Pursuant to [Article 23](http://we2.cekos.com/ce/index.xhtml?&file=f133700&action=propis&path=13370001.html&domain=0&mark=false&queries=prav*+stand*+karijer*&searchType=2&regulationType=1&domain=0&myFavorites=false&dateFrom=&dateTo=&groups=-%40--%40--%40--%40--%40-&anchor=c0010#c0010) paragraph 1 item 2) of the Law on National Qualifications Framework of the Republic of Serbia (*Official Gazette of the Republic of Serbia* No. 27/18 and 6/20)

the Minster of Education, Science and Technological Development hereby passes this

# RULEBOOK ON METHODOLOGY FOR DEVELOPING QUALIFICATION STANDARDS

# *“Official Gazette of the Republic of Serbia”, No.156 published on 25th December 2020*

#### 

#### Article 1

This Rulebook shall establish the Methodology for Developing Qualification Standards.

[The Methodology](http://we2.cekos.com/ce/index.xhtml?&action=propis&file=14320501.html&path=14320501.html&queries=prav*+stand*+karijer*&mark=false&searchType=2&regulationType=1&domain=0&myFavorites=false&dateFrom=&dateTo=&groups=0-%40-0-%40--%40--%40-0-%40-0&regExpToMark=#ll1) for Developing Qualification Standards referred to in paragraph 1 of this Article is enclosed to this Rulebook and constitutes an integral part thereof.

#### Article 2

This Rulebook shall enter into force on the eighth day of its publication in the Official Gazette of the Republic of Serbia.

Number 110-00-315/2020-18  
In Belgrade, 02. December 2020.

Minister

Branko Ružić

ANNEX 1

**METHODOLOGY FOR DEVELOPING QUALIFICATION STANDARDS**

INTRODUCTION

Developing a modern society based on knowledge and sustainable employment requires continual improvement of the qualifications system. As part of its overall education and labour market reform processes, the Republic of Serbia has defined its National Qualifications Framework of the Republic of Serbia, established in 2018 under the Law on the National Qualifications Framework of the Republic of Serbia (*Official Gazette of the Republic of Serbia* No. 27/18, 6/20).

National Qualifications Framework of the Republic of Serbia has the following stated objectives:

1. Ensuring comprehensibility, ease of reference and transparency of qualifications and their interconnections;
2. Developing qualification standards based on needs of the labour market and the society at large;
3. Ensuring a learning outcome-oriented education system, with competences based on learning outcomes and defined by qualification standards;
4. Improving access, flexibility of paths and mobility within the formal and non-formal education systems;
5. Ensuring identification and recognition of non-formal and informal education;
6. Affirming the importance of key, general and cross-curricular competences for lifelong learning;
7. Improving cooperation between relevant stakeholders, i.e., social partners;
8. Ensuring a quality assurance system in the process of developing and obtaining qualifications;
9. Ensuring comparability and recognition of qualifications obtained in the Republic of Serbia versus qualifications obtained in other countries.

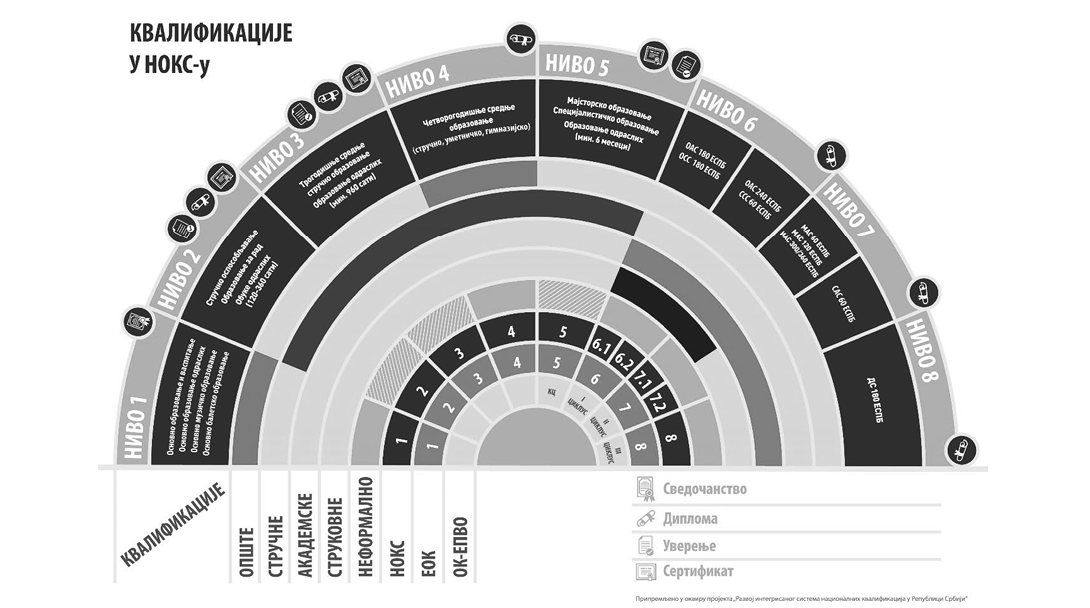
With the objectives thus set, the National Qualifications Framework of the Republic of Serbia (hereinafter: NQFS) enables the advancement of the entire education system, which in turn promotes continued social and economic development, as well as individual development. The NQFS is an instrument governing the issues of qualifications needed in the labour market and it lays the foundation for more effective implementation of the concept of lifelong learning. The NQFS acknowledges the specific nature of the education system and the Serbian education tradition, as well as the principles of European education practices, including in particular the European Qualifications Framework for Lifelong Learning (hereinafter: EQF).

Among the key elements that enable sustainable implementation and attainment of the stated objectives of the NQFS are **qualification standards**. Various tools and techniques are employed to develop qualification standards, including e.g. learning outcomes, qualifications framework levels, level descriptors and credits.

The Methodology for Developing Qualification Standards (hereinafter: the Methodology) includes: an explanation of the basic concepts introduced in the NQFS; a description of the process of developing qualification standards and the role of key actors in that process; guidelines for expressing all elements of the qualification standards including learning outcomes as a key part of it; explanation the function of qualification standards in the development of education / training programs, as well as the role of occupational standards in the development of qualification standards.

**The main purpose of the Methodology** is to improve the process of developing qualification standards and the capacity of key actors involved in the process.

**The goal of the Methodology** is to develop a structural framework of qualification standards and conceptually define learning outcomes in it.



# BASIC TERMS AND THEIR MEANING

One of the aims of national qualifications frameworks is to transparently classify qualifications, making national qualifications frameworks more understandable and easier to apply. To achieve that, it is necessary to determine key terms, with clear interrelations. Two key terms underlying all others in the NQFS are **qualification** and **learning outcomes**.

To ensure their better understanding, the key terms should be defined according to their key role in the overall system, as set out in this Methodology. Terms are defined within the following categories:

1. **Classification tools**

* European Qualifications Framework for Lifelong Learning– EQF;
* the International Standard Classification of Education – ISCED;
* the International Standard Classification of Occupations – ISCO;
* European Skills, Competences, Qualifications and Occupations Taxonomy – ESCO).

1. **Basic elements of the NQFS**

* qualification;
* competence;
* learning outcomes;
* knowledge;
* skills;
* abilities and attitudes
* key competencies for lifelong learning;
* occupation.

1. **Basic characteristics of qualifications**

* level;
* volume;
* type.

1. **NQFS standards**

* qualification standard, and
* occupational standard.

1. **Forms of learning and recognition**

- formal education;

- non-formal education;

- informal learning;

- recognition of prior learning.

#### 1.1. Classification tools

Classification tools are related sets of methods which determine and classify selected basic elements and processes in qualifications systems, including education/training programs, qualifications and occupations. For transparent classification, these tools should further define the main characteristics underlying the classification, as well as the methods used to determine those characteristics.

There are several classification tools for education/training, occupations and qualifications:

* ISCED - International Standard Classification of Education, which includes classification by levels and by fields of education and training, ISCED-F 2013;
* ISCO - International Standard Classification of Occupations;
* ESCO - European Skills, Competences, Qualifications and Occupations taxonomy;
* EQF - European Qualifications Framework for lifelong learning;
* QF-EHEA - Qualifications Framework for European Higher Education Area;
* NQFS - National Qualifications Framework of the Republic of Serbia;
* CLASNQFS, National Qualifications Classification System

**ISCED** – an international tool for classification of education by levels and fields. ISCED classifies education in nine levels, from 0 to 9. Level 8 corresponds to doctoral studies or studies for equivalent qualifications. It is important to note that ISCED does not classify qualifications; instead, it classifies education for obtaining qualifications. In addition to the ISCED classification of education by levels, there is also a classification by fields[[1]](#footnote-1) (ISCED-F 2013). The broad division based on the main hierarchical groups comprises eleven groups, labelled from 00 to 10 (for example, 05 is the mark used for natural sciences, mathematics and statistics). INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION, Fields of education and training 2013 (ISCED – F 2013).

**ISCO** – an international tool for classifying occupations in a set of hierarchical groups according to key jobs within those occupations. The ISCO, base on which many countries have built their classification of occupations, was developed by the International Labour Organisation (ILO). They are most often used to process and compare statistics on occupations and have a variety of applications for various users, including connecting job-seekers with employers or education and training providers. ISCO served as a model and the basis for development of Codebook of Occupations set by the Decision on the Uniform Codebook for Entry and Coding Data in Employment Records (*Official Gazette of the Republic of Serbia* No. 56/18).

**ESCO** – a multilingual European classification of competences, occupations and qualifications. The ESCO, developed by EU Member States, is an essential tool supporting the implementation of European Union strategies and other strategies. The ESCO develops and classifies three groups of elements, namely: occupations, qualifications and their links – competences, i.e., learning outcomes.

**EQF** – a common European reference framework which links different countries’ qualifications systems together, acting as a comparing device to make qualifications more readable and understandable across different countries and education systems in Europe. It is an example of a transnational qualification’s framework. The EQF is also called a meta-framework, i.e. a framework that does not include qualifications, but links the national qualifications frameworks of different countries under strictly determined conditions and criteria. It was originally designed for EU countries and countries associated with the EU (Norway, Iceland, Switzerland, Liechtenstein), as well as those countries that are in the EU accession process. Recently, there have been initiatives to link international qualifications framework to the EQF and criteria have been determined for such cases (e.g. Australia, Hong Kong, New Zealand, Japan, South Korea and others).

**QF-EHEA** – the qualifications framework in the European higher education area, developed within the Bologna Process. It identifies four main cycles [[2]](#footnote-2)(the short, first, second and third cycle), which are described by the “Dublin Descriptors”. The QF-EHEA is an example of a transnational qualifications framework that applies only to higher education. It currently includes 48 countries. While all countries included in the EQF are also in the QF-EHEA, it is not the case vice versa.

**NQFS** – an instrument covering the number of qualifications and description of qualification levels, relations between qualifications and learning further mobility and progression in the Republic of Serbia. NQFS includes processes, bodies/organisations responsible for setting the qualifications, ways of obtaining qualifications, comparison, recognition, quality assurance and standards for its implementation.

**CLASNQFS** – a system for classifying qualifications in the NQFS, harmonised with the International Standard Classification of Education (ISCED 13-F) and contains the names of the sectors, narrower sectors and subsectors of education and training into which the classifications are classified and their numerical designations on the basis of which the qualification code is determined. It is a unique classification system independent from any existing classifications of educational profiles and study programs.

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#### 1.2. Basic elements of NQFS

The NQFS comprises the following basic elements:

1. Qualification;
2. Competence;
3. Learning outcome;
4. Knowledge;
5. Skills;
6. Abilities and attitudes;
7. Key competences for lifelong learning;
8. Occupation.

**Qualification** – formal recognition of acquired competences. An individual acquires a qualification when a competent body determines he/she has achieved the learning outcomes at a specific level and according to the set qualification standard, which is verified by a public document (a diploma or a certificate).

**Competence** – an integrated set of knowledge, skills, abilities and attitudes which allows an individual to efficiently perform activities on a job in accordance with an occupational standard.

**Learning outcomes** – clear statements of what an individual is expected to know, understand and exhibit or do after completing the learning process. They enable the assessment of the level on which competencies are developed, i.e. the level on which knowledge, skills, attitudes and abilities are achieved.

**Knowledge** – a set of acquired mutually related facts, principles, theories and practices (experiences) relating to a specific field of work or learning.

**Skills** – a set of cognitive (logical, intuitive and creative thinking), psychomotor (agility, use of methods, instruments, tools and materials) and/or social skills (communication and presentation skills, teamwork).

**Abilities and attitudes** – they are presented in terms independence and responsibility of an individual according to the acquired knowledge and skills.

**Key competences for lifelong learning** - the ability of the individual to use the acquired knowledge, skills and attitudes, necessary for personal, social and professional development and further learning. These competencies are embedded in the objectives and standards at all levels of education as new areas, relevant to the continuous acquisition of competencies, leading a private and social life, profession and dealing with real problems and demanding situations.

Key competences for lifelong learning are defined with the eight key competences set out in the European Key Competences for Lifelong Learning.[[3]](#footnote-3) In pre-university education   
in the Republic of Serbia, general interdisciplinary competencies have been established for the end of compulsory and the end of secondary education. [[4]](#footnote-4) General interdisciplinary competencies are based on key competencies, are developed through the teaching of all subjects, are applicable in different situations and contexts in solving various problems and tasks, are necessary for all students for personal achievement and development as well as inclusion in social flows and employment and they form the basis of lifelong learning.

**Occupation** – a group of jobs with shared main duties and tasks. It may refer to a job comprising a set of tasks a person currently performs or has performed or will perform, whether they are employed or self-employed[[5]](#footnote-5).

#### 1.3. Main characteristics of qualifications

The demand for more systematic and more transparent classification of qualifications has led to the introduction of main characteristics of qualifications on which the classification of qualifications can be based, which include:

1. Qualification type;
2. Qualification level and sublevel;
3. Scope of qualification.

**Qualification type** – a broad group of qualifications corresponding to a specific form of education. Qualification types in the NQFS include:

* General - primary education and gymnasium education and which includes all types and directions of gymnasiums as well as specialized gymnasiums, in accordance with the laws governing the basics of the system of education, primary and secondary education;
* Vocational - secondary vocational education, secondary art education and training, in accordance with the law governing the basics of the education system, vocational education, dual education and adult education;
* Academic - higher education acquired by completing basic academic, master's academic, specialist academic and doctoral studies, in accordance with the law governing higher education;
* Applied - higher education acquired in basic vocational, specialist vocational and master vocational studies, in accordance with the law governing higher education.

**Qualification level and sublevel** – the complexity of acquired learning outcomes for a specific classification, described by level and sublevel descriptors. A qualification level is a numerical representation of learning outcomes of a qualification in terms of level descriptors. In the NQFS, qualification levels can be from 1 to 8, which is equivalent to the European Qualifications Framework, with sublevels 6.1 and 6.2, as well as 7.1 and 7.2. For example, level 3 stands for qualifications obtained in three-year secondary vocational education and qualifications acquired through non-formal adult education with the minimum duration of 960 hours of training.

**Level and sublevel descriptors** – are generic description of complexity of learning outcomes of a specific level or sublevel. Level and sublevel descriptors are a way of determining the qualification level and sublevel based on complexity of the learning outcomes for the qualification concerned, that is, specific knowledge, skills, abilities and attitudes that represent a given qualification. The core role of level and sublevel descriptors is to determine qualification levels and sublevels in the NQFS based on the specified learning outcomes of a qualification, regardless of the field of such qualification. The descriptors in the NQFS are established for each level and sublevel, and contain three categories of learning outcomes: knowledge; skills; abilities and attitudes. Descriptors for levels of higher education in NQFS are harmonized with the descriptors developed within the Bologna Process.[[6]](#footnote-6)

**Scope of qualification** – total workload required to achieve relevant learning outcomes, determined as the average total tie spent by successful individuals to achieve relevant learning outcomes. An estimate of time spent can be made only by relevant lecturers, teachers and other providers of education/training programs. All forms of learning required to achieve the agreed learning outcomes are taken into consideration, from direct teaching at school to independent study, use of libraries and the time spent on assessment in examinations or other forms of review. The scope of qualification is expressed in terms of credits.

Duration of learning– the time required to acquire the envisaged knowledge, skills, abilities and attitudes according to the education/training program. The duration of learning is expressed in years or hours.

Credits– a measure used for stating the volume of achieved learning outcomes. An example is the ECTS in higher learning (European Credit Transfer and Accumulation System). EU Member States usually apply the same type of credits for relevant education systems. Certain countries use ECVET (European Credit system for Vocational Education and Training) in vocational education. There are countries that use their own credits, but they are the same for both vocational and higher education (e.g. Ireland, Scotland, Hong Kong).

The Strategy for the development of education in Serbia in 2020 envisaged the introduction of ECVET credit points in vocational education in the Republic of Serbia.

#### 1.4. Standards in NQFS

The NQFS implements the following standards:

* + occupational standard[[7]](#footnote-7);
  + qualification standard.

**Occupational standard** – a document describing duties and tasks, as well as competencies needed for an individual to be able to efficiently perform a set of jobs in a particular occupation, established in accordance with the regulations of the employment sector.

An occupational standard sets out all necessary elements of the relevant occupation, including sufficient data for developing relevant qualification standard(s). In the systems of secondary vocational education in certain countries, qualification standards are developed on the basis of occupational standards.

**Qualification standard** – a document established under the Law on the NQFS which describes learning objectives and outcomes and contains information concerning the relevant qualification according to which the appropriate qualification level is determined and the qualification is classified and assessed. A qualification standard comprises all necessary elements of a qualification, regardless of the institution where such qualification is obtained. The standard of qualification defines the title and meaning of the respective qualification.

Such a document should be used as a basis for the development of education/ training programs, as well as for other purposes. The education / training program is a structural framework for the organization of the learning process, the elements of which are prescribed in advance. It is adopted in accordance with established principles, goals and standards. The term *education/training program* in the Methodology is equated with the terms: teaching and learning plan and program, study program and adult education program.

All qualification standards, national qualifications and publicly recognised organisers of adult education activities are recorded in the NQFS Register.

The NQFS Register, as a unique electronic database for data management in NQFS, is a visible quality mark of obtained qualifications in accordance with the EQF and the QF-EHEA, i.e. with the principles, standards and guidelines for quality assurance systems applicable to qualifications acquired in countries referencing the EQF and the QF-EHEA. In such referencing, learning outcomes are a key aspect. All qualifications referenced through national qualifications frameworks in individual countries to the European ones must be quality-assured according to appropriate principles, standards and guidelines, including: application of learning outcomes in the development of qualifications, reliable testing and assessment according to standards related to the agreed learning outcomes, mechanisms for improvement, participants in all processes, self-evaluation and external evaluation, links with internal management and accountability in the award of qualifications, measurable standards and guidelines, appropriate resources, regular external evaluation of quality assurance bodies, and publicly available electronic evaluation results.

#### Forms of learning in NQFS

#### NQFS is based on the concept of lifelong learning that includes all forms of learning and involves participation in various educational activities throughout life, with the aim of continuous improvement of personal, civic, social and competencies needed for work.

Forms of learning in NQFS refer to different ways, i.e. means in which qualifications can be acquired, and include:

* + Formal education;
  + Non-formal education;
  + Recognition of prior learning. [[8]](#footnote-8)

**Formal education** – organised learning processes based on curricula and syllabuses in primary and secondary education and study programs in higher education which enable pupils and students to achieve the learning outcomes defined by the qualification standards or the teaching and learning program.

**Non-formal education** – organised adult learning processes implemented according to special programs, for the purpose of acquiring knowledge, skills, abilities and attitudes as well as key competencies in order to improve professional, personal and social development.

**Recognition of prior learning** – an activity within adult education and lifelong learning that is implemented through the assessment of knowledge, skills and competencies and attitudes gained through education, life or work experience. It enables further learning and increased competitiveness in the labour market. The term is equated with the term “validation of non-formal and informal learning”, in line with the European Guidelines for Validation of Non-formal and Informal Learning.

# QUALIFICATION STANDARD

A qualification standard is a document determined at the national level which contains a specific set of data describing the relevant qualification, according to which the qualification is classified and assessed.

A properly structured enables the linking of key education system data with labour market data. The process of developing and adopting a qualification standard is based on social partnership between different stakeholders in the fields of education, labour and employment, economy and the relevant industry, trade unions and others. The qualifications needed in a sector are determined by collecting and analysing such data from the sector.

Publishing of reference data concerning a qualification in the agreed format provided for by legislation ensures their transparency, legal validity and reliability.

#### 2.1. Potential and purpose of qualification standard

A qualification standard is the foundation for the development of relevant education/training programs, program delivery standards (providers, i.e. teachers and trainers, and delivery conditions, i.e. space and equipment), as well as examination standards for obtaining the qualification. Thus, a qualification standard directly or indirectly becomes a tool for validation of education/training programs.

On the basis of the learning outcomes defined in a qualification standard, learning outcomes are determined for specific courses and/or other modules of an education/training program. Education/training programs may also contain additional specific content on top of the mandatory elements required by the relevant qualification standard. This ensures that specific interests of local labour markets, educational institutions, pupils and students and the society as a whole are taken into consideration.

A qualification standard also serves numerous other purposes, including: career guidance of individuals, continuing education paths, recognition of prior learning and many other functions important both for individuals and the society. For example, the information on the manner of obtaining a qualification, its learning outcomes and assessment method lays the foundation for the processes of recognition of prior learning (validation of non-formal and informal learning).

In addition, when a person acquires a qualification at a certain level, then during retraining within the same level of qualification, key competencies are automatically recognized, as a result of which the given person should adopt and certify learning outcomes that are specific to the new qualification.

#### 2.2. Stakeholders in the development of qualification standards

Education quality assurance principles and standards at EU level emphasises the role of all stakeholders interested in a specific qualification, whether as students or pupils, employers, legislators or others.

Stakeholder engagement in the development of qualification standards ensures quality of those qualification standards. Stakeholders can be engaged in different ways, from direct involvement from the initial stages of development to consultation to validation or other appropriate ways. Each stakeholder has a different role in development of qualification standards.

Key activities and stakeholders in NQFS implementation include:

|  |  |
| --- | --- |
| **ACTIVITY** | **STAKEHOLDER** |
| Human resources development planning, education and employment | Employers  Policy-makers and other state institutions  Trade unions  Education/training providers |
| Policy and strategy determination for the relevant sector, keeping records in education, employment, statistics and social insurance | Policy-makers and other state institutions, public services etc. |
| Labour market relevant of learning outcomes | Employers |
| Links between qualification standards and specific occupational standards, if available | Employers |
| Transparency of qualification standards | Employers  Education/training providers  Learners |
| Links between learning outcomes and assessment and evaluation standards | Education/training providers  Learners |
| Education/training providers  Learners | Participants in the designing and evaluation of education/training programs |
| Accreditation of program providers | Schools, universities, organisations, companies and learners |
| Implementation of education and training programs | Education/training providers  Teachers, professors, trainers  Learners |
| Certification | Examination bodies, examiners  Candidates |
| Effectiveness, sustainability and transparency of quality assurance | Policy-makers and other state institutions  Students |
| Career guidance and counselling | Counsellors  Learners or persons choosing an occupation |
| Mediation in employment | Employment services/agencies, companies and job-seekers |
| Development and implementation of initiatives to support greater employability and employment and to support labour market integration of youth and other vulnerable social groups etc. | Civil society organisations (CSOs) |

#### 2.3. Development of qualification standards

The quality of qualification standards is largely conditioned by the process of developing qualification standards. The development process is determined by the procedure prescribed by the Law on NQFS and includes certain quality assurance mechanisms, primarily in the field of expert decision-making on the necessary qualifications at sector skills councils, based on relevant data. The process is characterized by openness and transparency, which, at different stages of development, enables the involvement and active participation of actors and individuals whose actions are not necessarily related to the education sector.

The Agency for Qualifications, the Sector Skill Council and the NQFS Council participate in the development of qualification standards, on whose proposal the Minister in charge of education issues an act on the adoption of qualification standards, which is published in the "Official Gazette of the Republic of Serbia - Education Gazette".

The development of qualification standards includes the following phases:

1. Submission of the Initiative for development and adoption of qualification standards (hereinafter: The Initiative)
2. Consideration of the eligibility of the Initiative for further decision-making
3. Deciding on the Initiative
4. Development of a proposal for qualification standards
5. Determining the proposal of the qualification standard
6. Adoption of qualification standards and entry in the NQFS Register.

*Submission of the Initiative*

The initiative is an instrument that initiates the process for developing and adopting qualification standards. It consists of two documents that together make up the Initiative:

- Study on the justification of the qualification, and

- Initial proposal of qualification standard.

The content and form of the Initiative are prescribed and binding for everyone who proposes a new qualification.[[9]](#footnote-9) The initiative for a new qualification can be submitted by various institutions, bodies and authorities from the state sector, as well as employers, trainers, organizations and others, from the private and civil sector, respectively.

In the case of an initiative to modernize an already existing qualification, the interested party shall contact the Sector Skill Council to consider the need to modernize the qualification. After a positive decision is made by the sector skill council, the submitted Initiative is approved and the procedure for developing and adopting qualification standards is initiated.

The initiative should, among other things, contain relevant data describing the proposed qualification and explaining its purpose and needs, as well as input data on the content of the qualification itself (required knowledge, skills, abilities and attitudes).

In the process of preparing the Initiative, the Qualifications Agency provides information and provides appropriate instructions relevant to the submission of a proper Initiative.

*Consideration of the eligibility of the Initiative for further decision-making*

The initiative is submitted to the Qualifications Agency for the purpose of assessing its expediency, having in mind the existing system (standards) of qualifications determined by the NQFS Register. Namely, it is determined whether the proposed qualification is already represented or contained in some other qualification standard, i.e. whether the Initiative includes all the necessary elements to be relevant for decision-making.

If necessary, the Agency may request an amendment or clarification from the submitter of the Initiative. After noting that this is a new qualification, the Agency prepares a Recommendation on the development of qualifications, which contains an expert assessment of all elements of the Initiative having in mind their relevance to the purpose and basic characteristics of the qualification, as well as compliance with the Law on NQFS, and refers it to the Sector Skill Council.

*Deciding on the Initiative*

Based on the Recommendation on the Development of qualification standards, the Sector skill Council may issue a Decision on the development of a proposal for qualification standards or a Decision on non-acceptance of the Initiative. The decision-making is based on the Recommendation on qualification development, submitted data from the Initiative, as well as available data from various administrative sources, analysis and cross-referencing of relevant indicators from the relevant economic sector (activity) and education sector to which the qualification belongs. Each decision must be reasoned, in which primarily members of the Sector Skill Council, experts in a particular field participate.

*Development of a proposal for qualification standards*

The Agency shall develop a qualification standard in accordance with the provisions of Article 27, paragraph 5 of the Law on NQFS. The proposal of the qualification standard is prepared by the employees of the Center for Qualifications Development and Support to Sectors skills Councils, in cooperation with the expert team. For the development of standards, the Agency forms an expert team in accordance with the Law on NQFS.[[10]](#footnote-10) The draft standard is prepared on the basis of data from the adopted Initiative, as well as on the basis of the methodological framework established by this document. Relevant examples of qualification standards of other countries are used in the development of the proposal, as well as various bases and tools developed by the European Union.

*Determining proposed qualification standards*

The prepared proposal of qualification standards is submitted by the Agency to the Council for NQFS. The Council for NQFS, whose dominant role is strategic and advisory, considers the content and determines the proposal of qualification standards, considering the legality of the entire development process and implemented procedures.

*Adoption of qualification standards and registration in the NQFS Register*

After submitting the determined proposal of the qualification standard to the ministry in charge of education, the Minister shall issue a Decision on the adoption of the qualification standard and publish the standard in the appropriate act. After that, the qualification standard is entered in the Register of NQFS - sub-register of qualification standards, which makes it available to various stakeholders.

The Qualifications Agency manages the data from the NQFS Register in accordance with the Rulebook on the content and manner of keeping the NQFS Register.

The NQFS register is part of the Integrated Education Information System (IEIS), which consists of:

- Register of children, students, adults, students, candidates and students;

- Register of institutions (preschool institutions, primary and secondary schools and institutions of pupil and student standard);

- Register of accredited higher education institutions;

- Register of employees in institutions and institutions of pupils’ and students’ standard;

- Register of employees in higher education institutions;

- Register of curriculum for teaching and learning;

- Register of accredited study programs.

The Agency, in accordance with the law, uses data from other registers within IEIS, for the purpose of monitoring and measuring the effects of the implementation of qualifications on employment, i.e. employability according to acquired qualifications and completed study programs, monitoring national employment trends and comparisons with trends abroad, as well as monitoring active employment policy in order to increase employment.

The entire process, from the submission of the initiative to the decision of the Sector Skill Council on the drafting of the qualification standard, enables the protection of the rights of the proposers of the Initiative, giving the possibility to file objections at different stages of the procedure.

# GUIDANCE FOR THE DEVELOPMENT OF ELEMENTS OF QUALIFICATION STANDARDS

# This part of the Methodology precisely describes the structure of the Qualification Standard, gives explanations of each element and basic instructions and principles according to which it is defined or determined.

A qualification standard comprises elements of different nature, which are therefore categorized in six groups of information in the qualification standard document:

1. Qualification title and code;
2. Main characteristics of the qualification;
3. Relevance of the qualification for employment and continued education;
4. Learning outcomes;
5. Qualification quality assurance;
6. Reference information on the qualification standard.

An example of a document containing elements of a qualification standard is provided in Annex 1.

#### 3.1 Qualification title and code

The qualification title must be unique, which means it must not be identical to the titles of existing qualifications in NQFS Register, except when revision of an existing qualification standard is proposed. Preferably, the qualification title should also not resemble an existing qualification, unless it is a specialisation (e.g. graduate economist – graduate economist for banking).

In principle, a qualification title has two parts:

* The generic part;
* The specific part.

The generic part of the title refers to the group of qualifications and is used only for the appropriate level or sub-level, while the specific part of the title is related to areas, fields, etc. which more closely determines the discipline (e.g. mechanical engineering). Like that, for example, graduate is the generic part of the title for the group of qualifications that are at level 6.2 in NQFS, and the technician for the corresponding group of qualifications at level 4 (Table 2).

The title of a qualification is well defined if it reflects all the basic characteristics of the qualification.

The qualification code is determined by the Qualifications Agency in accordance with the regulations governing CLASSNQFS.

*Table. 2. Examples of generic qualification titles by levels*

|  |  |
| --- | --- |
| **GENERIC QUALIFICATION TITLE** | **LEVEL** |
| Doctor of Philosophy  Doctor of Arts | 8 |
| Specialist  Specialist Doctor | 7.2 |
| Master  Doctor of Medicine (integrated studies in the field of medical sciences 360 ECTS)  Magister of Pharmacy | 7.1 |
| Graduate  Graduate Engineer  Specialist Vocational | 6.2 |
| Engineer  Vocational Engineer | 6.1 |
| Specialist  Organiser  Craftsman | 5 |
| Technician  Dancer  Musical Performer | 4 |
| Mechanic  Operator | 3 |
| Maker | 2 |

#### 3.2. Main characteristics of the qualification

*Subsector according to CLASSNQFS*

Each field of education/training in CLASSNQFS accordance to ISCED-F 2013 consists of three hierarchical levels:

* Sector (of which there are 11);
* Narrower sector (of which there are 29);
* Subsector (of which there are approx. 80).

From the list of fields of education / training in CLASSNQFS, the code and name of the appropriate field (sector, narrow sector or subsector) is entered.

The education/training subsector code in CLASSNQFS comprises 4 digits. For example, the code for forestry is 0821.

ISCED-F 13 by fields of education & training is provided in Annex 2.

*NQFS level*

The NQFS has 8 levels (numbered 1 to 8), with sublevels at level 6 (6.1 and 6.2) and level 7 (7.1 and 7.2). The NQFS is the integrated qualification system in the Republic of Serbia which provides for the association of levels and sublevels based on specified learning outcomes.

Descriptors for each level and sublevel are specified by the Law on NQFS and contain three categories/domains of learning outcomes:

* knowledge;
* skills;
* abilities and attitudes.

Each qualification includes, more or less, all categories of learning outcomes, but not all categories within a qualification carry the same weight (complexity).

Learning outcomes in a qualification standard must be harmonised with the relevant level and sublevel descriptors.

Qualification level and sublevel are to be entered in a qualification standard according to the education through which such qualifications are obtained (Table 3.).

*Table. 3. Existing qualifications by NQFS levels / sublevels*

|  |  |
| --- | --- |
| **NQFS level** | **Qualifications** |
| 1 | Primary education, primary adult education, primary music education and primary ballet education |
| 2 | Vocational training with the duration of up to one year  Education for work with the duration of up to two years  Non-formal adult education with the duration of 120-360 hours of training |
| 3 | Three-year secondary vocational education,  non-formal adult education of minimum 960 hours of training |
| 4 | Four-year secondary education (vocational, arts, or general secondary) |
| 5 | Craftsman or specialist education with the duration of two or one year respectively  Non-formal adult education with the minimum duration of six months |
| 6.1 | Undergraduate academic studies carrying minimum 180 ECTS  Undergraduate applied studies carrying 180 ECTS. |
| 6.2 | Undergraduate academic studies carrying minimum 240 ECTS  Specialist applied studies carrying minimum 60 ECTS |
| 7.1 | Integrated academic studies carrying 300 to 360 ECTS  Master academic studies carrying minimum 60 ECTS, after previously completing undergraduate academic studies carrying minimum 240 ECTS  Master academic studies carrying minimum 120 ECTS (after previously completing undergraduate academic studies carrying ECTS)  Master applied studies carrying minimum 120 ECTS (after previously completing undergraduate applied studies carrying 180 ECTS) |
| 7.2 | Specialist academic studies carrying minimum 60 ECTS (after previously completing master academic studies) |
| 8 | Doctoral studies carrying 180 ECTS (after previously completing integrated academic studies or master academic studies) |

*EQF level*

EQF level consists of 8 levels. The qualification level in the EQF is referenced in the proposed qualification standard after referencing of the NQFS to the EQF and the QF-EHEA.

Determining the EQF level is simple and the assigned level can be between 1 and 8. When the NQFS level is known, the EQF level can be determined by using data of connecting NQFS and EQF levels (Table 4.).

*Table. 4. Comparison of NQFS and EQF levels*

|  |  |
| --- | --- |
| **NQFS level** | **EQF level** |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6.1 | 6 |
| 6.2 |
| 7.1 | 7 |
| 7.2 |
| 8 | 8 |

*QF-EHEA cycle*

QF-EHEA is defined through four cycles (degrees): short cycle, first, second and third. The cycle to which the qualification belongs in the QF-EHEA is determined in the proposed qualification standard only for qualifications in higher education, in accordance with the connection of the NQFS with the QF-EHEA. In the Republic of Serbia, the Law on Higher Education prescribes the first, second and third degree, while the short cycle has not yet been recognized.

When the NQFS level is known, the QF-EHEA cycle can be determined by using data of connecting NQFS level and QF-EHEA cycle (Table 5.).

*Table 5. Comparison of NQFS levels and QF-EHEA cycles*

|  |  |
| --- | --- |
| **NQFS level**  **(only for higher education qualifications)** | **QF-EHEA cycle** |
| 6.1 | First |
| 6.2 |
| 7.1 | Second |
| 7.2 |
| 8 | Third |

*Qualification type*

According to the NQFS the qualification may be:

* **General** qualifications include primary education and gymnasium education, which includes all types/kinds and courses of gymnasiums, as well as specialised gymnasiums;
* **Vocational** qualifications include secondary vocational education and training. This qualification type also includes secondary arts education qualifications;
* **Academic** qualifications are qualifications obtained in accredited study programs (undergraduate, master, specialist and doctoral studies). This qualification type also includes academic arts education qualifications;
* **Applied** qualifications are qualifications obtained in accredited applied study programs (undergraduate, specialist and master), (Table 6)

*Table 6. Types of qualifications*

|  |  |
| --- | --- |
| **QUALIFICATION TYPE** | **ACQUIRED BY COMPLETION OF** |
| General | primary education |
| gymnasium education including all types and courses of gymnasiums, including specialised gymnasiums |
| Vocational | secondary vocational education |
| secondary arts education |
| trainings |
| Academic | higher education obtained in undergraduate academic studies |
| higher education obtained in master academic studies and specialized academic studies |
| higher education obtained in doctoral academic studies |
| Applied | higher education obtained in undergraduate applied studies |
| higher education obtained in specialized applied studies |
| higher education obtained in master applied studies |

*Scope of qualification*

The NQFS for higher education uses the European Credit Transfer and Accumulation System (ECTS). A single ECTS point in the NQFS equals total time of 30 hours spent achieving relevant learning outcomes. The scope of qualification is determined by professors, teachers and other program providers in their respective areas and it is necessary to estimate the time spent on classroom teaching, self-instructed learning and use of libraries, even the time spent on checking the accomplishment of learning outcomes. Time is estimated for an averagely successful student in ideal learning conditions. When the total required time is determined, the number of points is arrived at by dividing the total time with the determined time assigned to a single point (e.g. 30 in higher education).

If credit points are not implemented, the scope of qualification is expressed as the duration in years, months or hours, which are stated as the total burden for an individual. The proponent of the initiative for development qualification standard gives a proposal about scope of qualification, with an explanation of the budget.

*Requirements for acquiring a qualification*

In order for an individual to access a qualification program or the process of recognition of prior learning, it is necessary to meet the appropriate conditions. The Law on NQFS precisely defines the preconditions in terms of previously acquired qualifications, i.e. levels.

In this section, data are entered in the form of previously acquired qualifications or groups of qualifications that an individual must possess before starting the process of acquiring a qualification (Table 7).

*Table.7. Prerequisite - required previously acquired level of qualification*

|  |  |
| --- | --- |
| **NQFS LEVEL** | **ENTRY REQUIREMENT** |
| **1** | Completed preparatory pre-school program |
| **2** | NQFS 1 |
| **3** | NQFS 1 |
| **4** | NQFS 1 |
| **5** | Through formal education: NQFS 3 or NQFS 4  Through non-formal education: NQFS 4 |
| **6.1** | NQFS 4 |
| **6.2** | NQFS 4  NQFS 6.1 For specialized applied studies carrying 60 ECTS |
| **7.1** | NQFS 4 for integrated studies carrying 300 ECTS  NQFS 6.1 for master academic/applied studies carrying 120 ECTS  NQFS 6.2 for master academic studies carrying 60 ECTS |
| **7.2** | NQFS 7.1 |
| **8** | NQFS 7.1 |

Other requirements, if any, should also be stated. The requirements may comprise the following categories:

* Prior education or previously obtained qualification or group of qualifications;
* Any special psychophysical or medical abilities;
* Work experience;
* Any special requirements (normative requirements, age, no criminal record etc.).

*Forms of learning*

This section specifies one or more forms of learning for acquiring the qualification:

1. Formal;
2. Non-formal;
3. Recognition of prior learning.

*Type of public document*

The qualification is confirmed by a public document issued by the competent body. The types of public documents are determined by appropriate regulations.

From the list of types of public documents, enter one or more public documents that are awarded when the appropriate qualification is acquired (Table 8).

*Table 8. Types of public documents by type of education*

|  |  |  |  |
| --- | --- | --- | --- |
| **LEVEL** | **TYPE OF EDUCATION** | **TYPE OF PUBLIC DOCUMENT** | **LEGAL BASIS** |
| 1 | Primary education, Primary adult education, Primary music education, Primary ballet education | Graduation certificate in primary education;  Graduation certificate in primary music/ballet education; Graduation certificate in primary education; | Art. 17 and 18a of the Rulebook on the content and manner of keeping records and issuing public documents in primary school (Form 17a and Form 18b); Rulebook on the content and manner of keeping records and issuing public documents for primary adult education (Form OOO-6); |
| 2 | Vocational training (1 year) | Certificate of completion of professional competency examination | Article 6 of the Rulebook on public documents issued by Secondary School (Form 7) |
| Education for work (2 years) | Diploma | Article 8 of the Rulebook on Public Documents Issued by Secondary School (Form 9) |
| Training (120 – 360 hours of training) | Certificate of full attainment of qualification standard | Article 11 of the Rulebook on the type, name and content of forms and the manner of keeping records and the name, content and appearance of forms of public documents and certificates in adult education (Form O-5) |
| 3 | Secondary vocational education (3 years) | Diploma | Article 9 of the Rulebook on public documents issued by Secondary School (Form 10) |
| Secondary vocational education (3 years) based on a qualification standard | Diploma;  Certificate of completed examinations within the completed course for the educational profile | Article 9 of the Rulebook on public documents issued by Secondary School (Form 10 diploma), article 5 form 6 certificate |
| Non-formal adult education (min 960 hours of training) | Certificate of full attainment of qualification standard | Article 11 of the Rulebook on the type, name and content of forms and the manner of keeping records and the name, content and appearance of forms of public documents and certificates in adult education (Form O-5) |
| 4 | Secondary education - vocational, arts, gymnasium (4 years) | Diploma | Article 10 of the Rulebook on public documents issued by Secondary School (Form 11) |
| Secondary vocational education (4 years) based on a qualification standard | Diploma;  Certificate of completed examinations within the completed course for the educational profile | Article 10 of the Rulebook on public documents issued by Secondary School (Form 11) |
| 5 | Master craftsman and specialist education | Certificate of completed specialist examination  Certificate of full attainment of qualification standard | Article 7 of the Rulebook on public documents issued by Secondary School (Form 8)  Article 11 of the Rulebook on the type, name and content of forms and the manner of keeping records and the name, content and appearance of forms of public documents and certificates in adult education (Form O-5) |
| 6.1 |  | Diploma | Article 3 of the Rulebook on the content of public documents issued by a higher education institution (Form 2) |
| 6.2 |  | Diploma | Article 3 of the Rulebook on the content of public documents issued by a higher education institution (Form 2) |
| 7.1 |  | Diploma | Article 3 of the Rulebook on the content of public documents issued by a higher education institution (Form 3) |
| 7.2 |  | Diploma | Article 3 of the Rulebook on the content of public documents issued by a higher education institution (Form) |
| 8 |  | Diploma | Article 3 of the Rulebook on the content of public documents issued by a higher education institution (Form 4 and Form 5) |

#### 3.3. Relevance of the qualification for employment and continuing education

*Further mobility in the qualifications system*

The possibility of transition from one qualification level to another, i.e. further education and training is determined by the Law on NQFS.

Horizontal mobility in the system of pre-university formal education is possible in accordance with the law and is determined for each qualification individually, and according to the preconditions for its acquisition.

In this section, the mobility data for the appropriate qualification level are entered as shown in Table 9.

*Table 9. Mobility of qualifications to NQFS levels*

|  |  |  |
| --- | --- | --- |
| **NQFS LEVEL** | **QUALIFICATION** | **FURTHER MOBILITY TO NQFS LEVELS** |
| **1** | primary education, primary adult education, primary music education or primary ballet education; | NQFS 2  NQFS 3  NQFS 4 |
| **2** | vocational training with the duration of up to one year, education for work with the duration of up to two years, or non-formal adult education with the duration of 120-360 hours of training | / |
| **3** | three-year secondary vocational education or non-formal adult education of minimum 960 hours of training | NQFS 4  NQFS 5 |
| **4** | four-year secondary education (vocational, arts, or gymnasium). | NQFS 5  NQFS 6.1  NQFS 6.2  NQFS 7.1 |
| **5** | craftsman or specialist education with the duration of two or one year or non-formal adult education with the minimum duration of six months. | / |
| **6.1** | undergraduate academic studies carrying minimum 180 ECTS or undergraduate applied studies carrying 180 ECTS. | NQFS 6.2  NQFS 7.1 |
| **6.2** | undergraduate academic studies carrying minimum 240 ECTS or specialist applied studies carrying minimum 60 ECTS, after previously completing undergraduate academic studies carrying minimum 180 ECTS | NQFS 7.1 |
| **7.1** | integrated academic studies carrying 300 to 360 ECTS,  master academic studies carrying minimum 60 ECTS  master academic studies carrying minimum 120 ECTS  master applied studies carrying minimum 120 ECTS | NQFS 7.2 for previously completed master academic studies  NQFS 8 for previously completed master academic studies |
| **7.2** | specialist academic studies carrying minimum 60 ECTS | / |
| **8** | doctoral studies carrying 180 ECTS | / |

*Occupation*

The connection of a qualification with an occupation or group of occupations is an important piece of information for an individual when it comes to employment in certain types of qualifications. In this section, one or more occupations that are relevant for the specified qualification (with the corresponding code) are entered. If there are several occupations that belong to the same classification unit (group, subspecies or even type), then instead of each individual occupation, the name of that classification unit is entered according to the Occupational Code [[11]](#footnote-11).

*Occupational standard*

Qualification may be based on one or more occupational standards. In this section, data on the standard of occupations or more of them are entered.

Until the adoption of occupational standards in accordance with the regulations governing employment, the connection of qualification standards with the labour market is based on data on occupations determined on the basis of regulations in the field of labour and employment.[[12]](#footnote-12)

#### 3.4. Learning outcomes

The elements of learning outcomes include:

* General description of the qualification – a brief description of the qualification as a narrative description of what learners will be able to do, the key purpose of the qualification, its relevance for continued education and the labour market, i.e. a sublimated description of the integrated knowledge, skills, abilities and attitudes acquired;
* Description of competencies - itemized competencies that arise from knowledge, skills, abilities and attitudes and / or from duties and tasks in the occupational standard;
* Knowledge – statements of the required knowledge at qualification level (5-20 items);
* Skills – statements of the required skills at qualification level (5-20 items);
* Abilities and attitudes – adapted (contextualized) statements of autonomy and responsibility in the level descriptors for the relevant qualification level;
* Way of checking the achievement of learning outcomes – a generic description of assessing the attainment of learning outcomes, such as: final examination, formative testing during education, practical work, relevant product manufactured or relevant service provided etc.

Learning outcomes incorporate key competences. Key competencies should be included in the general description of the qualification, the description of the competencies, as well as within the skills and abilities and attitudes.

The specified knowledge, skills, abilities and attitudes are harmonised with the relevant qualification levels and level descriptors set out in Annex 1 of the Law on NQFS, which also helps with formulating learning outcomes.

The way of formulating learning outcomes is described in details in section 4 of this Methodology.

#### 3.5. Qualification quality assurance

*Program provider’s qualifications*

Based on the regulations on the type of qualifications of teachers in formal education, generic descriptions are determined, which include the type of education and the level of required qualifications of the implementers in accordance with the NQFS. This information is especially important due to the harmonization of conditions regarding the required qualifications of implementers in formal and non-formal education.

*Organisation responsible for issuing the public document*

This section generically lists organisations responsible for issuing public documents, e.g. vocational schools, PROAEAs, universities etc.

The Register of NQFS, i.e. the sub-register of qualification standards, also contains data from Integrated Education Information System (IEIS) on individual verified institutions, accredited higher education institutions, organizations that have the status of PROAEA, and which issue a public document for the appropriate qualification.

# GUIDANCE FOR FORMULATING LEARNING OUTCOMES IN QUALIFICATION STANDARDS

Learning outcomes are the core elements of any qualification, so it is important to approach them seriously when developing qualification standards, especially as they are the starting point for the development of education/training programs.

Learning outcomes for a particular qualification are reached starting with an analysis of labour market needs within the occupation, interest in continuing education, and other needs of society that make sense to incorporate into the appropriate qualification standard and related education programs.

As already mentioned, learning outcomes describe what individuals know, can and are able to do after the learning process is completed, and are defined through knowledge, skills, abilities and attitudes. This simple and clear definition of learning outcomes can become complex when considering the details to be used to express understandable learning outcomes, and how to relate them to ways of verifying the achievement of learning outcomes, testing and assessment criteria.

The learning outcomes of a qualification are properly presented if it is possible to determine with relative ease the main characteristics of the qualification with which those learning outcomes are associated and if the processes of assessment and examination of attainment of learning outcomes are clear.

#### 4.1. Usefulness of learning outcomes

Learning outcomes are used in various contexts and for various purposes. They can be used in the educational context, in the labour market context or in the context of an individual. In the educational context, learning outcomes are used for description of qualification standards, education/training programher groups of learning outcomes (subjects, modules etc.). In the labour market context, learning outcomes, for example, are used in vacancy announcements, employment contracts and various elements in the employment system. The level of detail, the style and the hierarchy of statements of learning outcomes will depend on the context which makes the learning outcomes fit for their purpose and easy to transform into learning activities.

In education/training programs, learning outcomes show teachers, learners and parents what learners are expected to know, understand and be able to do upon successful completion of the program and what the assessment criteria will be. Learning outcomes guide learners and program providers in the teaching and learning process towards an appropriate learning methodology. Learning outcomes are established within subjects, other curricula elements, according to learning outcomes set by qualification standards.

Learning outcomes are also used to describe competence and competitiveness of learners, which are shown in terms of the agreed forms of curriculum vitae, describing the attained learning outcomes (e.g. diploma supplement, EUROPASS CV[[13]](#footnote-13) etc.).

*Graph 2 - Place and significance of learning outcomes for the individual, education system and labour market*

|  |
| --- |
| **INDIVIDUAL’S DESCRIPTION**   * **DIPLOMA SUPPLEMENT** * **CV** * **DESCRIPTION OF SPECIFIC SECTORS (IT, languages etc.)**   **LABOUR MARKET**   * **OCCUPATIONS**   **LEARNING OUTCOMES / COMPETENCIES**  **EDUCATION**  **Qualifications**    **O**  **PI**  **S**  **PO**  **J**  **ED**  **I**  **N**  **A**  **C**  **A**    **T**  **R**  **Ž**  **I**  **Š**  **T**  **E**  **R**  **A**  **D**  **A**    •    **Zanimanja**  **I**  **S**  **H**  **O**  **DI**    **U**  **Č**  **E**  **N**  **JA**  **/**  **KO**  **M**  **P**  **E**  **T**  **E**  **N**  **C**  **I**  **J**  **E**    **O**  **B**  **R**  **A**  **Z**  **O**  **V**  **A**  **N**  **J**  **E**  **I**    **K**  **V**  **A**  **L**  **I**  **F**  **I**  **K**  **A**  **C**  **I**  **J**  **E**    **EQF AND NQFS**  **F**  **AND**      **Eu**  **r**  **o**  **p**  **a**  **s**  **s**    **ESC**  **O**    •    **D**  **o**  **d**  **a**  **ta**  **k**    **d**  **i**  **p**  **l**  **o**  **m**  **i**    •    **Ž**  **i**  **v**  **o**  **to**  **p**  **i**  **s**    •    **O**  **p**  **i**  **s**    **n**  **e**  **k**  **i**  **h**    **s**  **e**  **k**  **to**  **r**  **a**    **(**  **I**  **T**  **,**    **j**  **e**  **zi**  **c**  **i**    **i**  **td**  **.**  **)**    •    **K**  **v**  **a**  **l**  **i**  **fi**  **k**  **a**  **c**  **i**  **j**  **e** |

Learning outcomes are useful for many processes in qualification systems, including better understanding and recognition of qualifications from other countries, better matching of labour market demand, support to education and learning, assessment and marking and quality assurance.

When we read clearly stated learning outcomes, then the complexity level and the qualification profile or subsector (field) become clearer and more comprehensible. Learning outcomes provide detailed information on labour market relevance of qualifications. Labour market stakeholders are usually not experts in the processes of education and training, didactics or pedagogy; nevertheless, they will be able to better understand what they can expect from candidates when their achievements are stated in terms of learning outcomes.

Clearly defined learning outcomes support the adaptation of relevant teaching and training methods to facilitate the attainment of learning outcomes. Learning outcomes motivate and direct teachers to thoroughly rethink and define what they should achieve through their activities and how they should develop increasingly complex learning outcomes for pupils during education/training.

In addition to numerous other potential practical benefits, learning outcomes also help make assessment and marking processes more transparent and appropriate to their purpose, as learning outcomes clearly indicate which activities of learners should be checked and assessed. Different types of activities of individuals require different ways of verification. . A crucial aspect of learning outcomes is clear alignment with verification and assessment practices. In addition to education, training and learning, learning outcomes are a sort of common reference for verification. Relevant assessment methods and procedures are used to verify the attainment of learning outcomes. Alignment of learning outcomes, teaching and assessment helps make the overall learning experience more coherent, more transparent and more relevant for candidates and all stakeholders.

#### 4.2. Characteristics of learning outcomes

Learning outcomes provide a clear picture of the proficiency individuals expect to attain at the end of a learning process. Among other things, properly stated learning outcomes should be specific, clearly and precisely formulated and measurable.

Outcomes are stated through 4 main components:

1. **Individual**– a learner, student to whom a statement of learning outcomes relates;
   * e.g. “The individual will ...”. Or: “(*After completing the education program*), the individual will be able to ...”
2. **Activity** – visible active verb in context to state what the individual will be able to do after successful completion of the learning process. The use of an active verb is important because it clarifies what the individual, learner, student is to do in order to demonstrate relevant knowledge, skills and abilities and attitudes. Such verbs may be: “list”, “explain”, “identify” etc. Verbs to avoid include: “know”, “understand”, “raise awareness”, “learn” etc., because those verbs are not readily measurable, or relate to input activities or are generalised. The component of measurability of the outcome must be visible in the way it is planned to check its achievement. An auxiliary question that can be of help here is: “What is the individual required to do?”;
   * e.g. “The individual will explain the importance of hygiene in the production of foodstuffs...”; or “The individual will be able to explain the importance of hygiene in the production of foodstuffs ...”.
3. **Conditions in which an activity takes place** – determines the actual setting or situation in which an activity will occur. May relate to duration, place and other conditions (e.g. altitude, climate, geography etc.). Also, the environment and the situation can be identified through tools, procedures, materials, devices or items so that the activity could be performed. In this case, a question that can help in developing is: “Under which conditions will the individual demonstrate what he/she has learned, what he/she is capable of doing?”;
   * E.g. “The individual will explain ... with the use of methodological guidance ...”.
4. **Criteria** – describe the limits or range of acceptable answers or specified activity. The standard for acceptable answers or implementation of an activity should be stated (duration, accuracy, proportion, quality etc.). Properly stated learning outcomes indicate the nature (in context or standards) of performance required as evidence of successful learning, addressing some of the following questions: “How much?”, “How quickly?”, “How well?”, “How often?”, etc. A question that can help here is: “How well should the individual demonstrate what he/she has learned and practiced?”;
   * E.g.: "The individual will explain ... by checking the graph within the specified period of time.”.

Example of learning outcomes expressed using all four components: "The learner will explain the importance of hygiene in the production of food products using a manual, within a given time frame."

As these statements of learning outcomes are complex, it is beneficial to simplify them, which can be achieved by combining the above components of learning outcomes.

In practice, some of these components are often not explicitly stated in the learning outcome. For example, it is commonly the case that “criteria”and “conditions”, and sometimes even “individual”, are not explicitly stated. Below is an example of learning outcomes where “criteria”nor “individual”are not explicitly stated (but are nevertheless implied):

1. “Explain the processes of mechanical, biotechnological and/or thermal processing of raw materials”
   * Although it is not explicitly stated, it is clear that the person who should implement it is present: “learner/student/individual”
   * The activity is: “explain the processes of mechanical, biotechnological and/or thermal processing of raw materials”.
   * The conditions (although not explicitly stated) are: “for a general set of raw materials, implied in those activities”.
   * The criteria (although not explicitly stated) are: “the explanation must be correct/accurate”.

*Graph 3 - Components for expressing learning outcomes*

|  |
| --- |
| Diagram  Description automatically generated  **Activity**  (active verb in context)  **Individual**  (learner, student)  **LEARNING OUTCOMES**   * **Knowledge** * **Skills** * **Attitudes**   **Conditions**  (actual situation in which the activity takes place)  **Criteria**  (limits or range of acceptable answer)  **Context**  **Activity** |

Above mentioned four components of learning outcomes explained above are often combined in just two parts:

1. **Activity** – which includes or implies the individual and an active verb,
2. **Context** – which integrates the conditions, the criteria and context associated with the activity.

In this way, it is easier to approach the formulation of learning outcomes, which creates a sustainable implementation, while fully maintaining the overall quality of the concept of learning outcomes.

#### 4.3. Rules for the development of learning outcomes in a qualification standard

In the NQFS, learning outcomes are stated in three domains:

* Knowledge;
* Skills;
* Abilities and attitudes.

In accordance with the relevant theories of learning outcomes, methods have been developed for stating the complexity of each of the above domains of learning outcomes, including typical verbs for each domain. Such theoretical methods are highly useful when formulating learning outcomes within education/training programs and courses included in those programs, while they are markedly less helpful when developing qualification standards.

Qualification standards record only the final learning outcomes, so activities and context in those learning outcomes have broader meanings, as they hierarchically cover a broader range of specific learning outcomes. For this reason, a distinction should be made between specific - programmatic learning outcomes that are achieved during the learning process and that are necessary to achieve the final learning outcomes that should describe what the end result of education and learning is. Specific learning outcomes are important for teachers and implementers as they serve to prepare and implement learning activities, and the final learning outcomes are most important from the perspective of the individual and are the basis for acquiring qualifications.

Learning outcomes must be in line with relevant descriptors of NQFS levels. For example, learning outcomes of qualifications acquired through three-year secondary vocational education must be in line with descriptors for level 3 of NQFS. Learning outcomes of qualifications acquired in higher education must be in line with relevant levels or sublevels from 6.1 to 8 of NQFS.

All qualifications must also have more or less indicated learning outcomes relating to general contents, i.e. key competencies for lifelong learning. Key competencies defined in such manner are used in the context of relevant qualifications. For an individual, they mean functionality in the current and future educational and professional space, as well as competent and active fulfilment of their own civil role.

The key competencies for lifelong learning are:[[14]](#footnote-14)

1) communication in the mother tongue;

2) communication in a foreign language;

3) mathematical, scientific and technological competencies;

4) digital competence;

5) learning to study, the ability to effectively manage their own learning;

6) social and civil competencies;

7) sense of initiative and entrepreneurship;

8) cultural awareness and expression.

Key competences for NQFS levels 1 to 5 are operationalized through prescribed standards of learner achievement.

Questions which can help with the assessment whether learning outcomes are well formulated, i.e. as guidance for verification the attainment of learning outcomes:

* Knowledge – “What knowledge has been acquired, i.e. how well can the individual link, use/apply it, and is directly observable in verification of attainment at the qualification level?”
* Skills – “Which vocational skills have been developed or improved and are directly observable in assessment of attainment at the qualification level?”
* Abilities and attitudes – “Have the attitude to responsibility changed, how is independence in stated activities within knowledge and skills (vocational and key)?”

When developing learning outcomes, it is useful to follow appropriate rules, including:

* *The use of relevant active verbs, from which the requirements for verification of attainment of learning outcomes directly arise.*
* *Contextualisation of active verbs, including identification of the conditions and criteria under which the activity is performed.*
* *Avoiding vague wording and references to education/training activities (learning process).*
* *Grouping of learning outcomes into hierarchically larger groups, if possible.*

*Use of active verbs of specific complexity and type* **-** Every statement of learning outcomes should, after a common statement about the individual (“the learner/student/individual...”), begin with a clear and measurable active verb, followed by the object and a phrase explaining the context. It is important to formulate learning outcomes in a qualification standard in such a way that they cover a wider range of elementary activities and a broader context, reflecting the relevant level descriptors in the NQFS. Only those learning outcomes, whose attainment must be verified, when examining a candidate that results in the acquisition of qualifications, should be listed.

Education/training programs specify detailed learning outcomes with specific activities in the narrow context, while outcomes with broader meaning are formulated for qualification standards.

*Contextualising active verbs* **-** Learning outcomes must be specific (in order to be independent one from another) and contextualised. For this reason, it is essential to list the knowledge and skills it relates to and taking care of the specific performance characteristics.

*Avoiding vague wording and references to education/training activities -*All statements of learning outcomes should be clear and comprehensible to the public at large, or at least to the individuals, rather than just to experts. Complex sentences should be avoided. If necessary, more than one sentence should be used to ensure clarity. In addition, the wording of a statement of learning outcomes should not be too generalised or too specific. For example, the wording “lists the instruments he needs in his work” is an example of a too general formulation as it is not specified which instruments are in question or in which activities or tasks these instruments are used, while the wording "lists the cables needed to build a TC network in a private apartment" would be an example too specific because listing cables is not a sufficient guarantee of success in performing professional tasks (an individual should also list the tools, equipment and accessories needed) and because it is not enough for an individual to be able to distribute the TC network only in private apartments, but also in other conditions. Compared to the above examples, an example of an optimal level of generality would be a formulation: “lists tools, materials, equipment and accessories for TC network development”. Vague terms like *know, understand, learn, be familiar with, be exposed to* and *be aware* should be avoided. Those verbs are associated with teaching goals, rather than learning outcomes.

When writing learning outcomes, it is important to consider how those outcomes would be checked and assessed, i.e. how it would be determined whether an individual has attained those learning outcomes? If learning outcomes are stated in very broad terms, it may be difficult to effectively test them. If learning outcomes are very narrowly stated, the list may be too long and too detailed.

*Grouping of learning outcomes* - Learning outcomes should be assigned to hierarchically broader group so that each group represents the knowledge, skills, abilities and attitudes required to perform certain activities, works (duties and tasks) and they should be linked into a coherent, comprehensible, logical, visible and verifiable whole. The main rule for grouping learning outcomes into hierarchically broader groups is their interrelatedness, for example pertinence of duties and tasks or other forms of relevance (key competencies, continued education or other interests of the society and the individual). Learning outcomes should be grouped in such a way that each group of learning outcomes is as independent from other such groups as possible, to ensure that attainment of learning outcomes is checked only once.

Grouping should be done separately for:

* specific vocational learning outcomes;
* learning outcomes that generically belong also to other related qualifications;
* the envisaged key competences that are common to multiple qualifications.

The manner of formulating learning outcomes in a qualification standard is harmonized with levels and types of qualifications. Approach is different for academic qualifications in higher education and applied qualifications obtained in three-year or four-year programs.

In pre-university education, the key competences have been identified which are achieved at different levels of education This means that all qualifications obtained through pre-university education should include these competences according to the relevant level which is stated in the general description of qualifications. This part of the standard also lists the key competencies that are expected from learners at a given level of NQFS. Learning outcomes defined through achievement standards are taken in a formulated from for a relevant level and type of qualifications and placed in a relevant context.

In higher education, learning outcomes in qualification standards can be indicated in a more descriptive manner, which provides more academic freedom to higher education institutions for responsible and creative development.

As regards applied qualifications, particularly at lower levels, learning outcomes in qualification standards should be more linked to relevant labour market needs at the national level.

**4.4. Incorporating key competencies into learning outcomes**

Key competencies are an important part of qualification standards for a number of reasons. The first is that they encompass competencies that are common to all qualifications at the same level of qualifications. In this way, key competences allow for a better horizontal link between very diverse qualifications from the same level, as well as a vertical alignment of qualifications at different levels of qualifications. Second, key competencies enable better coordination and connection between general education and vocational education at all levels of education. In this way, the basis for horizontal and vertical mobility is laid, especially in secondary and higher education. Third, the inclusion of key competencies that are the same for qualifications from the same level ensures that individuals who change qualifications within the same level of qualification are recognized for that part of the qualification that relates to key competencies. Fourth, the inclusion of key competencies in qualification standards supports the preparation of the individual for life and lifelong learning, and not only for the needs of occupations and jobs that can be performed on the basis of a given qualification. Finally, the inclusion of key competencies allows for better alignment with the needs of the labour market in which employers require candidates to possess more general competencies in addition to those required to perform a particular job.

The key competences for lifelong learning identified in Serbia are aligned with the EU framework consisting of eight key competences. In this way, the inclusion of key competencies in qualification standards enables better harmonization of individuals who acquire a certain qualification in Serbia with their peers from EU countries. In pre-university education in Serbia, interdisciplinary competencies have been identified which, despite their different names, have the same meaning as key competencies in EU countries. Cross-curricular competencies recognized by the Rulebook include the following competencies: competence for lifelong learning; communication; work with data and information; digital competence; Troubleshooting; cooperation; responsible participation in a democratic society; responsible attitude towards health; responsible attitude towards the environment; aesthetic competence; entrepreneurship and orientation towards entrepreneurship.

The inclusion of key competences for lifelong learning in qualification standards is achieved through the definition of learning outcomes in two components of learning outcomes. The first refers to a general description of the qualification, and the second through involvement in skills and / or abilities and attitudes.

**Inclusion of key competencies in the general description of the qualification.** The way in which key competences are included in the general description of a qualification depends to a large extent on the level of the qualification.

Given that the NQFS 4 level corresponds to the completion of four years of secondary education (general and vocational) and that the Rulebook already defines interdisciplinary or key competencies for the end of secondary education, this means that every individual who acquires the NQFS 4 qualification should have a level of key competencies.as all others who have completed a successful secondary education lasting 4 years.

Since the general description of the qualification is a narrative description and since the section related to the key competencies is the same for all qualifications at level 4, a general formulation has been prepared which can be included in the general description of the qualification:

“Skillfully communicates in different contexts and effectively in one foreign language, actively contributing to fostering a culture of expression; productively applies mathematical models, technical and technological knowledge and information and communication technologies (ICT) in problem solving; effectively learns, improves and develops his career; actively participates in the initiation and implementation of projects that contribute to the well-being of the community and sustainable development;

Actively contributes to fostering tolerance, human rights and cultural traditions and heritage within the organization and in different social contexts; he is responsible for his own health and is ready to get involved in activities aimed at preserving the environment in which he lives and works.”

As can be seen from the above wording, it contains a description of all the key and cross-curricular competencies that should be possessed by an individual who needs to acquire a qualification at the level of NQFS 4.

As already mentioned, the same or similar formulation may be included in the general description of each NQFS 4 qualification. When creating a general description of a qualification, the order of formulations may change depending on the relevance of a certain key competence for the qualification itself, but some of them should not be omitted as this would “lower” the qualification below NQFS 4. For example, in the case of the NQFS 4 qualification from the “Social Sciences, Journalism and Informatics” sector, key competencies that are “closer” to the social sciences (e.g. communication, active and responsible participation in a democratic society, cultural awareness and expression, etc.) while in the case of NQFS 4 qualifications from technical sectors, mathematical, scientific and technological competencies could be put in the first place.

Thus, in the case of NQFS 4 qualifications, all key competencies would be included in the general description of the qualification according to the above procedure and example. When it comes to qualifications at the level of 3 of the NQFS, it also includes key competencies, but not all but only those that are most relevant for a given qualification. For example, in the case of NQFS 3, only communication, collaboration, technological competences, digital competences and learning to learn can be included in the general description of a qualification, depending on the purpose and nature of the qualification itself, as can be seen from the following wording:

"Effectively communicates and cooperates with superiors and associates when performing tasks and actively contributes to the culture of respect and cooperation.

Purposefully applies technical information, information and communication technologies (ICT) and improves their application through learning and training ".

Therefore, when it comes to qualifications at level 3 of the NQFS, for the general description of the qualification, the key competencies that are most relevant for the given qualification should first be identified, and then included in the general description of the qualification as part of the narrative description. In doing so, if a key competency is relevant to multiple NQFS level 3 qualifications, the wording used in the general description of those qualifications may be the same or similar.

In addition to the above difference between the qualifications at level 3 and 4 of the NQFS, there is another important difference. Namely, when the same competence is included in the NQFS 4 and NQFS 3 qualification, it is placed in the NQFS 3 qualification in the context of performing professional jobs and tasks, while in the NQFS 4 qualifications it refers to both professional work and other life situations (social life, private life, etc.). For example, if we compare the description of communication as a key competence within the above examples, it can be seen that in the case of NQFS 4 qualification it is stated “communicates skilfully in different contexts”, while in case of NQFS 3 qualification it is stated “communicates effectively, performing tasks.”

When it comes to qualifications at the level of NQFS 5, the inclusion of key competencies is more complex and can be different depending on the qualification, and above all, depending on the way in which the given qualification can be acquired. Namely, in the case of qualifications at level 5 of the NQFS, the "paths" of acquisition may be different. Namely, an individual can acquire a qualification at that level after acquiring the NQFS 4 qualification, and can also after acquiring the NQFS 3 qualification. If NQFS 5 qualification can be acquired directly after acquiring a NQFS 3 qualification then the same rules should apply to that qualification as in the case of a NQFS 3 qualification, and if a given NQFS 5 qualification is acquired after a NQFS 4 qualification then key competencies would be included in a general description of that qualification as described for the NQFS 4 qualification.

**Incorporate key competencies into skills and / or abilities and attitudes.** In addition to including key competences in the general description of the qualification, they should be included in the context of listing the skills and / or abilities and attitudes that are part of the learning outcomes.

The inclusion of key competencies in the list of skills and / or abilities and skills depends to a lesser extent on the level of qualifications, and to a greater extent on the qualification itself and the jobs that are part of the qualification standard. In this regard, the first step in incorporating key competencies into skills and / or abilities and attitudes is to identify those key competencies that are most relevant to a given qualification and the jobs and tasks performed by a person with a given qualification. If, for example, these are tasks that are performed in a team or involve intensive cooperation with others (whether they are superiors, subordinates or users) then the competence for cooperation and joint work would be relevant and should be included in the skills and / or abilities and attitudes. If, on the other hand, it is a qualification in which jobs are performed using different technologies and instruments, then technological competencies would be relevant for the given qualification.

After identifying key competencies that are particularly relevant to a given qualification, the next step would be to determine whether the given competency should be included as a skill, or within competencies and attitudes, or perhaps in both categories. For example, when it comes to the competence for cooperation, it can be included as part of skills (e.g. skilfully cooperates with associates in the implementation of tasks) and / or as part of abilities and attitudes (e.g. promotes a culture of cooperation in the work environment). Given that the list of skills, abilities and attitudes should contain a limited number of outcomes, it is important to be selective in enrolling key competencies in these categories and that the basic principle be the principle of relevance to a given qualification. In this sense, the team engaged in the preparation of qualification standards should seek the right balance and jointly assess which key competencies and how they should be included in skills and abilities and attitudes.

#### 4.5. Practical steps in the development of relevant learning outcomes

The development of learning outcomes within some qualification may be based on different assumptions or combinations:

* Theoretical and research postulations;
* Negotiation and achieving consensus between stakeholders;
* Adjusting of learning outcomes taken from various open sources;

Experts involved in the development of relevant learning outcomes of a qualification must have expertise in the relevant field, as well as expertise in the development of learning outcomes.

The following questions (requests) may be useful in the development of relevant learning outcomes:

* Which qualifications, i.e. what knowledge, skills, abilities and attitudes are required for successful performance of the envisaged duties and tasks within relevant occupations?
* What knowledge, skills, abilities and attitudes do individuals need for successful mobility to further education?
* Are there any knowledge, skills, abilities and attitudes that are predicted for general needs of the society and the individual’s interests at the envisaged qualification level?
* Which key competences are required for successful performance of the envisaged duties and tasks, as well as all other envisaged interests of the society and the individual, including the interest of continued education?
* Which learning outcomes should individuals attain in order to obtain the relevant qualification (complete the relevant program)?
* Which learning outcomes help individuals achieve a successful career?
* Describe the qualification to the general public from the aspect of knowledge, skills, abilities and attitudes an individual should possess.
* Which knowledge, skills and abilities and attitudes should be included for individuals to compete nationally and internationally?
* Explain the type of estimation behind specific groups of learning outcomes or qualifications: requirements in terms of knowledge, skills, abilities and attitudes that they must respond to in order to successfully master the assessment and acquire the appropriate qualification?
* What kind of expectations according to responsibility and autonomy are associated with the qualification?
* Analyse how the learning outcomes correlate to learning outcomes envisaged for other qualifications in the same sector, but at higher and lower levels.
* Group learning outcomes: group separately for specific vocational learning outcomes, separately for learning outcomes that generically belong to other related qualifications as well as separately for the common key competences for appropriate qualification level.

Once learning outcomes have been worded, including envisaged key competencies, it is advisable to cross-check them according to the following list of criteria:

* All verbs used in the description of learning outcomes are clear active verbs and relate to a broader group of activities.
* All verbs are determined and contextualised to provide relevant information (i.e. the stated learning outcomes encompass both broader components: activity and context).
* Regarding their number, there are neither too many nor too few learning outcomes.
* Formulations are focused on outcomes, rather than processes (education and training perspective).
* Learning outcomes are feasible and can be verified.
* Learning outcomes are aligned with the envisaged verification method.
* Relevant conditions for performance are stated where necessary.
* Learning outcomes are realistic, taking into account the key characteristics of the given qualifications (e.g. preconditions, scope, level of responsibility and independence according to descriptors).
* Learning outcomes are clear and understandable to individuals.
* Learning outcomes are grouped into coherent and integrated wholes, including groups of key competences.

The entire process of formulating outcomes, analysis and assessment of their relevance can be described through a series of methodological steps.

**Steps** in the development of learning outcomes:

1. Determine the objectives and content of the qualification, i.e. jobs (duties and tasks) to which the qualification refers.
2. Determine specific (vocational) learning outcomes, i.e. the knowledge, skills, abilities and attitudes that are specifically needed for successful performance of the envisaged duties and tasks of an occupation.
3. Determine generic learning outcomes that are common with the learning outcomes of certain other related qualifications. It should be borne in mind that these generic learning outcomes enable in the future a change of occupation within the same qualification.
4. Determine key competences at the relevant level that are defined for multiple qualifications at the same level. During determining key competencies, it should be borne in mind that they enable a change of qualification within the same level of NQFS.
5. Determine the knowledge, skills, abilities and attitudes required for the learner to make use of the opportunities for further education.
6. Analyse and outline all learning outcomes.
7. Create hierarchically broader groups of learning outcomes, with separately presented specific vocational ones, generic ones pertaining to multiple qualifications and key competences at the relevant level.
8. Develop learning outcomes, categorise them by domains (knowledge, skills, abilities and attitudes) and match them to level descriptors.
9. Check and harmonize learning outcomes of a specific qualification with learning outcomes on higher and lower levels.

#### 4.6. Examples of learning outcomes in qualification standards

Examples of well-stated learning outcomes in qualification standards:

1. Level 3
   * Welds in horizontal and vertical positions using the basic welding processes;
   * Cuts metals using cutting processes (oxygen, plasma, arc);
   * Uses basic welding drawings and symbols;
   * Applies basic mathematical operations and measurements to welding;
   * Applies safe industry practices;
   * Uses IT as a tool to support learning, communication and support in designing specific welding tasks;
2. Level 4
   * Analyses and makes electrical and electronics drawings and reports, with instructions where appropriate;
   * Analyses and solves routine technical problems pertaining to electronic engineering by applying the fundamental concepts of mathematics and physics;
   * Tests and solves problems with electronic assemblies or systems;
   * Reworks and tests electronic assemblies, equipment, systems and subsystems according to functional specifications and standards, with instructions where appropriate;
   * Maintains and repairs electronic equipment and systems according to relevant operational guidelines;
   * Recommends electronic equipment, components and systems according to standards and functional specifications;
   * Analyses and solves assemblies combining low power, high power, active and electromechanical components and analogue integrated circuits;
   * Solves problems, maintains and repairs analogue and digital communication systems;
3. Level 7
   * Critically assesses options and formulates plans to ensure long-term industrial and environmental sustainability;
   * Critically analyses agricultural production and land management, including understanding of: the structure of agricultural industries, the main factors determining the location, environmental impact, sustainability, profitability and international trade competitiveness;
   * Analyses the impact of agricultural and other purposes of land (including agroforestry) on the landscape;
   * Analyses and critically validates state-of-the-art developments in science and economy relevant for agriculture;
   * Analyses and scientifically validates problems in agriculture and the environment and proposes relevant solutions;
   * Initiates and maintains cooperative relations with co-workers, employers and customers;
   * Collects, analyses and interprets agricultural and environmental data for the purposes of relevant decision-making;
   * Applies research methodologies required to design, implement and interpret small-scale scientific research projects;
   * Participates in and manages teamwork;
   * Communicates and discusses scientific and industrial information with relevant stakeholders.

# ROLE OF OCCUPATIONAL STANDARDS IN THE DEVELOPMENT OF QUALIFICATION STANDARDS

As defined by the Law on NQFS, the occupational standard contains a description of duties and tasks, as well as the competencies needed by an individual to efficiently perform work in a particular occupation and is determined in accordance with the regulations governing employment.

Occupational standards thus defined contribute to relevance of education and training and of the qualifications obtained.

In addition to their major role in the development of qualification standards, occupational standards also have other roles in education and employment systems, including:

* Identification of missing competences for the performance of certain duties, especially for duties created through the development of products and services;
* Preparation of job descriptions at companies, contracting and hiring and career planning;
* Recognition of competences obtained on the job;
* Analysis of work processes at companies, reduction in overlapping functions.

Qualifications which are envisaged to be relevant for employment are stated in the NQFS through links to one or more relevant occupations. This will be achieved by linking the qualification standard concerned and one or more occupational standards.

In order to apply occupational standards to make a particular qualification relevant to one or more occupations, it is essential that appropriate occupational standards include the following key elements:

* Occupation title;
* Occupation code;
* Description of duties and tasks and/or work;
* Competences required for effective performance of duties.

A description of work is an integrated description of one or more occupations stated in terms of duties and tasks, i.e. competences. A description of work is determined by applying appropriate methods for job analysis, determined by the methodology for the development of occupational standards. Based on the job description, the learning outcomes for the given qualification are defined, which are further grouped and presented in more detail in the qualification standard.

The required competences stated in an occupational standard are key elements for its linking with qualification standards. Such competences are analysed and further elaborated and stated in the form of learning outcomes at qualification level.

When occupational standards are developed, different combinations of linking occupational standards with qualification standards are possible. There are qualification standards that are related to only one occupational standard, but also those qualification standards that include two, three or even more occupational standards. In such cases, individual occupational standards are used to develop a single qualification standard.

# THE ROLE OF QUALIFICATION STANDARDS IN EDUCATION/TRAINING PROGRAM DEVELOPMENT

Introduction of a new qualification in the qualifications system implies the development of an appropriate education/training program based on the qualification standard and application of a standardised procedure for its approval. The fact that such program is based on the relevant qualification standard allows it to link the stated demand for competences in specific occupations with appropriate learning outcomes. Learning outcomes set out in a qualification standard are operationalised in the program at the module level (subjects or other forms).

Learning outcomes are a mandatory element of any program, regardless of qualification type or level, while other elements in the structure of education and training programs are defined by the relevant legislative framework and specific standards.

Upon completion of a qualification standard, it is possible to prepare a a quality education/training program for attaining a qualification. The program sets out details of the way of attaining the relevant qualification, in accordance with the applicable qualification standard.

In the process of developing a program, modules are developed by grouping together the learning outcomes set out in the relevant qualification standard. The modules will then be elaborated and realised through the teaching in education institutions. Programs should include details of the didactic tools, equipment, space and teachers (program providers) required to implement the education/training program.

The structure of the education / training program is not elaborated in detail in the Methodology, but the elements of the program that are crucial for its successful implementation are singled out.

Particularly significant elements of the program are:

* Compulsory and elective general education subjects;
* Compulsory, elective and facultative subjects specific to the relevant qualification;
* Credit points and duration of specific programs elements, if credit points are introduced;
* Material requirements and program providers required to implement the program;
* Learning outcomes by modules and how they relate to overall learning outcomes and verifying the attainment of learning outcomes and marking of individuals’ achievements;
* The envisaged methods of education and teaching by modules, including the setting, the ways of obtaining the envisaged learning outcomes and relevant literature.

#### 6.1. Key processes in program development

Key steps in effective development of an education/training program are:

1. Identifying the qualification standard for which the program is to be developed;
2. Incorporating the general education content according to the national standard;
3. Identifying key partner institutions that participate in development;
4. Developing program units (subjects, modules) and determining the other elements as teaching tools and required qualifications of education providers. Elaborating in detail the learning outcomes by program units and their linking with examination of the achievement and assessments of learning outcomes;
5. Filling in the appropriate official program form.
6. Evaluating the program proposal and recommendation for further improvement and giving an opinion on the program.
7. Adoption and publication of the program

#### 6.2. Key elements of an education/training program

The key elements of an education/training program are:

1. The general part**,** which sets out the objective and duration of education/training, encompassed learning outcomes after successful completion of the program, conditions for enrolment and completion of education/training.
2. A plan that briefly presents: program units (subjects or other forms of content organization) organized into appropriate groups with adequate teaching dynamics and credit points (if any):
   * The general education module, with compulsory and elective courses.
   * Separate specific modules, both compulsory and elective.
   * Facultative modules, if available.
3. The program which sets out the content of all envisaged program’s elements;
   * Title, objective, learning outcomes, teaching units, methods and forms of work and learning, way of examination and marking, literature.
4. The material requirements and setting for learning describing the education institutions and other institutions involved in the education/training process, as well as the necessary requirements in terms of equipment and space for each envisaged course.
5. Teachers(program implementers) for each course and their qualifications for teaching the relevant courses and modules.

**QUALIFICATION STANDARD**

EXAMPLE

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **QUALIFICATION STANDARD**   |  |  | | --- | --- | | Qualification title | *For example:*  Information technology electrical technician  or  Plumber | | Qualification standard code | (*(the system assigns a code which covers the selected main characteristics of the qualification)* |  |  |  | | --- | --- | | **MAIN CHARACTERISTICS OF THE QUALIFICATION** | | | CLASSNQFS/ ISCED-F13 | *For example:*  0611 Computer use  0612 Database, network design and administration  0613 Software and applications development and analysis  or  0732 Building and civil engineering | | NQFS level | *For example:*  4 | | EQF level | *For example:*  4 | | QF-EHEA level | *For example:*  First cycle  *(enrols only for qualifications in higher education)* | | Qualification type | *For example:*  Vocational | | Scope of qualification | *For example:*  180 ECTS (for higher education)  or  4 years or 240 ECVET (once ECVET credits have been implemented)  or  6 months or 960 hours (training) | | Entry requirements for obtaining a qualification | *For example:*  NQFS 1 | | Forms of learning | *For example:*  Formal  Non-formal | | Type of public document | *For example:*  Diploma |  |  |  | | --- | --- | | **RELEVANCE OF THE QUALIFICATION FOR EMPLOYMENT AND CONTINUED EDUCATION** | | | Mobility in the qualification system | *For example:*  NQFS 5  NQFS 6 (sublevel 6.1 and 6.2)  NQFS 7 (sublevel 7.1) | | Occupation | *For example:*  3512 ICT User Support Technicians  3512.09 Help desk technician  or  7126 Plumbers and Pipe Fitters  7126.01 Plumber | | Occupational standard | (*in case of qualifications for which labour market relevance is stated, please enter one or more occupational standards*) |  |  |  | | --- | --- | | **LEARNING OUTCOMES** | | | Upon completing the education program, individual will be able to: | | | General description of the qualification | (*Please provide a short statement of learning outcomes and/or competences at qualification level*)  *For example:*  Information technology electrical technician installs and maintains operating systems and user software; creates desk-top and web applications; manages databases, applications, ensuring their optimum operations, subject to all safety, hygiene, occupational health and environmental standards.  Communicates skilfully in different contexts and effectively in one foreign language, actively contributing to fostering a culture of expression; productively applies mathematical models, technical and technological knowledge and information and communication technologies (ICT) in problem solving; learns effectively, improves and develops career; actively participates in the initiation and implementation of projects that contribute to the well-being of the community and sustainable development.  Actively contributes to fostering tolerance, human rights and cultural traditions and heritage within the organization and in different social contexts; responsible for his/her own health and ready to get involved in activities aimed at preserving the environment in which he/she lives and works.  Plumbers assemble, install, repair and maintain water supply, drainage and sewage systems. Heating, cooling and ventilation systems and hydraulic and pneumatic equipment may also be included.  Effectively communicates and cooperates with superiors and associates in performing tasks and actively contributes to the culture of respect and cooperation.  Purposefully applies technical information, information and communication technologies (ICT) and improves their application through learning and training. | | Competencies | *For example:*   * Preparation of technical documentation * Desktop application development * Web application development (static and dynamic web pages) * Creating simple databases and database management * Key competencies (*Rulebook on general standards of achievement for the end of general secondary education and secondary vocational education in the part of general education subjects,* "Official Gazette of RS", No. 117/13) | | Upon the acquired qualification, individual will be able to: | | | Knowledge | *For example:*   * Explains design documents of plumbing systems; * Describes operating characteristics of plumbing systems; * Describes professional and special tools used for assembling plumbing systems; * Describes equipment, pipeline, cables, stoppers and regulators; * Describes meaning of basic technical terms and processes of plumbing systems in Serbian and in one foreign language | | Skills | *For example:*   * Organises own work, autonomously analyses workplace routine; * Stores relevant material in the workplace; * Uses executive work documentation and operating instructions for tools and materials; * Performs quality control of works; * Visually inspects for damage and deviation of materials used in plumbing systems; Chooses equipment, pipelines, cables, stoppers and regulators and determines their installation points; * Uses special tools to assemble plumbing systems and keep them operational; * Assembles plumbing systems from various modern materials in compliance with project demands and pipe manufacturer requirements; * Commissions plumbing system after repairs and installation * Effectively applies ICT for data collection, in realisation of tasks and record keeping; * Communicates effectively and skilfully, using the appropriate language and style of communication specific to the context and work area; * Reads and understands instructions and documentation in at least one foreign language; * Successfully improves his practice based on his own experience and cooperation with colleagues; * Effectively implements all prescribed health protection measures and environmental protection measures; | | Abilities and attitudes | *For example:*   * Performs duties autonomously, with occasional consultation; * Organises and controls own work and that of a smaller group; * Identifies problems and is involved in their resolution; * Is responsible for the choice of procedures and tools for own work and that of others; * Expresses a responsible attitude towards one's own health, the health of others and towards the protection of the environment; * Shows entrepreneurship in work; * Shows readiness for further learning and is actively improving. | | Description of the assessment method | *For example:*  Formative testing throughout education  Project assignments and final paper |  |  |  | | --- | --- | | A way to check the achievement of learning outcomes | Monitoring the development and progress of students in achieving outcomes and standards of achievement, as well as progress in developing competencies is done by formative and summative assessment.  The assessment is descriptive and numerical.  Numerical grades of students are:   * Excellent (5), * Very good (4), * Good (3), * Sufficient (2), * Insufficient (1).   Grade insufficient (1) is not a passing grade.  Assessment is achieved by applying different methods and techniques (project, work tasks ..).  Summatively in the semester, at the end of the school year and in the final exam .  In non-formal education, the examination of the mastery of the program by which professional competencies are acquired is performed at the examination for the examination of professional competencies. |  |  |  | | --- | --- | | **QUALIFICATION QUALITY ASSURANCE** | | | Program provider’s qualifications | Appropriate education:   * Level 5 of NQFS, * Level 6 of NQFS (sublevel 6.1, sublevel 6.2) and * Level 7 of NQFS (sublevel 7.1),   in accordance with Articles 140-142. Law on Foundations of the Educations System | | Body responsible for issuing the public document | *For example:*  Vocational secondary schools  PROAEA |  |  |  | | --- | --- | | **REFERENCE INFORMATION ON THE QUALIFICATION** | | | Reference information on the qualification standard | (*the system enters reference information on the qualification standard*) | | Effective date | (*the system enters the effective date of the qualification standard*) | | Revision date | (*the system enters the revision date of the qualification standard*) | | Termination date | (*the system enters the termination date of the qualification standard*) | |

**CLASSNQFS – sort by ISCED-F 2013**

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| --- | --- | --- | --- | --- | --- |
| **Sector** | | **Narrow sector** | | **Subsector** | |
| **00** | **Generic programs and qualifications** | 000 | Generic programes and qualifications that are not further defined | 0000 | Generic programs and qualifications that are not further defined |
| 001 | Basic programs and qualifications | 0011 | Basic programs and qualifications |
| 002 | Literacy and numeracy | 0021 | Literacy and numeracy |
| 003 | Personal skills and development | 0031 | Personal skills and development |
| 009 | Generic programs and qualifications that are not sorted on other place | 0099 | Generic programs and qualifications that are not sorted on another place |
| **01** | **Education** | 011 | Education | 0110 | Education that is not further defined |
| 0111 | Education science |
| 0112 | Training for pre-school teachers in pre-school institutions |
| 0113 | Teacher training without subject specialisation |
| 0114 | Teacher training with subject specialisation |
| 0119 | Education that is not sorted on another place |
| 018 | Interdisciplinary programs and qualifications that include education | 0188 | Interdisciplinary programs and qualifications that include education |
| **02** | **Arts and humanities** | 020 | Arts and humanities that are not further defined | 0200 | Arts and humanities that are not further defined |
|  | Arts | 0210 | Arts that are not further defined |
|  | 0211 | Audio-visual techniques and media production |
| 021 | 0212 | Fashion, interior and industrial design |
| 0213 | Fine arts |
| 0214 | Handicrafts |
| 0215 | Music and performing arts |
| 0219 | Arts that are not further defined |
| 022 | Humanities (without languages) | 0220 | Humanities (without languages) that are not further defined |
| 0221 | Religion and theology |
| 0222 | History and archaeology |
| 0223 | Philosophy and ethics |
| 0229 | Humanities (without languages) that are not sorted on another place |
| 023 | Languages | 0230 | Language that are not further defined |
| 0231 | Language acquisition |
| 0232 | Literature and linguistics |
| 0239 | Languages that are not sorted on another place |
| 028 | Interdisciplinary programs and qualifications that include arts and humanities | 0288 | Interdisciplinary programs and qualifications that include arts and humanities |
| 029 | Arts and humanities that are not sorted on another place | 0299 | Arts and humanities that are not sorted on another place |

1. in Article 8 of the Law on NQFS in fields ISCED, they are defined as sectors, sub-sectors and narrower sectors [↑](#footnote-ref-1)
2. in Article 35 of the Law on Higher Education, cycles QF-EHEAare defined as the first, second and third level of higher education [↑](#footnote-ref-2)
3. *Council Recommendation of 22 May 2018 on key competences for lifelong learningText with EEA relevance, Official Journal of the European Union, C 189, 4 June 2018* [↑](#footnote-ref-3)
4. Rulebook on general standards of achievement for the end of general secondary education and secondary vocational education in the part of general education subjects ("Official Gazette of RS", No. 117/13) and Rulebook on general standards of achievement - educational standards for the end of compulsory education "Official Gazette of RS", number 5/10) [↑](#footnote-ref-4)
5. Unified code of codes for entering and encrypting data in records in the field of labor - application manual, Ministry of Labor, Employment, Veterans and Social Affairs 2018.

   [↑](#footnote-ref-5)
6. For each cycle (short, first, second and third) in higher education, descriptors of the so-called Dublin descriptors (<http://www.jointquality.nl/content/descriptors/CompletesetDublinDescriptors.doc>) , ie outcomes within the following components: knowledge and understanding; applying knowledge and understanding; making judgments; communication; lifelong learning skills. [↑](#footnote-ref-6)
7. According to provisions of Article 50 paragraph 3 of the Law on NQFS, occupational standards are adopted in accordance with regulations providing for employment. [↑](#footnote-ref-7)
8. According to the provisions of Article 9 of the Law on NQFS [↑](#footnote-ref-8)
9. Rulebook on the content and layout of the initiative form for the development and adoption of qualification standards, "Official Gazette of RS", No. 53 of April 9, 2020. [↑](#footnote-ref-9)
10. Law on NQFS, Article 15a. [↑](#footnote-ref-10)
11. The Decision on the Uniform Codebook for Recording and Coding Data in Employment Records with Codes and Occupation Titles (*Official Gazette of the Republic of Serbia* No. 56/18). [↑](#footnote-ref-11)
12. Law on NQFS, Article 50. [↑](#footnote-ref-12)
13. Link to internet presentation EUROPASS in Serbian language: <https://europass.rs/>. [↑](#footnote-ref-13)
14. Law on Foundations of the Education System, Article 11 [↑](#footnote-ref-14)