In a knowledge-based society, lifelong learning is essential to keep up with new technologies, methodologies and work organization.

Lifelong learning includes all forms of education, formal learning, non-formal learning (professional skill development in the workplace), informal learning (spontaneous learning, self-study or learning from others). Universities must adopt policies and establish organizational structures that support flexible learning pathways, including part-time studies, seminars, training programs and workplace learning. Additionally, they should implement principles and procedures for recognizing prior learning based on learning outcomes, regardless of how the knowledge was acquired. ECTS is a useful tool for implementing these ideas. However, a strong quality assurance system is a prerequisite for this flexible approach. Without it, the lifelong learning concept cannot be effectively applied.

A key characteristic of lifelong learning is that it is a voluntary, self-motivated and self-financed pursuit of knowledge, whether for professional or personal purposes. This commitment serves as a guarantee for achieving fruitful results.

**1.7 Quality Assurance**

Teams in charge of developing new study programs must pay special attention to quality assurance. Even for existing study programs, it is essential to develop and implement an internal quality assurance system. Although there are many examples of good practices and quality criteria for study programs, there is no single quality system applicable to all programs. It is important to recognize that each study program is a unique entity with its own defined objectives and purpose. No single teaching method is equally suitable for all programs, equipment requirements vary and the role of practical training differs, among other factors. Therefore, quality system indicators and elements must be established internally, not in terms of prescribed norms, but as criteria that align with the specific characteristics and integrity of a given program [14].

**2. REFERENCE PROCESSES AND DOCUMENTS**

European integration and the Bologna Process have had a dominant influence on shaping modern approaches to the development and improvement of study programs. They have produced a series of documents and instruments that guide the design, enhancement and description of study programs in a new framework. Among the most important are the following:

1. Qualifications Framework in the European Higher Education Area (QF-EHEA) [23]
2. European Qualifications Framework for Lifelong Learning (EQF) [25]
3. Convention on the Recognition of Qualifications concerning Higher Education in the European Region (Lisbon Convention) [26]
4. Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) [22]

Although the Standards address quality assurance in all activities and resources of higher education institutions, their ultimate goal is the quality of study programs and accompanying qualifications. Chapter 1.2 specifically focuses on the procedures for developing and revising study programs.

The Bologna Framework for Higher Education Qualifications (QF-EHEA) is the most relevant document for development of study programs. It defines general learning outcomes specific to each cycle of study. Instead of specifying knowledge content—which is characteristic of a particular academic profile—it describes the level, nature and complexity of knowledge that should be acquired upon completing each study cycle. The framework was established to facilitate the comparison of national higher education systems and qualifications, promote student and workforce mobility and create better conditions for quality assurance.

The European Qualifications Framework for Lifelong Learning (EQF) [19] encompasses all levels and forms of education, from primary to higher education, from academic to vocational training and from formal to informal and non-formal learning. Its primary function is to serve as a reference point for comparing and aligning different qualification systems and levels. In the area of higher education, it aligns with the Bologna Framework (QF-EHEA), particularly in describing qualifications through learning outcomes—i.e., knowledge, skills, and competencies relevant to each level of education [20].

By 2010, all European countries were required to develop their national qualification frameworks compatible with the umbrella framework, but England, Scotland, Ireland, and Denmark made the biggest progress in this regard. National qualification frameworks serve as instruments for classifying qualifications and as reference points for the development of study programs [18]. As excellent references, we highlight two Irish sources:

1. Referencing of the Irish National Framework of Qualifications (NFQ) to the European Qualifications Framework for Lifelong Learning (EQF) [[28]
2. University Degrees and the National Framework of Qualifications (NFQ): Issues Related to Program Development and the Use and Assessment of Learning Outcomes [29]

However, other European countries have also adopted their frameworks and similar guidelines and standards.

Some countries worldwide, often owing to strong professional associations, have established academic standards for specific disciplines or sectors. England has gone the furthest in this regard, having introduced the following:

7. Subject Benchmark Statements, which outline standard competencies by field [30].

These standards have been developed for over 60 disciplines, including Chemistry, Education, Computer Science, Geography, Engineering, Economics, Music, Medicine etc.

Other valuable materials include project results and publications from professional associations, such as:

8. The Tuning Project – Harmonization of European Educational Structures [14, 15]

9. The Framework Standard for Accreditation of Engineering Programs [34]

The Tuning Project, launched in 2000 by a group of European universities, has grown into a process focused on developing, revising, and enhancing the quality of study programs. It has initiated consultations across Europe involving academic staff, graduates, and employers to identify key competencies—both general and course-specific—that should be acquired upon completion of a study cycle. Currently, professional competencies have been harmonized for nine study areas: Business Administration, Chemistry, Educational Sciences, European Studies, History, Geology, Mathematics, Nursing and Physics.

Framework Standard for Accreditation of Engineering Programs generally describes the skills required from engineering graduates. It was developed by the Joint Quality Initiative, an informal European network focused on quality assurance in study programs. In addition to engineering, this body has created competency descriptions for other qualifications, including Chemistry, Music and English Language.

In Bosnia and Herzegovina (BiH), as part of a joint project between the European Commission and the Council of Europe titled "Strengthening Higher Education in BiH", several documents were adopted in 2008 to implement the Bologna Process [31]. The most relevant for this brochure include:

* 1. Standards and Guidelines for Quality Assurance in Higher Education in BiH [4]
  2. Framework for Higher Education Qualifications in BiH [5].

These documents provide slightly more details, but are essentially identical to European frameworks. Learning outcomes are slightly expanded but remain focused on three main higher education cycles without detailed elaboration regarding program orientation (academic, vocational, etc.), disciplines, or professions.

In March 2011, the Council of Ministers of BiH adopted:

* 1. Basics of the Qualifications Framework in Bosnia and Herzegovina [27],

which, following the EQF model, covers all education levels.

Besides knowledge, skills and competencies, this document prescribes titles for certain education levels, although higher education titles were omitted due to the need for further alignment regarding duration and nomenclature.

The Republic-level documents that must be adhered to when developing study programs include:

* 1. Act on Higher Education of the Republic of Srpska [1]
  2. Regulation on Licensing [2]
  3. Regulation on Academic Titles [3]

The Act prescribes the structure of study programs, while the Regulation on Licensing defines the procedures and norms for licensing institutions and programs. These documents incorporate traces of new concepts such as learning outcomes and alignment with societal needs, but a clearer connection with umbrella European and BiH documents, particularly regarding qualification descriptions, is missing. It remains the task of universities to describe their study programs in accordance with European standards.

Naturally, development strategies of the Republic, especially sectoral strategies relevant to the study program, should also be considered.

Internal University reference materials that must be taken into account include:

* 1. Development Strategy of the University of Banja Luka
  2. Quality Assurance Rulebook
  3. University Statute
  4. Study Regulations for the First and Second Cycle of Studies
  5. Study Regulations for the Third Cycle of Studies

Finally, very important reference points are internal and external stakeholders. Within the University, these include teachers, associates and students, who must verify whether a study program meets academic standards. Expert opinions in the relevant field should also be sought. Outside the University, stakeholders include industry experts, institutions, alumni and professional associations, who must confirm that the study program aligns with societal needs and labor market demands.

In addition to the aforementioned references, which are more or less legally or regulatorily binding to varying degrees, there is also a vast body of academic documents on study program development. These documents will be discussed further in the following sections.

**3. GUIDELINES AND RECOMMENDATIONS**

This chapter provides an overview of the essential elements that a well-structured curriculum should include and offers guidance on how to develop these elements. It is closely linked to the following chapter, which will detail the formal procedure for designing and approving a study program.

**3.1. Alignment with Societal and Labor Market Needs**

This aspect should be addressed as part of the development of the Feasibility Study for implementing the study program (see Chapter 4).

A study program and the qualification it offers must be based on an identified and recognized societal need. To determine this, a discussion about the study program should be conducted to establish *its objectives* and define the *qualification profile.* In the case of modifications to existing curricula, a review of the objectives of current study programs and the characteristics of the corresponding qualification profiles should be carried out.

When assessing the justification for introducing a new program, the program’s objectives and qualification profile cannot be viewed separately. Only when the program is fully described in terms of the knowledge, skills and competencies it provides, its alignment with societal and labor market needs can be properly evaluated.

**3.1.1. Study Program Objectives**

The objectives of a study program are broad, general statements in terms of what the program aims to achieve. They are usually written by instructors in an effort to justify the societal, academic and labor market needs for a given qualification profile. Since modern universities are key drivers of economic development, it can be expected that knowledge and skills lacking in the labor market will be among the most acceptable objectives. However, the advancement of scientific disciplines, cultural progress or other recognized societal needs may also serve as valid objectives.

When defining objectives, the following strategies and perspectives should be considered:

* Development forecasts in the given field—national development strategies,
* Requirements of relevant Ministries,
* Requirements of professional chambers, associations, etc.,
* The University’s development strategy,
* Opinions of faculty and students in the study program,
* Perspectives of experts from all relevant professional fields related to the study program.

**3.1.2. Qualification Profile**

The qualification profile provides information to businesses, public institutions, other higher education institutions and any other interested parties about the knowledge, abilities, and competencies acquired by graduates of a given study program.

The qualification profile outlines the main characteristics of the program, including: Its level, duration, how it fits into the structure of academic disciplines, intended learning outcomes i.e. the skills and competencies to be developed within the program. The profile also includes the jobs, tasks and roles that graduates will be qualified to perform, legal authorizations granted to diploma holders, recommendations from relevant professional associations. If the qualification profile corresponds to an existing degree title, this should be stated. If the profile represents something new, a new degree title should be proposed, along with an explanation of its necessity.

**3.1.3. Learning Outcomes**

Bologna reform leaders emphasize describing qualifications in a new way—through learning outcomes.

Learning outcomes are explicit statements describing what a student is expected to know, understand and be able to do upon completing a given cycle of study [7]. They should not be described only as memorized knowledge that a student can recite but as specific abilities, skills and attitudes they have acquired. Additionally, learning outcomes must be formulated in a way that allows for assessment and evaluation.

The main reference points for describing learning outcomes are qualification frameworks. Since the Bosnian-Herzegovinian qualification framework is not yet finalized [32], other academic and professional sources—domestic or international—should be used, particularly those related to field-specific guidelines1 (see Chapter 2). Additionally, study program objectives serve as important reference points.

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1 Once regulated professions are established, things will become simpler because the required knowledge and competencies of graduates will be defined in national and institutional documents.

In the Bologna qualification framework (QF-EHEA), the expected achievements upon completing each cycle are described through so-called cycle descriptors (Dublin Descriptors [33]). These are generic descriptors because they represent general statements about the knowledge and abilities acquired at each level of study (see Chapter 2). The term "generic" should also be understood as "creative"—general descriptors serve as templates or standards for generating study programs. Specific qualification profiles should be described by adapting the generic cycle descriptors to the given field of study, using the terminology of that discipline instead of general expressions.

Dublin descriptors are structured around the following elements:

a) Knowledge and understanding  
b) Applying knowledge and understanding  
c) Making Judgments  
d) Communication skills  
e) Learning skills

The differences between cycles are defined in terms of the level of thinking, complexity and depth of knowledge, degree of independence and creativity, general cognitive skills and refinement of practical skills. These hierarchical relationships between cycles apply regardless of the qualification profile. The following table provides aligning of QF-EHEA learning outcome descriptors for the three main Bologna cycles.

|  |
| --- |
| Qualifications awarded upon completion of **the first cycle** (180 to 240 ECTS credits) are granted to students who: |
| a) knowledge and understanding: |
| - Demonstrate knowledge and understanding in a given field of study that builds upon their secondary education and is typically at a level that, with the support of advanced textbooks, includes some aspects based on the most advanced achievements in that field. |
| b) applying knowledge and understanding: |
| - Apply acquired knowledge and understanding in a way that demonstrates a professional approach to work or a profession and possess competencies that are typically demonstrated through designing and substantiating arguments and solving problems within their field of study |
| c) making judgments: |
| - Have the ability to collect and interpret relevant data (usually within a given field of study) to form judgments that include reflections on relevant social, scientific and ethical issues. |
| d) communication skills: |
| - Can convey information, ideas, problems and solutions to both specialist and non-specialist audiences. |
| e) learning skills: |
| - Have developed learning skills necessary to pursue further education with a high degree of autonomy. |

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| Qualifications awarded upon completion of **the second cycle** (60 to 120 ECTS credits) are granted to students who: |
| a) knowledge and understanding: |
| - Demonstrate knowledge and understanding in the given field of study, which builds upon, expands, and/or advances what is typically associated with the first cycle. This serves as a foundation or an opportunity for originality in the development and/or application of ideas, often in the context of research work. |
| b) applying knowledge and understanding: |
| - Can apply acquired knowledge, understanding and problem-solving skills in new and unfamiliar situations within a broader (or multidisciplinary) context related to their field of study. |
| c) making judgments: |
| - Have the ability to integrate knowledge and deal with complex problems, as well as to formulate judgments based on incomplete or limited information, while considering social and ethical responsibilities related to the application of their knowledge or judgments. |
| d) communication skills: |
| - Can communicate their conclusions, as well as the knowledge and reasoning on which those conclusions are based, clearly and unambiguously to both specialist and non-specialist audiences. |
| e) learning skills: |
| - Have learning skills that enable them to continue their studies in a largely self-directed and independent manner. |

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| Qualifications awarded upon completion of **the third cycle** are granted to students who: |
| a) knowledge and understanding: |
| - In the given field of study, they demonstrate a systematic understanding and possess the skills and methods of scientific research related to that field. |
| b) applying knowledge and understanding: |
| - Demonstrate the ability to conceive, design, conduct and modify significant research work in accordance with the methodology of the given science. |
| c) original research: |
| Have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international reference publications. |
| c) making judgments: |
| - Are capable of critical analysis, evaluation and synthesis of new and complex ideas. |
| d) communication skills: |
| - Can communicate within their area of expertise with their colleagues, the broader academic community and society. |
| e) skills for disseminating knowledge and technology: |
| - Are capable of promoting technological, social and cultural achievements in both academic and professional contexts. |

National qualification frameworks serve as even more precise reference, because, as a rule, they need to be more detailed than the EU framework. The EU approach allows for sublevels within cycles1. Likewise, at the level of an individual cycle, national frameworks can include profiles of different orientations, such as academic and professional profiles. In such cases, it is necessary to establish the relationship of the observed qualification to three main cycles of the umbrella framework and explain the possibility of access to further qualifications. In general, successful completion of the first cycle should enable access2 to the second cycle, and the successful completion of the second cycle should provide access to the third cycle of studies. If there are exceptions, it should be clearly stated what graduates will be able to do with these qualifications and how they can progress within the national qualification framework.

An even better orientation can be achieved by studying descriptions of individual occupations or occupational groups created by various organizations or through projects such as the "Tuning" project [15].

The "Tuning" project has achieved a consensus on what constitutes the core of individual study fields. It has also produced results regarding general, transferable competencies. Among 85 selected general competencies, the most significant ones include:

- Capacity to analyze and synthesize,

- Capacity to learn,

- Problem-solving capacity,

- Capacity to apply knowledge in practice,

- Capacity to adapt to new situations,

- Quality awareness,

- Information management skills,

- Capacity to work independently,

- Teamwork,

- Planning and organizational skills,

- Oral and written communication in the native language,

- Interpersonal skills.

Some of these competencies should certainly be included in the learning outcomes of a study program.

How to Write Effective Learning Outcomes for a Study Program

Learning outcomes can be developed by providing a well-founded answer to the question: *What should the student achieve?* The word *what* refers to the knowledge and understanding of the field, intellectual and professional skills, as well as general (transferable) skills and their application in practice.

Statements about the learning outcomes of a study program can be formulated by completing sentences such as [21]:

* *This program is unique because it develops…*

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1 For example, some countries have, within the first cycle, a so-called short cycle of 120 ECTS credits. Although it has not been formally included in the umbrella qualifications framework [23], this cycle is recognized at the EU level, and even the Dublin Descriptors have been developed for it.

2 The right to apply for admission to a study program and to have the application considered.

* The most important values of this program are...
* The academic content of this program focuses on...
* The most essential intellectual skills developed through this program are...
* The most useful practical skills, techniques, and abilities developed are...
* Competence is developed in...
* The most important ways in which students will learn are...
* Upon completing the program, we want students to know and understand...
* Upon completing the program, we want students to be able to...

**3.1.4. Consultations with Stakeholders**

A preliminary description of a qualification must pass a compliance test with the needs of the environment and society as a whole. By gathering opinions from competent experts and the experiences of employees and employers, valuable adjustments and refinements to the study program can be made to ensure its purposefulness. The same applies to existing profiles. For the continuation of a study program, there must be a demand for the given profile, and the program should respond to actual or future needs in the environment.

Identifying stakeholders is not always straightforward and depends on the field in which the program is situated. For engineering qualifications, the situation is quite clear—key points of contact include business owners, managers, engineers in companies, as well as former and current students. This is not necessarily the case with social sciences and humanities; however, when developing these study programs, consideration must also be given to the future of graduates. Stakeholders should be identified among representatives of companies and institutions (e.g., institutes, agencies, chambers, etc.), professional associations, employed and unemployed graduates. The opinions of academic authorities from other universities and experts from research institutes will be highly valued. Additionally, public opinion, collected through surveys or other means, could also provide valuable insights.

How can we align the study program with the labor market needs?

* By analyzing the state of the labor market, including forecasts of future trends and needs.
* By collecting feedback on the relevance of the given profile from all relevant stakeholders, such as the statistical office, employment agencies, former employed and unemployed students, companies, institutions and public authorities.
* By adapting the profile to the needs of the labor market. By reconstructing the profile so that it becomes a driver for creating new jobs in case of an oversaturated labor market.
* By setting academic standards for the given qualification.
* By involving employers and former students in advisory committees that propose modifications to study programs.

An important issue is the *employability potential.* This is a problem that should not only concern students but also higher education institutions, which should give it due attention. "In days of increased public responsibility, no institution can afford the luxury of producing graduates unfit for entry into the labor market!" [17]. A credible *needs analysis* can only be achieved with the help of all interested parties, by collecting feedback on the relevance of the profile of the given qualification.

In order to determine the employability potential, a market research must be conducted, and the results of that research should be presented as verifiable facts. Some institutions to cooperate with include:

* Republic Bureau of Statistics,
* Chamber of Commerce,
* Employment Agency,
* Private employment agencies,
* Employers.

At the end of the needs analysis, alternative educational opportunities for students with the given qualification profile should also be presented.

**3.2. Alignment with the Mission and Strategy of the University**

It is naturally to expect that a study program aligned with the needs of society will also be aligned with the strategy of the higher education institution. However, regardless of this, it is necessary to demonstrate clearly that the study program follows the strategic commitments of the University. This is the best way to ensure administrative and financial support for the development of the study program.

How to achieve alignment of the program objectives with the mission and strategy of the University?

* By following the statements about the University’s mission or any other University document with respect to economic, social and cultural development,
* By implementing statements on specific educational missions, particularly the role in stimulating economic development, strategic study programs and strategic research areas, as well as multi-disciplinary study programs,
* By implementing statements on the development of general skills such as learning foreign languages and information technologies, developing communication skills, self-learning and career management, etc.

**3.3 Curriculum**

The curriculum for the study program should be developed using the prescribed template for the curriculum provided in the annex. The template contains a number of elements of the study program, specifically elements e) to k) according to Article 42 of the Act: courses and their distribution across semesters and years, classification of courses as mandatory, elective and optional, their affiliation with specializations, number of hours for lectures, exercises, and other types of instruction, and the number of credits assigned to each course in accordance with ECTS.

There are many academic documents dealing with the development of curricula [10, 11, 13, 14, 15]. In the classical approach, development of the curriculum strongly relied on the theory of education and learning, which distinguishes cognitive, emotional and psychomotor processes [11]. Recently, more formal techniques for creating the curriculum have been suggested, such as filling in the so-called matrix of knowledge, skills and competencies [15]. Whatever approach is used, the curriculum must ensure that the planned learning outcomes are achieved, both professional knowledge related to the field and general knowledge and skills needed for employment and successful career development.

The curriculum plan should be developed in such a way that throughout the studies, there is progressive development of the competencies outlined in the qualification profile. Each competency can be gradually developed across several courses at different stages of the study program. It is necessary to specify in which courses each competency is developed (see the following scheme).

When it comes to fundamental ideas, it is well known that "the more fundamental they are, the broader their application is." Such ideas should be constantly revisited and checked for their applicability in new situations to deepen their understanding over time.

In every course, there are competencies that are implicitly developed, but the learning outcomes should only list those that directly contribute to the competencies of the qualification and only those that can actually be verified [14, p. 17].

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Competency | | | | | | | | |
|  | A | B | C | D | E | F | G | H | J |
| Course 1 | X |  | X |  |  |  | X |  |  |
| Course 2 |  | X |  |  |  | X | X |  |  |
| Course 3 |  |  | X |  | X |  |  | X |  |
| Course 4 | X |  |  | X |  |  |  |  | X |

**x** – this competency is developed, assessed, and mentioned in the learning outcomes of this course.

Curriculum plans usually contain the following groups of courses:

1. *Fundamental ones,* which represent the foundation, i.e., support for the scientific field to which the study program belongs,
2. *Disciplinary or professional ones*, which form the essence of the qualification,
3. *Highly disciplinary ones,* focused on specialization, i.e., deeper study of a specific discipline,
4. *Complementary ones*, which belong to other fields but are somehow related to the core area and/or contribute to understanding the knowledge,
5. *General ones*, aimed at the development of so-called 'soft' or 'transferable' skills required in all qualifications.

It is natural for the curriculum to be dominated by disciplinary courses and most professional competencies will represent the learning outcomes of that group of courses. On the other hand, it is not necessary for all learning outcomes of fundamental courses to be included in the qualification profile, but they represent the basic knowledge without which specific professional knowledge and skills cannot be acquired. Basic and professional courses represent the main part of the mandatory part of the curriculum, while elective courses can be introduced within any of the last three groups, although it would be beneficial for these groups to also have mandatory courses, especially when it comes to transferable skills. Complementary courses represent an opportunity to include border areas in the curriculum. (Today, more and more research takes place at the borders of various disciplines.)

**3.4. Recommendations for Developing the Curriculum in a New Way**

A good curriculum is infused with the principles mentioned in Chapter 1 of these Guidelines. The implementation of each principle must be elaborated in detail. Here, some guidelines and recommendations will be provided, and it is up to the development teams to create specific solutions in which their expertise, skillfulness, and inventiveness will be fully expressed.

**3.4.1. Mobility in the Curriculum**

A key condition for initiating mobility is a good structure of the study program. This is achieved by defining learning outcomes, mainly one-semester courses, valuing courses according to ECTS, continuous monitoring and assessment of work, etc.

The curriculum should provide a so-called***mobility window***. This means selecting a semester (or year) in which studying abroad would be most appropriate. In that semester, the courses whose learning outcomes would be more easily achieved abroad should be placed (e.g., language courses, international and comparative studies, supplementary and elective courses, student internships, etc.). It is also necessary to identify foreign institutions and study programs in which the intended learning outcomes can be achieved. These may be similar, complementary, or coherent learning outcomes, but the content does not have to be identical. (A student will not choose to go abroad to learn the same content as they would at their own university.) Whatever approach is adopted, it must be guided by the principle of "student at the center." A cooperation agreement with the selected institution should be in place, including a student exchange agreement. Before the student goes abroad, an agreement should be signed with the student that guarantees full recognition of all achieved results without re-examination and reassessment.

In addition to this contract-based type of mobility, European practice also recognizes mobility without a study agreement. In this case, recognition of results is not mandatory, but careful and fair consideration of the achieved ECTS points and grades is emphasized.

**3.4.2. Flexibility of the Curriculum**

Although the concept of flexibility is more related to the approach to study through lifelong learning, elements of flexibility can also be offered within the curriculum.

The flexibility of curricula should be viewed in the context of providing the student with more opportunities to create independently their study path, thus shaping output outcomes. By considering the needs and interests of the student, and developing what they are inclined to and naturally gifted at, their capacities are maximized.

The primary mechanism for achieving flexibility is the classification of courses into *mandatory and elective categories*. Mandatory courses serve to acquire the basic knowledge that all students in a given field must possess, while electives allow the student to focus on a specialization within that field. Therefore, in the earlier years of study, mandatory courses dominate, and in the later years, the number of elective courses increases.

Among elective courses, two subgroups can be formed: limited (conditional, focused) electives and free (pure) electives. Limited elective courses are selected from a list of offered courses. They enable controlled specialization within the discipline. The curriculum should also include courses that can be freely chosen from any program across the university. Limited elective courses should serve the purpose of specialization but can also help implement the multidisciplinary nature of the study program. Freely chosen elective courses are a means of acquiring transferable (soft, personal) skills and enhancing talents and gifts.

In the future, a greater proportion of elective opportunities can be expected, which could even allow the student to create their study program independently. In this case, the student also takes responsibility. For regulated professions, this creates a problem, and the question of qualifications may be subject to debate, but the set of competencies thus achieved may be entirely relevant for the job market. While this is a distant future, there is a need to analyze the possibility of increasing choice even in basic knowledge. Some specializations may be based on specific basic knowledge that not all students need to master.

This approach requires new forms of teaching and studying and effective organizational structures that will ensure the progress of each student individually, taking into account their needs and interests and developing what they are inclined to and naturally gifted at. This has a significant impact on curricula, their content, teaching methods and assessment systems. Their reform is needed in terms of developing clear and concrete learning outcomes, in the form of knowledge, skills and competencies that students will possess upon graduation. Additionally, their reform is necessary to ensure flexible, individualized educational pathways.

Among the many elements that place the student at the center of the teaching process are the following: encouraging interactive teaching, partial knowledge checks, student internships, project work, elective courses, etc. More importantly, however, is the understanding that this is a new and very challenging task, even for European universities. Therefore, it cannot be a one-time process but rather an ongoing one, to which the University is committed.

**3.4.3. Students Practice (Practical Training)**

This is an opportunity to learn in real work environment and strengthen professional competencies (professional development). The actual tasks performed at the workplace should complement what is learned in the study program.

**Purpose:**

* Learning about specific technologies, models, and work techniques,
* Improvement of skills necessary for the workplace,
* Development of new skills that facilitate employment, such as teamwork, using technology, and problem-solving,
* Opportunity to acquire skills gradually, from more simple to more complex,
* Evaluation in real conditions,
* Forming an opinion on the relevance of the program content for the workplace, etc.

When students practice is mandatory, it must leave an impact on the learning outcomes, be taken into account when calculating the overall student workload and be assigned ECTS credits. ECTS credits can only be awarded after appropriate verification and assessment of the learning outcomes achieved. Naturally, the assessment methods should be adapted to the nature of the workplace (e.g., observation and evaluation by the mentor, report writing by the student, demonstration of certain skills and knowledge, solving specific problems, etc.).

The practice agreement, signed between the University, the student and the employer, should specify the learning outcomes that need to be achieved. There should be clear procedure for evaluating learning outcomes and awarding credits. The roles of the signatories in the process of specifying, achieving and evaluating learning outcomes must be clear.

Even when the internship is not mandatory, if the student completes it on their own initiative, it should be taken into account and, in some way, recognized, at least by including the data in the student’s file, diploma supplement, transcript, etc.

**3.4.4. Awarding ECTS Credits**

Credit allocation should be based on the course workload that the student needs to invest to achieve the planned learning outcomes in a formal format. The total number of credits awarded for the qualification should be distributed among the individual courses in proportion to their contribution to the overall workload required to achieve the planned learning outcomes.

Before awarding credits to individual courses, agreement on the profile of the given study program and the prescribed learning outcomes should be achieved. The profile refers to the description of the program in terms of its main characteristics and specific goals. There should be consensus on which disciplinary courses are key for the specific qualification. It is good practice to consult relevant stakeholders in this process.

It is incorrect to award credits solely based on the number of contact hours. The total time required to achieve the planned learning outcomes must be considered, and this includes:

* The number of contact hours,
* The time required for preparing for classes and completing assignments (preparing and organizing material from classes, exercises or practical work; writing essays, preparing projects and seminar papers, etc.), collection and study of additional material; practical work outside the hours in the curriculum, etc.,
* Preparation for exams and taking exams.

In the Republic of Srpska, the principle of annual student workload of 60 ECTS credits, within a 40-hour workweek, is a legal provision [1, Article 38], in line with European regulations in this area [7, p. 11]. Based on the academic calendars of the University, it can be assumed that students have 45 working weeks per year. This corresponds to a total annual workload of 1800 hours, so one credit point represents 30 hours of total student work.

Thus, a course carrying 5 ECTS credits implies 150 hours of work, including classes. Suppose the class hours for this course are 2+2=4 hours. Over 15 weeks, which is the duration of the semester, this would amount to 60 hours. For independent work and exam preparation, 90 hours or a little more than 2 weeks would remain. This also includes the time spent by the student working on the courses during the course duration. If an average student can master such a course in 90 hours of work (including learning during classes), then the number of credits is well assigned.

During the delivery of the course, the assigned number of ECTS credits should be adjusted to the actual workload for the course. This should be done as part of internal procedures for ensuring quality. Whatever method is used, the opinions of students and teaching staff must be taken into account. Data on student progress, pass rates, and exam results are also important indicators. In case of significant disagreement between the estimated and actual workload, a revision of the ECTS credits, learning outcomes, or teaching and learning methods should be considered.

**3.5. Course Programs**

For course programs, a template can be used as provided in the annex. The program contains data on the number of hours for each type of instruction, prerequisites for enrolling in the course, course objectives, learning outcomes, a brief content description, teaching and learning methods, course textbooks, forms of knowledge assessment and evaluation methods.

**3.5.1. Course Objectives**

Course objectives are short statements about the place and role of the course within the curriculum, its connection with other courses, and academic standards. They are usually written from a teaching perspective to show the general content and direction of the course.

**3.5.2. Course Learning Outcomes**

Most of what has been said about writing learning outcomes for qualifications also applies to individual courses. The learning outcomes for a specific course contribute to the learning outcomes of the study program, according to the competence matrix (p. 18). There are opinions [14] that a single course should not have more than six to eight learning outcomes. Too broad learning outcomes are difficult to assess, while too narrow ones would jeopardize the ability to address comprehensive issues.

Although the knowledge acquired in core courses is not entirely transferred to final competencies, the learning outcomes for these courses must still be defined to establish a clear connection with content, teaching methods and assessment techniques. The learning outcomes of each course must be reflected somewhere—if not as final competencies of the study program, then as prerequisites for another course.

Great attention should be paid to writing learning outcomes effectively. Poorly designed outcomes, reduced to a mechanical list of competencies, can harm education. A series of recommendations for designing good learning outcomes and potential pitfalls can be found in [8, p. 34-35]. Vague expressions that are difficult to assess, such as "understands," "is familiar with," or "is aware of," should be avoided. Instead, the use of active verbs is recommended. Here are some examples [10]:

(After successfully completing this course, the student will be able to:)

* *Describe* how and why laws change and what these changes mean for society,
* *List* the criteria that must be considered when treating tuberculosis patients,
* *Classify* reactions as exothermic or endothermic,
* *Predict* how temperature changes affect equilibrium states,
* *Summarize* the causes and consequences of the October Revolution.

More examples can be found in [10].

**3.5.3 Course Content**

The course content should be provided in an outline format, presenting the main topics that indicate areas of study. Such a description allows flexibility in introducing new and innovative teaching and learning methods. Precisely listing the content of each lesson creates a rigid structure that limits creativity and innovation in teaching.

**3.5.4 Teaching Methods**

Once learning outcomes are set, consideration should be given to how they will be delivered to students and how their achievement will be assessed. Learning outcomes that cannot be assessed should be discarded. Achieving alignment between learning outcomes, teaching methods, examination techniques and assessment criteria is a significant challenge requiring skill and experience. Such alignment enhances transparency. (The best way for students to understand how to achieve learning outcomes is to explain assessment techniques and criteria to them.)

Clearly described learning outcomes require appropriate teaching methods to ensure their achievement. Some teaching and learning methods to consider include: lectures, exercises, laboratory work, clinical practice, tutorials, fieldwork, internships, seminars, teamwork, group presentations, etc.

Not all teaching methods are suitable for all learning outcomes and selecting the most appropriate ones requires expertise and experience. Knowledge and understanding of a topic can be achieved through lectures and seminars. Analytical, synthesis and problem-solving skills are best developed through concrete tasks or projects, group work such as seminars or tutorials, laboratory work, workshops and fieldwork. Practical skills are developed through exercises in workshops, laboratories, clinics, or in the field.

**3.5.5 Examination and Assessment**

Examinations and assessment must align with learning outcomes, reflecting them to determine whether they have been achieved. The extent to which the intended outcomes are met largely depends on the content and format of the examination. Students view the course content through the lens of the exam and will primarily study what is assessed.

However, assessment should not focus solely on determining what a student has achieved at the end (summative assessment). It should also provide feedback on how the student is progressing, using this information to create a more effective teaching and learning environment (formative assessment) [10]. This suggests that student knowledge assessments should be conducted continuously. In practice, this often means a few summative evaluations that assign grades but provide no feedback to students. Continuous assessments should combine formative and summative approaches, ensuring feedback for both instructors and students so they can adjust their activities during the learning process.

Designing meaningful assessment and evaluation techniques of the students knowledge and skills requires significant effort. Assessment theory distinguishes between direct and indirect techniques. Examples of direct techniques include written exams, tests, projects, essays, presentations, laboratory demonstrations and practical assessments. Indirect techniques include employer and alumni surveys, analysis of pass and progression rates, and comparisons with other institutions.

**3.6 Alignment with Study Programs from Other Institutions**

According to the Licensing Regulation [2], „proof of alignment between a study program and at least three accredited programs from institutions in Bologna Declaration signatory countries“ is required. This can be demonstrated through information about universities and their study programs that align with the licensed program. Web pages where these programs are available may be referenced or hard copies with verifiable references may be provided. In the absence of sectoral descriptors [30], nomenclature of professions, regulated qualifications, recommendations from professional associations, and similar references, this is the best way to maintain academic standards for study programs.

However, it is essential to emphasize that alignment should not be understood rigidly. This would contradict the spirit of the Bologna Process. Diversity is encouraged in Europe, including different missions of higher education institutions and various profiles of their study programs. The primary requirements for European higher education institutions concern transparency and comparability [9].

It is incorrect to interpret comparability as strict alignment. When it comes to qualification profiles, diversity is more of an advantage than a disadvantage, particularly for vocational studies. The definition of professional, practice-oriented profiles should align with current societal needs, which are highly diverse.

In the context of the European Higher Education Area (EHEA), programs are compared based on the level of knowledge and skills, their classification within the same cycle, and whether their learning outcomes align with cycle descriptors in the European or national qualifications framework. Learning outcomes serve as the best indicators of a program’s characteristics, showing which cycle or level it belongs to, the competencies it offers, and its relationship with other programs.

**3.7. Elements of Quality Assurance**

A clear description of the study program and its courses in the form of well-defined learning outcomes, along with a systematic curriculum design following the procedure outlined in this document, is essential for achieving academic standards in study programs. To determine whether these standards are truly met, it is necessary to monitor quality indicators such as:

* The quality and structure of applicants and enrolled students in the study programs,
* The total number of employed graduates and the number of those employed in their field,
* The pass rate in the first year of study,
* The percentage of students who complete their studies on time,
* The average duration of studies,
* The program's relevance to labor markets, as gathered from professional associations,
* Program evaluations by representatives of institutions and the labor market,
* Program evaluations by students,
* The number of incoming and outgoing mobile students, etc.

It is important to note that these indicators are influenced not only by the quality of the study program itself but also by the quality of its implementation. Unfavorable conditions in which a study program is conducted can compromise even the highest academic standards. Therefore, it is necessary to monitor these additional factors and distinguish their influence. These factors include organization and management, facilities and equipment, teaching staff, textbooks and literature, libraries and scientific journal databases, information systems, administrative and technical support and other forms of student support. More details are provided in the BH Standards [4] and the Criteria and Indicators for Accreditation of Study Programs [6], while the Licensing Procedure [2] prescribes the minimum standards regarding facilities and available teaching staff.

The regular publication of objective, both quantitative and qualitative, information about study programs and relevant qualifications is also an essential activity of higher education institutions.

**3.8. General Information about the Study Program**

General information about the study program should be prepared in the following format (an example is provided for Production Engineering):

|  |  |
| --- | --- |
| Name | Production Engineering |
| Level Cycle1 | Second cycle of studies |
| Model2 | Second cycle lasting two years |
| Number of ECTS credits3 | 120 ECTS |
| Type of studies4 | Academic Studies |
| Degree awarded5 | Master of Production Engineering |
| Field of education6 | Technical sciences – Engineering – Mechanical Engineering |
| Model of Study7 | Full-time studies, conducted at the main campus, lasting four semesters |

Following the table containing general information, all necessary additional explanations should be provided.

**4. Procedure for Study Program Development**

This procedure standardizes the process of creating and improving study programs. It defines and documents the sequence of activities and responsibilities for designing and enhancing curricula at faculties to ensure the necessary quality of graduates.

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**1** See Article 8 of the Act.

**2** This refers to the overall structure of the study program across all three cycles of study. For example, the 3+2+3 model, 4+1+3, etc. The 3+0+0 model indicates a study program that includes only the first cycle, while models such as 5+0+3 or 6+0+3 represent integrated studies of the first and second cycles. It is therefore necessary to link the duration of the cycle for which licensing is being initiated with the other cycles that are being conducted or are planned to be conducted. Higher cycles may also be offered independently (e.g., 0+2+0 model). In such cases, the feasibility study must explain which population would constitute the potential students.

**3** See Article 8 of the Act.

**4** Act on Higher Education (Article 7) distinguishes between academic and professional studies. Academic studies are more oriented toward academic advancement and include elements of scientific research, while professional studies are more focused on the labor market and must emphasize practical training within the curriculum.

**5** Select the appropriate academic title according to the Regulation on the Use of Academic Titles and the Acquisition of Professional and Scientific Titles. It can be expected that the current list of titles in the Regulation may become outdated over time. In such cases, a new title that corresponds to the given level of education and the qualification profile achieved should be proposed.

**6** The Ministry of Education has initiated the procedure for adopting a Rulebook on Educational Fields. Until it is officially adopted, the Rulebook on Scientific and Artistic Fields, Areas and Subfields should be used. The scientific field and area to which the study program belongs should be stated. In the case of multidisciplinary programs, the related scientific fields and areas must be listed. The proposal to introduce a new interdisciplinary field or area is also possible.

**7** Studies are organized as *full-time or part-time* (Article 34 of the Act), and the mode of delivery may include: *on-site education, off-site education* (Article 15), or *distance learning* (Article 34). During the academic year, teaching can be organized into *semesters, trimesters, or blocks* (Article 39). A brief overview should be provided of the main characteristics of instruction within each component (e.g., semesters), including the content and the balance between theoretical instruction, research, independent work, final thesis, etc.

**4.1. Appointment of a Committee for Study Program Development or Improvement**

Following the Faculty’s strategic plan, the Faculty’s executive board (Management) defines the task and proposes a committee for developing or improving the study program (hereinafter referred to as the Committee). The task description includes:

* The objectives of the study program (Section 3.1.1),
* General information about the study program (Section 3.8).

The Committee consists of faculty members, program instructors, students, and representatives of external stakeholders.

The proposed task and Committee are submitted to the Faculty Council for approval. If the Council approves, the study program development process begins. Otherwise, the Faculty management must redefine the task and propose a revised Committee.

**4.2. Development and Improvement of the Study Program**

The Committee drafts a Feasibility Report on the Implementation of a New (or Revised) Study Program (hereinafter referred to as the Feasibility Report).

The Feasibility Report includes:

* Basic information about the University and Faculty, emphasizing experience and competence in educating specialists in the given field,
* General information about the study program (Section 3.8),
* Study program objectives (Section 3.1.1),
* Qualification profile (Section 3.1.2),
* Learning outcomes of the study program (Section 3.1.3),
* Admission requirements,
* Transfer conditions from other study programs,
* Curriculum with the structure provided in the attached template, (in addition to the elements listed in Sections 3.3 and 3.4, it must also include a description of prerequisites for enrolling in individual courses or groups of courses, as well as the procedure for selecting courses from other study programs).
* Evidence of adequate facilities, faculty, and technical (laboratory) resources,
* Proof of alignment with at least three accredited study programs from Bologna Declaration signatory countries.

The final outcome of the Committee’s work is the Feasibility Study, which is submitted to the Faculty Council for approval.

**4.3. Approval of the Feasibility Study for the Implementation of the Study Program**

The Faculty Council reviews the quality of the Feasibility Study for the Implementation of the Study Program. There are two possible outcomes:

* The proposal is rejected and returned for revision.
* The proposal is accepted and submitted to the University Senate for approval.

If the Feasibility Study is positively evaluated, the Council also reviews and approves the list of responsible lecturers for delivering courses in the study program.

**4.4. Submission of the Feasibility Study to the University Senate for Approval**

Along with the approved Feasibility Study, the faculty’s administrative offices prepare and submit the following documentation to the Senate:

* The Faculty Council's decision approving the Feasibility Study
* The decision on the proposed list of responsible lecturers for delivering courses in the study program

The University Senate reviews the quality of the Feasibility Study. There are two possible outcomes:

* The proposal is rejected and returned for revision.
* The proposal is accepted and submitted to the Ministry of Education and Culture for approval.

**4.5. Submission of the Feasibility Study to the Ministry of Education and Culture for Licensing**

Along with the approved Feasibility Study, the University’s administrative offices prepare and submit the following documentation to the Ministry:

* The University Senate’s decision approving the Feasibility Study for the establishment/implementation of the study program
* The decision on responsible lecturers for delivering courses in the study program
* Proof of full-time employment contracts for all teachers and associates for all study years the higher education institution plans to conduct
* Decisions on the appointment of teaching staff
* Overview of the workload of lecturers engaged in the new study program across other university programs
* Course syllabi, provided by the Faculty management.

The Ministry of Education and Culture evaluates the quality of the Feasibility Study according to its procedures and competencies. There are two possible outcomes:

* The proposal is rejected and returned for revision.
* The proposal is accepted, and a permit for the implementation of the study program is issued.

This concludes the process of developing or improving a study program.

**4.6. Improvement of Curricula for the Study Program**

The Committee is responsible for developing quality indicators for the study program. Some recommendations and possible indicators are provided in Chapter 3.7. Each committee should design an appropriate and meaningful set of indicators for its study program, ensuring that at least the following quality indicators are monitored:

* Increase in the percentage of applicants for enrollment (interest in the study program)
* Increase in the percentage of students completing the program
* Reduction in the average duration of studies
* Increase in the employment rate of graduates

Based on the analysis of these indicators, the Faculty management should work on improving the curricula of study programs in response to developments in the given field. Such situations are addressed through corrective and/or preventive measures.

**5. STANDARDS RELATED TO CURRICULA**

* Teaching is organized into two semesters during the academic year. One semester is valued at 30 ECTS credits.
* Courses are generally one semester long. The curriculum includes a maximum of five courses per semester, except in exceptional cases with special justification. Overly extensive courses hinder flexibility, while excessively fragmented courses disrupt the comprehensive understanding of the course.
* A course cannot be valued with less than 3 or more than 10 ECTS credits, except for study programs at the Academy of Arts.
* The weekly teaching load ranges between 20 and 25 hours. In the first cycle of studies, at least 50% of face-to-face teaching must be lectures, with the remainder consisting of exercises and other forms of direct instruction.
* In the final year of the second cycle of studies and integrated studies, at least 50% of the classes must be direct instruction.
* Professional practice, study research work, and the final thesis in the first cycle of studies do not count towards the scope of direct instruction but are included in the curriculum and assigned ECTS credits.
* In the final year of the second cycle of studies and integrated studies, part of the direct instruction may consist of research study work that prepares the student for writing the final thesis. Research study work is listed in the curriculum.
* The curriculum must include at least the following proportion of courses from each course group, as classified on page 18:
  + *Basic* – 10% of courses
  + *Disciplinary or professional* – 20%
  + *Highly disciplinary* – 20% of courses
  + *Complementary* – 5%
  + *General* – 10% of courses
* In the first cycle of studies, elective courses must make up at least 15% of the curriculum, and in the second cycle, at least 25%, excluding final theses.1
* The minimum number of students required for an elective course is five. Students choose elective courses through a survey.
* Study programs for the first and second cycles of studies, as well as integrated studies, must differ by at least 35% of the total ECTS credits to be considered different study programs. This 35% must consist of courses from the disciplinary and highly disciplinary course groups. This percentage also includes elective courses, i.e., the ECTS values of elective positions. In other words, specializations within a study program cannot differ by more than 35%; otherwise, they are considered separate study programs.
* The semester designated for student mobility should predominantly include elective courses.

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1 To calculate the percentage of elective courses, the total sum of ECTS credits assigned to elective course positions is divided by the total number of ECTS credits in the study program and multiplied by 100. In the case of a restricted elective position, where a student selects *m* courses from a list of *n* courses, the number of ECTS credits assigned to that position is multiplied by the factor (1‐m/n).

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