Formation of educational programme learning outcomes and additional aspects

Formation of educational programme learning outcomes and additional aspects (methodical guide)

Learning outcomes are statements of what a person knows, understands and can do after completing a learning process.

The progression of learning outcomes from simple to complex is described by the National Qualifications Framework (as a set of levels) in 3 categories:

- knowledge and understanding (that implies a result of assimilation of information, facts, principles, theories, theoretical and practical methods linked with the learning or activity field);
- skill (ability to fulfill specific task and use knowledge necessary for problem solving) or/and
- responsibility and autonomy (that implies application of knowledge and skills with relevant quality of values and independence)

Level of Qualification (Totally 8 levels)	Knowledge and understanding	Skill	Responsibility and autonomy
Level 4 (complete general education)	Wide knowledge of study or/and work field based on factual terms and theoretical foundations and its understanding.	Using wide range of cognitive and practical skills characteristic to the study or/and work field. Identifying non-homogeneous problems and searching, selecting, critically understanding the information to solve them, identifying proper approach and evaluating compliance. Communication on study or/and work by using structured and consistent arguments, with forms relevant to the context, by using information and communication technologies.	Managing own work or study in predictable, but variable environment by considering the directive principles. Supervising homogeneous working process; Evaluating working and study activities and taking some responsibility on improvement. Evaluating own professional improvement with some level of independence and learning.

Level 5 (short cycle in higher education)	Multifaceted, specialized, theoretical and practical knowledge of study or/and work field (following full general education) and understanding own abilities (boundaries)	To solve clearly defined abstract and specific problems, also using wide range of cognitive and practical skills of study or/and work field to complete complex tasks, including identification of proper data, their analysis and evaluation. Communicating the ideas and information in structured and consistent manner to the specialists and non-specialists by using forms, information and communication technologies relevant to the context.	Supervising the work process(es) in quickly variable (non predictable) environment and managing by following professional ethics; Taking responsibility on others work; Evaluating own and others' work and taking care of improvement; Defining own learning directions and studying with high level of independence.
Level 6 (Bachelor) *is carried out at Alte University*	Wide knowledge (following full general education) of study or/and work field, which includes critical analysis of theories and principles and some latest aspects of knowledge.	Using cognitive and practical skills characteristic to the field of study or/and work in order to solve complex and unpredicted problems. Implementing project/paper of research or practical nature in accordance with predetermined suggestions. Collecting and explaining data characteristic to the field, also analyzing used data or/and situation by using standard and some latest methods; Elaborating proper judgments, which consider respective social, scientific or/and ethical issues. Communicating ideas, existing problems and ways of solving them with the specialists and non-specialists with the	Directing work oriented on improvement in complex, nonpredictable learning or/and working environment and taking responsibility for it. Performing own activities by following principles of ethics. Planning own and others' continuous professional improvement and supporting its implementation. Identifying further learning needs and implementing with high level of independence.

		forms relevant to the context, by using information and communication technologies.	
Level 7 (Master) *is carried out at Alte University*	Deep, systemic knowledge of study or/and work field and its critical understanding, which includes some latest achievements of the field of study or/and work and creates foundation for innovations, development of new original ideas.	Searching new, original ways of solving difficult problems in strange and multifaceted environment or/and implementing a research independently by following principles of academic integrity, by using latest methods and approaches. Critical analysis of difficult or incomplete information (including latest researches), innovative synthesis and evaluation of information and elaborating opinions, where social and ethical responsibilities are reflected. Presenting own opinions, arguments and study results to academic as well as professional community by following ethical standards.	Managing complex, nonpredictable or multifaceted learning or/and working environment and adapting through new strategic approaches. Contributing to professional knowledge and practice. Taking responsibility on others work and professional development. Managing own learning process independently

Level 8 (PhD)	Knowledge based on latest achievements of the field of study or/and work, which allows extension of existing knowledge or usage of innovative methods, including in multifaceted or interdisciplinary context. Systemic and critical understanding of the field of study or work.	Planning and implementing a research by following the principles of academic integrity; Elaborating new research or analytical methods or/and approaches, which is oriented on creating new knowledge (on level necessary for internationally reviewed publications); Critical analysis, synthesis and evaluation of new, difficult and contradictory ideas and approaches by which the proper and effective decisions are made independently in order to solve complex problems (in research or/and innovation). Ability to clearly substantially present and communicate new knowledge related to existing knowledge to the colleagues as well as wide society. Ability to participate in thematic discussions organized locally or internationally.	Implementing research projects or/and events oriented on improvement based on latest achievements in the context of field of study or/and work, by following the principles of supervision, academic or/and professional integrity, as well as by demonstrating innovativeness and independence.

Note: The methodological guide also explains the levels that Alte University does not implement. The purpose of this is to see/separate and understand the boundaries of the levels.

National Qualifications Framework descriptor categories			
Category	**Knowledge and Understanding**	**Skill**	**Responsibility and autonomy**
Subcategory / Aspects	Theoretical and/or factual knowledge and understanding	Task performance and problem solving skills Communication skill	Responsibility Ability to learn
Characteristics	Range and depth	Type and difficulty	Context (environment) of using knowledge and skills

Supporting questions	What type of knowledge? What is the range and depth of knowledge? To what extent can a person put this knowledge into context?	How difficult is the task to be performed and the problem to be solved? What type of cognitive and/or practical skills are used to perform a given difficulty task and solve a problem? What is the complexity of the information to be transmitted: What kind of information is being transmitted? - Who is the information intended for (target group)? - What methods are used to transmit information? - What is the difficulty of using information and communication technologies?	How predictable is the learning/work environment where knowledge and skills are applied? What is the degree of independence of the person/his/her role in the activity process? What are the responsibilities of a person in the process of activity? To what degree can a person take responsibility for his/her own and others' activities? To what extent is the person able to develop their own and/or others' learning/professional development (independently and responsibly)? What methods does he/she use for this?

Definition of National Qualifications Framework categories

(The definition is given considering all eight levels)

Knowledge and understanding

Knowledge, for the purposes of the National Qualifications Framework, is the result of the assimilation of information, facts, principles, theories, concepts, procedures, theoretical and practical methods related to the field of study and/or activity.

Understanding is the ability to put knowledge into context, including recall, selection, identification, interpretation, classification, explanation, evaluation, systematic and critical thinking.

The range and depth of knowledge and understanding varies from knowledge of one or a few simple, basic facts and principles and recall of simple facts to in-depth knowledge of an inter/multi-disciplinary field of study and a systematic understanding of the latest developments.

Skills

Ability refers to the ability to use knowledge to perform specific tasks and solve problems and is described in terms of cognitive and practical skills. This is:

- Skills needed to complete the task and solve the problem
- Communication skills

The skills needed to complete the task and solve the problem are of the following types: cognitive and practical.
- cognitive skills - includes logical, intuitive and creative thinking;
- Practical skills - includes the ability to use research methods, materials, devices and tools.

A characteristic of the task to be performed and the problem to be solved is difficulty, which refers to the difficulty and/or range of skills required to perform the task and solve the problem.

Cognitive and/or practical skills vary from a small number of basic skills needed to perform structured tasks and solve simple problems to a wide range of skills needed to independently plan and conduct research and make effective decisions to solve complex problems;

Communication skills refers to the ability to effectively transfer ideas and information and changes with the increase in complexity of information, target group and variety of forms and/or means of transmission. Communication skills are described in terms of:

- the complexity of the information to be transmitted (which varies from information about the performance of a structured task to information about the latest achievements);
- target group(s) (their number and variety varies from co-workers, immediate supervisor to scientific and professional community at international level);
- - Forms and means of information transmission (the form and/or means of information transmission are not clearly specified. The forms of communication (oral or written) and the use of information and communication technologies must be appropriate to the context. The form of transmission is usually changed to the native language in standard, simple writing and/or from an oral message/report to a recent research paper and/or strategic development project in a native or foreign language; from the basic use of information and communication technologies to their creative and innovative use.)

Responsibility and autonomy

According to the legislation, in the definition of learning outcomes, responsibility and autonomy refer to the use of knowledge and skills by a person with the appropriate degree of values and independence. This refers to the ability of a person to act responsibly in a learning or work context and to present opportunities for their own learning and development and is described in terms of the following:

- Responsibility.
- Ability to learn.

Responsibility:

On the one hand, it means the duties and obligations related to the person's role or position in the study/activity process; It is closely related to the autonomy of activity implementation, cooperation, adherence to the rules of professional and/or academic conduct/ethics.

On the other hand, (as moral responsibility) includes a person's attitude towards his/her own and others' actions; to evaluate one's own and others' actions; acting on the basis of universally recognized values.

In the National Qualifications Framework, responsibility is described as a progression from working under direct supervision, with a low degree of autonomy and taking responsibility for simple tasks to leading research/development projects, adhering to the principles of academic and/or professional integrity.

- **Learning ability** includes the ability of a person to understand and recognize the limits of his own learning outcomes; To plan, organize and implement further study/professional development according to own needs. Its range varies from directly guided learning to facilitating the development of new, innovative ideas to creating new knowledge.

The National Qualifications Framework also describes the context/environment of learning and/or activity in which knowledge and skills are applied. The context changes from a familiar, well-structured and predictable environment to a dynamic environment. The more unpredictable and changing the environment becomes, the greater the degree of autonomy and responsibility.

Important:
In order to understand the complexity of the framework level and the essence of each of its categories, it is necessary to read and understand the descriptors horizontally as well as vertically. This means that it is necessary to consider the upper and lower levels as well.
For the purposes of establishing the learning outcomes of the educational programme, each category of the descriptor and its subcategories/aspects should be discussed in relation to other categories and aspects. Aspects can be combined at the programme level.

The full coverage of the categories of framework level descriptors in the educational programme/course/component, with different emphases on these categories depends on the field of study and the objectives of the educational programme. The reflection of autonomy and responsibility in the learning outcomes of the educational programme is not mandatory. It is reflected only if it is possible to evaluate it (it is necessary for regulated programmes).
The programme may be more focused on "knowledge" than "skills" and/or "responsibility and autonomy" or vice versa, depending on the purpose of the programme.
The learning outcomes of the educational programme/course/component are relevant to the field of study, specific, achievable and measurable.
Along with learning outcomes necessary for the field of study/employment, the programme should also consider transferable skills, since the purpose of higher education is to prepare the student as an active citizen of a democratic society and prepare him/her for his future career and promote personal development.

When establishing the learning outcomes of the programme, it is necessary to take into account generally accepted principles:

- The learning outcome corresponds to the programme objectives and is specific (in contrast to the general nature of the framework descriptions), but not overly detailed;
- Learning outcomes are consistent;
- Each outcome is visible (easily understood), achievable and measurable within the period defined by the programme and it should be possible to evaluate the results. Accordingly, the programme describes the methods and evaluation criteria for achieving learning outcomes;

- When writing learning outcomes, take into account the timeframe (time frame) within which this outcome should be achieved. There is always the danger that the author of the outcomes is too ambitious. Ask yourself whether it is realistic to achieve the learning outcomes in a specific period and with the available resources;
- When formulating learning outcomes, consider how you will assess these outcomes - how will you know that the student has achieved the intended outcome? If the outcome is too broad, then it can be difficult to evaluate it effectively. If the outcomes are formulated too narrowly, then the list of learning outcomes will be too long and detailed;
- Determining the optimal number of learning outcomes is a part of educational programme planning. For example, the number of learning outcomes of the programme in higher education as recommended by the ECTS manual is 10-12 outcomes (in a study course/component - a maximum of 6-8);
- Learning outcomes are described in the present tense;
- The description should be short and concise (avoid complex sentences);
- Each learning outcome is described by an active verb/verbs (maximum of two verbs to facilitate measurement);
- Do not use adverbs and verbs that describe general approaches or evaluations (for example, works effectively, acts accurately, knows, learns, learns, knows), as well as any other elements that do not convey the main information or are ambiguous;
- Various taxonomies, including Bloom's taxonomy (see the next table), are used in the formation of learning outcomes;
- Ensure the connection of the learning outcomes of the study course/component with the overall learning outcomes of the programme;
- Before creating the final version of the learning outcomes, ask colleagues and former students to evaluate how convincing these outcomes are for them;
- When writing learning outcomes for students beyond the first year, try not to overload the list with learning outcomes written for the entry level of Bloom's Taxonomy (eg, knowledge and understanding in the cognitive domain). Try to get the student to apply what they have already learned, e.g. Outcomes that reflect a higher level (application, analysis, synthesis and evaluation).

Verbs to use to form learning outcomes

1. Cognitive domain: the cognitive process is divided into 6 categories according to Bloom's taxonomy

Remembering: Recall previous learned information.	**Understanding:** Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	**Applying:** Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.	**Analyzing:** Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.	**Evaluating:** Make judgments about the value of ideas or materials.	**Creating:** Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.
Verbs verify/enumerate (facts), define, describe, draw/draw, identify, indicate/show, label/name, enumerate, outline/outline, cite, recall, narrate, reproduce, select, select, find, place, tabulate/group,	**Verbs** abstract, articulate/comprehend, categorize, define/specify, classify, compare, model, contrast, transform/convert, graph, differentiate, discuss, evaluate (calculate/account), exemplify, explain, extend, extrapolate, factorize, generalize, illustrate,	**Verbs** adapt, accommodate, appoint, perform, complete, calculate, build/construct/compile, (to the client's request) adjust, demonstrate/show, receive/obtain, determine, dramatize/enact, Consume/do, execute, diagram, implement, manipulate, operate, embody, plan, prepare,	**Verbs** evaluate, attribute, divide/divide, characterize, correlate/correlate, decompose, diagnose, diagnose, diagram, differentiate, distinguish, dissect/study, distinguish, focus, illustrate, describe/inventory, organize, break down/distinguish, prioritize,	**Verbs** rate, argue/prove, review, verify, justify, conclude, confirm, construct/construct, advise, criticize, reason/argue, defend, reveal/discover, determine/determine, discuss, edit, decision making, justifying, measuring, monitoring/checking, ranking, sorting, making/recommendating, supporting, testing, validating, verifying,	**Verbs** enact, assemble/combine, code, compose, write, process, design, develop, facilitate, decorate, formulate, discuss, generate, hypothesize, imagine, improve, invent, modify, plan, produce, programme, text Rework, construct, create, adapt,

copy, duplicate, etc.	drawing conclusions, giving specific examples, interpreting, selecting/matching, paraphrasing, predicting, presenting, summarizing, translating/paraphrasing, etc.	map, display, simulate, solve, etc.	question/identify, select, distinguish, isolate/separate, structure, transform, analyze, classify, categorize, compare, contrast, critique, discuss, conclude, identify, check, examine, arrange, organize, connect, etc.	establishing, ascertaining, relating, comparing, selecting, contrasting, distinguishing, explaining, interpreting, predicting, prioritizing, solving, standardizing, linking, summarizing, etc.	systematize, assemble/assemble, combine, formulate, develop, organize, reorganize, form, prepare, integrate, amend, reconstruct, modify, synthesize, test, etc.

2.Psychomotor Domain: The psychomotor domain focuses mainly on physical skills, including coordination of the brain and the musculoskeletal system. It involves physical movement, coordination and the use of motor skills. Developing these skills takes practice. This area includes 7 main categories.

Perception	Set	Guided Response	Mechanism (basic proficiency)	Complex Overt Response (Expert)	Adaptation	Origination
The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation	Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (sometimes called mindsets).	The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.	This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency	The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce.	Skills are well developed and the individual can modify movement patterns to fit special requirements	Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills

Verbs	Verbs	Verbs	Verbs	Verbs	Verbs	Verbs
chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.	begins, displays, explains, moves, proceeds, reacts, shows, states, volunteers.	copies, traces, follows, react, reproduce, responds	assembles, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches.	assembles, builds, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches. NOTE: The Key Words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.	adapts, alters, changes, rearranges, reorganizes, revises, varies.	arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates.

3.Affective/Emotional Domain: The affective/emotional domain includes the behavioral manner in which we approach/decide something/issue with emotions such as feelings, values, gratitude, enthusiasm, motivation and attitudes. 5 categories of behavior are distinguished in this domain.

Receiving Phenomena: Awareness, willingness to hear, selected attention.	**Responding to Phenomena:** Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).	**Valuing:** The worth or value a person attaches to a particular object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable.	**Organization:** Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating an unique value system. The emphasis is on comparing, relating, and synthesizing values.	**Internalizing values (characterization):** Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).
Verbs asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, erects, replies, uses.	**Verbs** answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads,	**Verbs** completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works.	**Verbs** adheres, alters, arranges, combines, compares, completes, defends, explains, formulates, generalizes, identifies, integrates, modifies, orders,	**Verbs** acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, verifies.

	recites, reports, selects, tells, writes.		organizes, prepares, relates, synthesizes.	

(The list of verbs given in the table is not exhaustive).

A checklist for writing learning outcomes

The checklist in the table will help you double-check that the learning outcomes have been written in accordance with the standard guidelines.

N	Questions	Mark it
1	Focused on outcome rather than process?	
2	Focuses on what the student is able to demonstrate after graduation, not on what he/she did during the training	
3	Does each learning outcome begin with an active verb (taking into account the specifics of the Georgian language, there may be another order)?	
4	Does one learning outcome include one active verb (in extreme cases - a maximum of two)?	

5	Aren't such verbs used as: knows, learns, is familiar with, and others like that?	
6	Are learning outcomes visible and measurable?	
7	Is it possible to assess learning outcomes?	
8	Has Bloom's Taxonomy been used in formulating the learning outcomes?	
9	Are all outcomes relevant to the objectives and content of the course/component?	
10	Are the number of learning outcomes in line with those recommended? (Maximum eight outcome for one study course/component, programme - no more than 12)	
11	Is it realistic to achieve the learning outcomes within the given timeframe and under the available resources?	

Example of learning outcomes (for engineering programme)

After completing the programme, the student:

- explains the basic concepts and categories of the field;
- makes decisions based on knowledge of natural and engineering sciences, as well as technology and mathematics;
- Analyzes and solves engineering problems based on their identification and formulation;
- plans a system, component or process according to specific needs;
- plans and implements experiments with data analysis and interpretation;
- works effectively in a group and multidisciplinary context, following the principle of "lifelong learning";
- Establishes effective communication with both the engineering and general public.

Aspects to consider in the syllabus:

1. In the syllabus, indicate the name of the study course/component (hereinafter - the study course), educational programme, level of study (bachelor's/master's), status of the study course (optional/compulsory), implementation semester, language of study;

2. Briefly and clearly describe the objectives of the study course;

3. Indicate:

study course credits;
the number of hours of contact work of the student;
number of hours of independent work of the student;
time for the defense of the written work (project/abstract, etc.) (if any);
Time allotted for midterm/final exam.

4. Indicate which study course/s are the prerequisite/s for admission to the mentioned study course (the prerequisite must be logical).

5. Indicate the level of knowledge, skills and competencies that the student will acquire after completing the mentioned study course.

6. Indicate the teaching methods used to implement the learning process (lecture/workgroup work/practical learning/laboratory learning/seminar, discussion, presentation, PBL, CBL, brainstorming and/or others).

7. Form the content of the study course:

With reference to lecture topics and issues to be discussed, appropriate teaching methods, mid-term and final assessment schedule, number of hours, basic literature, assessment methods.

8. Indicate:

Midterm and final evaluation components: weekly work (if any), midterm exam, report/presentation/essay/project and etc (if any), final exam;

The specific share of each assessment component for the final assessment, the minimum competency threshold (in accordance with the rules in force at the university); evaluation criteria;

Prerequisite for admission to the final exam.

9. Specify mandatory and additional literature (manual, monograph, scientific article, electronic resource, website, etc.). record information about the availability of mandatory literature and the possibility of finding additional literature;

10. Complete the learning outcomes map.

Note:

The purpose and outcomes of the study course should be consistent with the goals and outcomes of the relevant educational programme, as well as the content of the study course and the methods of teaching and evaluation, as well as the literature used should provide the opportunity to achieve the learning outcomes. Realize what role the learning outcome of the given course plays in relation to the learning outcome(s) of the programme and at what level.

Each syllabus should be accompanied by a learning outcome assessment map for a given course/component

Learning outcomes of the study course/component		Learning outcomes of the programme (written only if the component is mandatory)	assessment
knowledge and understanding (optional to indicate)	E.g.: describes the accounting methodology of banking operations in accordance with the requirements of International Accounting Standards;	e.g.: 1	eg: question-answer; open question; testing
Skill (optional to indicate)	E.g.: records banking operations, income and expenses;	e.g.: 3	E.g.: practical exercise, homework presentation
Responsibility and autonomy (optional to indicate)	E.g.: Leads and takes responsibility for the development of data-driven systems.	e.g.: 5	E.g.: role playing

Other forms:

Map of educational programme objectives and learning outcomes

N	Educational programme objectives	Educational programme learning outcomes	Note
	A list of outcomes or a single outcome can be written along one objective. The main thing is that the objective covers the specified learning outcome(s).	A single outcome can correspond to one or more objectives	
1			
2			
3			

If the objective is given as a narrative text, it should be presented in this map as logical parts so that the objective and outcomes can be compared.

A map of learning outcomes of the educational programme (curriculum)

Option 1 (recommended)

The name of the programme component	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
	Type the outcome text	Type the outcome text	Type the outcome text	Type the outcome text	Type the outcome text
	X				
	X	X	x		
	X	X			X

	X				
	X	X		X	X
	X	X		X	X
	X	X		X	X
	X	X		X	X

Introductory courses	Courses aimed at deepening knowledge/skills	Courses focused on demonstrating knowledge/skills	Courses that confirm the achievement of a specific outcome

Option 2 (recommended)

The name of the programme component	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
	Type the outcome text	Type the outcome text	Type the outcome text	Type the outcome text	Type the outcome text
	a	a	a	a	a
					b
		b	b		
					c
	ð				
		c		b	
	c		c	c	

a (familiarization)	b (deepening)	c (reinforcement)

Option 3 (recommended)

The name of the programme component	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
	Type the outcome text	Type the outcome text	Type the outcome text	Type the outcome text	Type the outcome text
	✓		✓		
		✓			✓
	✓		✓		
		✓			
				✓	✓
	✓			✓	
			✓	✓	✓

(Tables are recommended to be made in an Excel file, since Word does not provide the necessary extension)

1. All learning outcomes must be measured. Only mandatory components participate in the mentioned;
2. Arrange the mandatory components of the programme chronologically. Put a sign at the intersection of the specific learning outcome of the programme and the study course participating in its formation (which passes through the outcome, or is an intermediate link/prerequisite for reaching this outcome, etc.);
3. One study course can be divided into one, two or more outcomes, just as one learning outcome can be divided into several, two/one (in special cases) study courses;
4. The learning outcome must be assessed within the study course that is chronologically the last in the chain of study courses leading to the outcome, and if two or more study courses of the chain are read in a given semester - in the most relevant of these study courses;

5. If outcomes are developed across levels, it is important that each outcome is developed through all three levels. And the evaluation should be carried out in the study course where it is achieved/reinforced.

Here is an example:

One of the outcome of a Bachelor of Business Administration programme may be: "Prepares cost information and financial statements, analyzes the results of the firm's activities."

The study courses leading to this outcome can be: "Fundamentals of accounting", "Financial accounting", "Accounting in banks", "Accounting in public law entities", "Financial reporting".

The evaluation of the outcome will be carried out within the framework of "financial reporting", e.g. By performing the "summative situational task" the evaluation criteria of which will reflect the participation of each study course in the chain and determine the minimum competence limit for each criterion (so that the "weakest link in the chain" can be identified later). Here is a sample of evaluation criteria:

"Evaluation criteria of the summative situational task"

The task fully includes accounting and reporting and its evaluation criteria are:

- drawing up a trial balance - 5 points (the result will be considered positive if it is at least 2.5 points);

- drawing up a balance sheet - 6 points (the result will be considered positive if it is at least 3 points);

- profit and loss statement - 3 points (the result will be considered positive if it is at least 1.5 points);

- cash flow statement - 3 points (the result will be considered positive if it is at least 1.5 points);

- reporting of changes in own capital - 3 points (the result will be considered positive if it is at least 1.5 points);

(Total 20 points)

In order to perform the mentioned task, the student should remember the knowledge and skills acquired in the mandatory courses and study courses included in the module: "fundamentals of accounting, financial accounting, accounting in banks, accounting in public law entities" and connect them with the knowledge and skills acquired in the framework of "financial reporting".

It must be taken into account that all mandatory study courses/components must participate in the formation of the programme outcomes, which is reflected in the learning outcomes map of the educational programme. It should also be taken into account that the same study course can participate in the formation of different outcomes.

Programme learning outcomes assessment plan 1 (recommendation)								
Programme learning outcomes	2021-2022 I -II sem.	2022-2023 III-IV sem.	2023-2024 V-IV sem.	2024-2025 VII sem.	2024-2025 VIII sem.	T.B.	2025-2026 Autumn	2025-2026 Spring
I Outcome					√	...%		
II Outcome					√	...%		
III Outcome					√	...%		
IV Outcome					√	...%		
Competencies check (direct and indirect evaluation): 1. Preparation of tools; 2. Collecting information; 3. Preparation and presentation of the report.								

Development of competences (strengthening and reflection of results): 1. Development and review of proposals; 2. Initiating specific ways; 3. Reflection of the results.
Abbreviation used: P.B. – Positive Target Benchmark √ - Achieving of the outcome

This option of the plan for the evaluation of learning outcomes of the programme takes into account the evaluation time (the outcome is evaluated in the semester after its achievement, and in the next semester, if necessary, it is modified) and features (stages and tools of the evaluation process), as well as the indicators for achieving the outcomes.

In the plan, it is possible to add the components of the programme responsible for measuring the given outcome, as well as to add the assessment methods (direct assessment) used in these components, by which this or that outcome is measured, as well as to indicate the persons performing the direct assessment.

Programme Learning Outcomes Assessment Plan 2 (recommended)

Programme Learning outcomes	Direct assessment method	Target Benchmark	Indirect assessment method	Number of students assessed	Competency check	Competency development	Responsible person
		... %					
		... %					
Competency check (direct and indirect assessment): 1. Preparation of tools; 2. Collecting information; 3. Preparation and presentation of the report.							

	Development of competences (strengthening and reflection of outcomes): 1. Development and review of proposals; 2. Initiating specific ways; 3. Reflection of the results.

(Tables are recommended to be made in an Excel file, since Word does not provide the necessary extension)

The system and mechanisms for evaluating the learning outcomes of the programme operating at the university

Assessment of achievement of the outcomes provided by the syllabus

1. Students' achievement of the syllabus learning outcomes is determined by analyzing their academic performance, which includes processing data at the programme and at syllabus levels and observing the dynamics of percentage distribution. This method allows us to understand how difficult or easy the programmes of study courses are, how adequate forms of evaluation are used by lecturers, how high the level of training of students is, etc.

   The range (Gaussian distribution) is normally distributed as follows:

Positive assessment:

(A) Excellent - 10%

(B) Very good - 25%

(C) Good - 30%

(D) Satisfactory - 25%

(E) Sufficient - 10%

In case of a 20% deviation from the mentioned range, the learning outcomes and ways of achieving them will be revised:

- ✓ Distribution of credits/hours in time;
- ✓ teaching methods;
- ✓ thematics;
- ✓ Volume;
- ✓ Assessment forms and methods;
- ✓ Number of students in the group;
- ✓ Prerequisite for passing the course;
- ✓ Peculiarities of the organization of the learning process and etc

2. At the same time, the achievement of the marks indicated in the syllabus, determined by the map of the learning outcomes of the study course is monitored (in the context of the programme outcome).
3. Direct assessment methodology is used: written/oral exam/survey, presentation, abstract, practical project and others.
4. Students' work/thesis etc. are evidence of the evaluation of learning outcomes.

Evaluation of achievement of the outcomes provided by the programme

1. One of the indicators of the achievement of the learning outcomes of the educational programme is the learning outcome map, which is used in the learning outcome's part (the learning outcomes of the programme and study courses/components are compared)

2. The university has implemented an evaluation technique (monitoring system) to determine whether the student has achieved the learning outcomes.

The existing technique considers to determine the percentage of the total number of students who have achieved each learning outcome of the programme through the educational electronic programme and to compare the target benchmarks.

3. Direct and indirect assessment methodology is used:

a) Examples of direct assessment methods are: written/oral exam/survey, presentation, essay, practical project, bachelor's/master's thesis and others.
b) Indirect assessment methods include: employer surveys, alumni surveys, student surveys, and others.

4. Tools, materials, and evidence for evaluating learning outcomes are: student papers, survey results, and others.

Monitoring of the assessment of the learning outcomes and target benchmarks:

For each learning outcome, the assessment of the learning outcomes is monitored and compared with

the target benchmarks

Monitoring of the assessment of the learning outcomes:

Analysis of percentage distribution of learning outcomes' achievement

Target benchmarks:

Target benchmarks for each learning outcome of the programme are specified in the respective programmes, considering their specificities

Comparing with target benchmarks:

The monitoring results are benchmarked against the target benchmarks and graphed visually to show progress/regression of learning outcomes' achievement.

Periodicity of assessment of learning outcomes:

1. The learning outcomes of the study course are measured once per academic year, no later than 1 month before the re-implementation of the abovementioned study course, and will be compared to the percentages. Tools: e-learning programme materials: student papers and assessment; Assessment of learning outcomes of the study course.

1. Each learning outcome of the programme is measured according to the evaluation plan attached to the programme, in the following semester of the semester in which the abovementioned learning outcome was achieved.
   Periodicity: annual
   Tools: Assessment plan materials: Student achievement; The results of the survey; Analysis of the comparison of the outcomes with the target benchmarks

Fundamental review and monitoring of learning outcomes:
Bachelor's level: 3-year dynamic observation
Master's level: 3-year dynamic observation

For the above-mentioned periods, the monitoring results will be compared with the target benchmarks and a chart will be constructed for visibility: to observe the progress/regression in the achievement of the learning outcome and to take further action.

Discussing and responding to results

As a result of the monitoring, if a regression is detected (when comparing with the target benchmarks), the learning outcomes and the ways of achieving them are reviewed and the programme is modified accordingly, taking into account the existing regulations

The Department of Quality Assurance periodically organizes meetings with academic and invited staff to learn about the features of drawing up, measuring, and analyzing learning outcomes, and provides methodical recommendations and instructions for evaluating learning outcomes. Stakeholders will receive feedback on the extent to which the learning outcomes of the programme have been achieved.

Evaluation analysis of programme learning outcomes is used to improve the programme, which involves modifying, if necessary, programme content and/or learning outcomes and/or the assessment system.

Note: For regulated educational programmes, the guiding document is a Sectoral Benchmark Document