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DEGREE PROGRAMME DEVELOPMENT

METHODOLOGICAL GUIDE FOR STUDY PROGRAMME TEACHERS

Development of the Concept of the European Credit Transfer and Accumulation System (ECTS) at the National Level: Harmonization of the Credit and Implementation of the Learning Outcomes Based Study Programme Design
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Foreword

This methodological guide applies the latest issues of the higher education reform, which is carried out by implementing the European Credit Transfer and Accumulation System (ECTS) in Lithuania, by reforming studies of the first and second cycles. The principal focus of this methodological guide shall be:

- More flexible programme design opportunities;
- Relationship of developed competences and learning outcomes with course units (modules);
- Changed concept of a study credit: studies are defined by student's workload;
- Preliminary planning of the student's workload.

The objective of this methodological guide is to refer to the ECTS concept as well as explain the entire design of a programme and illustrate it with examples. The readers will find cases developed by *social work, chemistry and music* field groups of project *Development of the Concept of the European Credit Transfer and Accumulation System (ECTS) at the National Level: Harmonisation of the Credit and Implementation of the Learning Outcomes Based Degree programme Design* (hereinafter referred to as the ECTS project). The theoretical background of this guide is introduced in another publication of this project, viz. *Improving Degree Programmes: Methods of Assessing Competence Development and Learning Outcomes.*

The methodological guide is intended for *members of degree programme committees* who need to make decisions on the programme structure and ensure coordination with the relevant issues of the study field. This guide will also help *teachers* to assess the place of the course unit (module) within the context of learning outcomes and to develop the course description accordingly.

The authors are grateful to the already mentioned field groups of the project, also to the committee of *bioinformatics* programme at the Faculty of Mathematics and Informatics, the committee of *molecular biology* programme at the Faculty of Natural Sciences, the committees of *Russian philology* and *German philology* programmes at the Faculty of Philology of Vilnius University which agreed to illustrate this methodology with fragmentary examples of upgraded programmes.

Comments and proposals can be submitted by e-mail: ects@cr.vu.lt

Authors of the methodological guide

1. CONTEXT FOR CHANGING DEGREE PROGRAMMES

1.1. Implementation of ECTS in student-centred studies

Since 1 September 2011 all Lithuanian higher education institutions have introduced new study credits which are equivalent to ECTS credits.[1] Many higher education institutions used a mathematical conversion of credits, viz. 1 credit equalled 1.5 ECTS credits. If we stuck to that, the mathematical operation would be the only one we needed: we would just multiply by 1.5 and round the credits to the whole number. However, such mechanical approach would be wrong, as the new credit has the meaning of a model of transfer, accumulation and individual studies.

The development/improvement of a degree programme is based on the principles of the student-centred studies:

Identification of competences and learning outcomes. First of all, due consideration should be given to the expectations of potential employers of the graduates of a programme as well as to the expectations of the society in general, at the same time considering potential changes in the labour market, the development of science, emerging new technologies, needs of the society, etc. In order to better define competences and their demand, it is advisable to research the occupational field or to make use of the results of the already available research results. This will also help better describe the distinctive features of the programme and formulate learning outcomes for acquiring a qualification.

Co-operation of the academic community. It is recommended to involve the academic community into the development/improvement of the programme. It is especially important when defining competences and learning outcomes that must be compatible between themselves. When designing/improving student-centred programme, the academic staff is welcome to share the experience and responsibility within the process.

Provision of links among the parts of the programme. Parts of the programme should be linked by learning outcomes and the pathway to achieve them is the acquisition of expected competences being the basis of qualification. Such thinking not only applies to the course units (modules) which are part of the core part of the programme, but also to elective units. In a well designed programme, electives should reveal the exceptional character of the programme and provide students with an opportunity to adapt the programme to their needs.

Feedback on the implementation of the programme. The improvement of a programme, or any part thereof, is based on a feedback received from students, the society and labour market players concerned (students, teaching staff, employers, graduates, etc.) and continuous consideration given to the perspective of the change of generic and subject specific competences.

[1] According to Article 4(21) of the Law on Higher Education and Research in Lithuania, study credit means a unit of the volume of studies, by which study results and student's working time are measured. 1,600 hours of one academic year shall equal to 60 credits (Article 4(21) of the Law on Higher Education and Research)

The starting point of programme development/improvement could be summarised by the following steps:

1. Assessment of the need for the programme

- Developers of programmes jointly with the participants of the study process and stakeholders (potential students, teaching staff, potential employers) must assess the need for the programme that is being designed/improved and its feasibility.

2. Identification of the profile and competences to be developed.

- With due consideration to the study fields to establish the study core that will form the basis of the degree programme.
- To point out whether the programme will be specialised or whether it will provide options, such as related studies, election of course units (modules) from other study fields, general university or college course units (modules).
- To identify and describe potential areas of employment for the graduates with the particular degree.
- To define subject specific and generic competences mostly related to the degree programme being developed.

3. Description of learning outcomes of the programme

- To formulate learning outcomes of the programme related to the identified generic and subject-specific competences.

4. Decision regarding the course unit or modular approach of the programme

- To decide whether the programme will consist of a sequence of course units or modules. The choice of the course unit composition means that the number of credits awarded to a course unit may vary during a semester according to the decision of the programme developers. The choice of a modular composition means that the programme is formed of standard modules (e.g. 5 and its multiples: 10, 15 credits).

5. Identification of learning outcomes for a course unit (module) with due consideration to competences and programme learning outcomes

- With due consideration to generic and subject specific competences of the programme, to select course units (modules) best fitted for the development or improvement of such competences.
- To define learning outcomes of each course unit (module) that must be achieved by developing the appropriate competence of the programme at a certain level.
- To assess the workload of each course unit (module) in credits with due consideration that one academic year shall equal to 60 credits. It is advisable to follow the recommendation that one credit shall be equal to 25-30 hours of student's workload.

6. Selection of the methods of learning and student achievement assessment methods

- To decide which methods are best suited to develop appropriate competences and to assess student achievement. Methods of learning and assessment selected for learning outcomes of each course unit (module) must be best related to that course unit (module).
- The workload of each course unit (module) in credits must comply with the methods of learning and student achievement assessment methods.

7. Checking whether all generic and subject specific competences expected to be developed are covered

- To check the links between all identified generic and subject specific competences and learning outcomes of each course unit (module). A special care should be given to the assessment whether the designed consistency of the development and improvement of learning outcomes will ensure the expected student achievement in the programme.

8. Preparation of descriptions of the programme and its constituent parts, viz. course units (modules)

- The descriptions of the programme and course units (modules) of the programme must underline the orientation of the selected degree, competences developed by the programme and their links with the learning outcomes, the number of credits awarded and the assessment methods.

9. Checking of the balancing and the feasibility of the programme

- To check whether the number of credits awarded to the programme and to its each constituent part (course unit/module) is adequate to achieve the expected learning outcome, i.e. it must be assessed whether the award of credits is justified and whether students can successfully complete certain course units or modules and the entire programme during the allotted time.

10. Providing for monitoring measures of the implementation of the programme

- Measures (e.g. polls of students and academic staff, the analysis of achieved learning outcomes, etc.) must be provided to enable consistent monitoring of the implementation of the programme and the assessment of its effectiveness, especially in relation to learning outcomes.
- Information obtained during the monitoring of the implementation of the programme must be used for the improvement of the study process.

At the same time, each higher education institution should develop new methods of counting the teacher's workload in line with the ECTS concept. It is important to calculate not only time spent in classroom, but also other work, for instance: a student receives independent work assignments; however, such assignments need to be developed, students must receive consulting if any problems arise, and, when students perform their assignments, such assignments have to be assessed and feedback must be given to students.

1.2. Scenarios of developing and improving programmes

All the parties concerned, the committee of the respective programme shall make decisions on the structure of the programme as follows:

1. Studies of the main study field upon the completion of which the qualification degree is awarded in that field, and electives (modules) offered by the higher education institution and selected by the student for the purpose of more profound specialisation in the same study field, or practical training.
2. Studies of the main study field upon the completion of which the qualification degree is awarded in that field, and course units (modules) in another study field offered by the higher education institution and selected by the student, or practical training.

3. Studies of the main study field upon the completion of which the qualification degree is awarded in that field, and general university course units (modules) offered by the higher education institution and selected by the student for the purpose of enhancing the broad university education, and that are not directly related to the content of the main study field.
4. Studies of two study fields, viz. the (major) study field and the minor study field provided by the higher education institution and selected by the student; once they are completed, a double qualification degree is awarded, viz. in the (major) study field and in the related (minor) study field.

The principal novelty in Lithuanian higher education system is the fourth scenario, which allows students to study a related minor study field alongside with the (major) study field, and such a related study field may cover ¼ of the degree programme. This enables students to have a bigger influence on the selected degree programme where 60 credits may be chosen based on study interests and aptitudes.

Requirements of the bachelor's programme (210-240 credits):

At least 15 credits – GHEC (general higher education courses).

At least 165 credits[2] – MajSF1 (major) study field according to the registration code).

The maximum of 60 credits shall be obtained by selecting from the following options:

MinSF2 – minor study field, e.g. French, if you seek a double bachelor's degree, which is entered into your diploma as, e.g., bachelor's degree in English philology (major study field) and French language (minor study branch).

MajSF1 more profound specialisation, which makes the main study field more profound and which is entered into the diploma supplement. The qualification degree of a bachelor is entered into the diploma in line with the main study field, e.g. bachelor's degree in English philology.

MajSF1 with the possibility to select HEC course units (modules), which are entered into the diploma supplement. The qualification degree of a bachelor is entered into the diploma in line with the main study field (branch), e.g. bachelor's degree in English philology.

MajSF1 with the possibility to select course units (modules) in other areas and/or HEC, and/or other MajSF1 course units (modules), which are entered into the diploma supplement. The qualification degree is entered into the diploma in line with the major study field, e.g. bachelor's degree in English philology.

Studies of the major study field shall be a part of the programme, which is comprised of **165** credits for the **course units (modules) of the major study field** and **15** credits for the **course units (modules) of the general university education.** It complies with the requirements for the qualification degree in the respective study field.

Studies of the related (minor) study field shall be a part of the programme, which is comprised of **60** credits for the **course units (modules) of another study field,** and which complies with the minimum requirements for the related qualification degree in the respective study field.

[2]This number includes the credits of the graduation thesis and the compulsory credits of the practical training.

If the programme is expected to award a double qualification degree, the description of the programme specifies its major and minor study fields, e.g. *international marketing and Russian language.*

The attitude towards **master's studies** is also more flexible, viz. it is now possible to make them interdisciplinary, if necessary. Up to 30 credits may be awarded to course units (modules) of another study field.

Requirements of the master's programme (90–120 credits):

At least 60 credits must be awarded to course units (modules) of the study field, and the problem-oriented or innovative scientific level of the content of such course units (modules) must be qualitatively higher than the course units (modules) of the first cycle of studies on which such higher level course units (modules are based.

The maximum of 30 credits – course units (modules) provided by the university and selected by the student. Based on the orientation of the programme, up to 30 credits shall be awarded to the following:

a) preparation for doctoral studies (research work, a work of art, etc.);
b) practical training in professional activities, or
c) course units (modules) of another study field, when the objectives of the study field are related to interdisciplinary studies;
d) general course units (modules) of university studies;
e) elective course units (modules).

At least 30 credits – to preparation and presentation of the graduation thesis, or the graduation thesis and the final examination (final examinations, if they are introduced by the Lithuanian or international requirements).

Scenarios of college (professional bachelor's) degree programme may be the same as of university studies (cf. above); however, the number of credits awarded for such studies differs.

Requirements for the professional bachelor's programme (180–210 credits):

At least 15 credits – general course units (modules) of college studies.

At least 135 credits – SF, i.e. course units of the study field.

30–60 credits shall be obtained by selecting from the following options:

SF1– course units (modules) established by the college and selected by the student for the purpose of specialisation in the same study field, which is entered into the *diploma supplement*. *The qualification degree of a professional bachelor* is entered into the *diploma* in line with the main study field, e.g. *professional bachelor's degree in social work;*

SF2 – course units (modules) of another study field that are entered into the *diploma supplement*. Or course units (modules) of a related study field that form the double degree of a professional bachelor in the main study field and in the related study field; such double degree consists of 210 credits, out of which 60 credits shall be collected in course units (modules) of the related study field. *The diploma shall state,* e.g. *professional bachelor's degree in accounting (major study field) and management (minor study field)*;

SF with the possibility to select general college course units (modules), practical training, also electives selected by the student, which shall be entered into the *diploma supplement*.

Practical training and graduation/final thesis

Based on the specific character of the programme, credits awarded to practical training, which become mandatory during the first cycle of studies, may be planned over the entire period of studies or during the final year of studies. The site of the practical training depends upon the co-operation between the academic subdivision and social partners.

During university studies at least 15 credits shall be awarded to practical training, while the length of practical training in professional bachelor studies has to be not less than 30 credits.

Work-based practice is not a mere independent work performed by a student. It is recommended to appoint a supervisor of the student's practical training in the higher education institution and in the organisation where the student undergoes practical training. Therefore, the description of the practical training must state the contact time during which the practical training supervisor from the higher education institution could supervise the student through a direct or virtual contact. Based on the experience of other countries, the supervisor from higher education institution is recommended to meet with the student once or twice during the period of practical training.

1.3. Design of a modular programme

The programme may consist of course units or modules.

A **module** shall be a part of the programme of a standard size (decided by the higher education institution), which is composed of one or several content-related course units, has the defined goal, learning outcomes, study methods and assessment criteria. The size of each module may be the unit, or a multiple thereof, selected by a higher education institution.

The principle of multiple credits (e.g. 5 or 10, or 15, or 20 credits, etc.) facilitates the flexibility of the programme, if during the first cycle of studies the student selects Minor studies, modules of general education or other fields alongside with the main (Major) study field.

If the size of each module is 5 credits, options of modular studies are demonstrated by the schemes of the first cycle of university studies shown below.

Option A

GHEC (15 credits)	MajSF1 (165 credits)											MinSF2 (60 credits)			

Option B

GHEC (at least 15 credits)	MajSF1 (at least 165 credits)											SF1 more profound specialisation (the maximum of 60 credits)			

Option C

GHEC (at least 15 credits)	MajSF1 (at least 165 credits)											GHEC (the maximum of 60 credits)			

Option D

HEC (at least 15 credits)	MajSF1 (at least 165 credits)											SF1 and/or SF2 and/or GHEC and/or electives (the maximum of 60 credits)			

1.4. How are Minor study field programmes designed?

The programme of minor studies is optional rather than mandatory for students.

Option 1: The minor studies are integrated when designing a new programme and are offered *in corpore* as a double degree-awarding programme.

Option 2: The minor studies are selected from the *specific list* of programmes of related fields *offered by the committee of the degree programme.*

Option 3: The minor studies are *freely* selected from among the programmes of related fields offered by the higher education institution.

Committees of degree programmes of the main study field shall make the following decisions:

a) **in which programmes** the option of the related (minor) field studies **should be offered**, i.e. the opportunity to release 60 credits should be provided;

b) **which programmes can establish the core** of their study field that can be offered to students of other fields, i.e. in which programmes the minor of a 60-credit core of the programme can be designed;

c) **what course units (considering learning outcomes, the size of course units (modules)) should make** up the core (60 credits) of the programme in the appropriate study field now available as a minor study field programme.

The specific programme in the minor field may be integrated into the established degree programme, or it may be offered as an elective (e.g. the major degree programme in genetics and the minor degree programme in molecular biology), if the committee of the main study field provides such an option.

Possibility to release programme credits

The committee of the programme has to decide *whether there are possibilities in particular study field to acquire the qualification degree of a bachelor during a shorter study period when the study programme is compressed to 180 credits (150 credits in case of professional bachelor studies).* Only in this case the option to award the remaining 60 credits out of 240 credits (or out of 210 credits in case of *professional bachelor* studies) necessary to acquire one more bachelor in the additional study field can be considered. Thus, the student is provided with the opportunity to *acquire* a double bachelor's degree in the *main (major) study field* and in the additional one meeting the minor requirements.

It should be noted that such options can be considered not in all study fields due to the complexity of the qualification degree and its legal regulations. For instance, no related studies shall be possible in the programme in order to acquire the professional qualification of a medical doctor or a qualification degree of a lawyer. In other words, related studies can be provided in programmes awarding a qualification degree, which is not a field to any regulation by professional, national or international directives.

Example 1. A map of the structure of the first-cycle degree programme in various fields of philology at Vilnius University (VU), where 60 credits are released:

<table>
<tr><th rowspan="2">GHEC (15 credits)</th><th colspan="4">X philology (at least 165 credits)</th><th rowspan="2">60 credits released</th></tr>
<tr><th>Linguistics</th><th>Literature</th><th>Language</th><th>Practical training and bachelor's thesis</th></tr>
<tr><td rowspan="4">In line with VU HEC concept</td><td rowspan="2">Critical knowledge and competencies in linguistics</td><td rowspan="2">Critical knowledge and competencies in literature</td><td rowspan="2">Communication skills in the studied language (C1/C2)</td><td>Bachelor's thesis (20 credits)</td><td rowspan="4">Option A, B, C or D</td></tr>
<tr><td>Competence of a linguist (literary) researcher</td></tr>
<tr><td>Understanding the system of the studied language; its analysis at different levels</td><td>Understanding and analysis of literature composed in the studied language</td><td>Knowledge and competencies in the Lithuanian language</td><td>Practical training and work-based practice (15 credits)</td></tr>
<tr><td></td><td colspan="2">Understanding the culture of countries speaking the studied language</td><td>Ability to apply the competencies and knowledge of philology in practice (at the university and outside)</td></tr>
</table>

Which programmes can form the core of their study field offered as a minor degree programme?

Committees of the programme need to consider whether a *60-credit study field core can be designed out of the elements of the content of the 165–180-credit programme in the main study field and offered as a minor degree programme*, as in such a case the main study field also becomes a part of the double qualification degree (a double bachelor's degree in the appropriate main field and in the related minor field shall be acquired).

Example 2. *Russian literature* as a minor study field (60 credits). This minor part of the bachelor's studies of *Russian philology* is offered to students who study other fields and who will elect the *Russian literature* as their related (minor) studies (SF2) and will seek a double degree: ***bachelor of X and Russian literature.*** **The main distinctive features are Russian literature (integration of culture).** This literary part together with parts such as linguistics, language and the graduation project or the graduation thesis shall form the parts of the content of the programme that in turn become the basis for the grouping of course units (modules). The size of course units (modules) depends upon the credit size chosen by the higher education institution and upon the applied multiple (in modular studies).

Bachelor of X (180 credits) and Russian literature (60 credits)			
Linguistics	**Literature**	**Language**	**Graduation project.**
	Compulsary modules (35 credits)		**Core modules (5 credits)**
	Russian society and culture, 5 credits Introduction to Russian literature (1, 2), 10 credits Russian urban culture of the 20th-21st C.C., 5 credits Russian poetry, 5 credits Russian classical novel, 5 credits Russian novel of the 20th C., 5 credits		Graduation project in Russian literature, 5 credits
Elective modules (20 credits)			
Philological text analysis, 5 credits	Russian folklore and Christian tradition, 5 credits Russian drama, 5 credits Russian imperial culture, 5 credits Slavonic history and culture, 5 credits Literary text analysis, 5 credits	Public speaking, 5 credits Creative writing in Russian, 5 credits	

Definition of the core of the main (major) study field programme

The minor study field programme shall be designed in the same way as the main (major) study field programme. First of all, the competences to be acquired by the graduate of the programme in the minor field should be identified. The minor study field programme shall consist of the core course units (modules) of the main (major) study field (60 credits in total).

Example 3. *Russian philology* as a minor study field (60 credits). This minor part of the bachelor's studies of *Russian philology* is offered for students of **philology** who study other fields, who are fluent in Russian and who seek a double degree*:* ***Bachelor of X (another field of philology) and Russian philology.*** **The distinctive features of the programme: theoretical aspects of the Russian language and literature (linguistics and literary criticism).**

Bachelor of X philology (180 credits) and Russian philology (60 credits)			
Linguistics	**Literary criticism**	**Language**	**Graduation project.**
Core modules (5 credits)	**Core modules (5 credits)**		**Core modules (5 credits)**
Fundamentals of Russian lexicology and rhetoric, 5 credits	Russian poetry, 5 credits		Graduation project in Russian philology, 5 credits
Alternative option: linguistics or literary criticism (20 credits) Core modules			
Russian phonetics, 5 credits Russian word-formation and morphology, 5 credits Russian syntax, 5 credits Seminar in Russian linguistics: fundamentals of Russian linguistics, 5 credits	Russian literature of the 19th C., 5 credits Russian literature of the 20th C. (1, 2), 10 credits Seminar in theory of Russian literature: fundamentals of theory of Russian literature, 5 credits		
Elective modules (25 credits)			
Development of the Russian language, 5 credits Russian phraseology, 5 credits Introduction into contrastive grammar, 5 credits Introduction into text linguistics, 5 credits Philological text analysis, 5 credits Introduction into semantics, 5 credits	Russian classical novel, 5 credits Russian urban culture of the 20th-21st C.C., 5 credits Russian folklore and Christian tradition, 5 credits Russian drama, 5 credits Russian imperial culture, 5 credits Russian novel of the 20th C., 5 credits Slavonic history and culture, 5 credits Literary text analysis, 5 credits	Media Russian, 5 credits Business Russian, 5 credits	

Example 4. The core of the programme in *bioinformatics* as the minor field has been defined as the basis for the bachelor's studies in *bioinformatics* at VU:

Study field groups, course units	Entire programme, credits	Compulsory* (core) credits in bioinformatics, being course units of the main (major) study field, when a student of bioinformatics selects a minor degree programme from the list	Compulsory credits of bioinformatics, being course units of a minor degree programme**
Course units of the study field			
Core unit of bioinformatics			
Bioinformatics I	5	5	5
Bioinformatics II	5	5	5
Bioinformatics III	5	5	5
Bioinformatics IV	5	5	5
Methods of designing bioinformatics programmes	4	4	4

Term paper	4	4	4
Term project	4		
Work-based practice	18	18	
Bachelor's thesis	12	12	6
Core unit of biology, chemistry, physics			
General biology	4	4	
Biochemistry	4	4	
Physics	5	5	
Physical chemistry	5	5	
Genetics	3	3	
Molecular biology	4	4	
Cell biology	4	4	
Mathematical simulation in ecology	5		
Theory of biological systems	5		
Core unit of informatics			
Discrete structures	5	5	
Informatics	5	5	
Computer architecture	4	4	4
Algorithms and data structures	5		
Object-oriented programming	4	4	4
Database management systems	4	4	4
Internet technology	5	5	
Neuroinformatics	5		
Computer networks	5	5	
Operating systems	5		
Intellectual systems	5		
Software engineering	4	4	
Core unit of mathematics			
Linear algebra and geometry	5	5	
Mathematical analysis I	5	5	
Mathematical analysis II	5	5	
Logics and complexity of algorithms	5		
Probabilities and statistics	4	4	4
Biometry	6	6	6
Information and encoding	5	5	
Discrete optimisation	5	5	
Data research	4	4	4
English	9	9	
Total	**210**	**165**	**60**
General course units and electives of university studies	**30**	**15**	

* The size of studies of these course units of bioinformatics, being course units of the main (major) study field, must be at least as stated, if students select the minor degree programme in molecular biology, genetics, etc..
** The minor degree programme in bioinformatics leading to a double qualification degree can only be taken by the students whose major study field programme is molecular biology or genetics. In other cases studies can only be carried out without awarding a double qualification degree, i.e. course units of the related degree programme can be studied only as electives.

Guidelines for the implementation of the related (minor) study field programme

In university bachelor studies, the minor degree studies can start during the second year (semester 3) by spreading the credits over modular studies as follows: 10, 10, 10, 10, 20. The minor degree programme would be completed in semester 7, as students may have a heavy workload in spring, viz. the graduation project or the final examination in the minor study field, practical training and bachelor's thesis (based on the practice of the majority of higher education institutions).

During their second and third year (semesters 3, 4, 5 and 6), the students would obtain 10 credits per semester (by joining the first and second-year students of the main (major) study field programme, provided a separate group is not formed). During semester 7, 15 credits shall be awarded to course units (modules) of the minor study field, while the remaining credits (in this case, 5 credits) shall be respectively awarded to the graduation project or the final examination in the minor study field.

Professional bachelor studies last seven semesters; therefore, the related (minor) field studies may start in semester 2 and end in semester 6. Credits may be spread out with due consideration to the complexity of the semesters, as professional bachelor studies are greatly influenced by the periods of practical training.

2. COMPONENTS OF THE DEGREE PROGRAMME

2.1. Title and purpose of the programme

The title of the programme must be short, specific, attractive and informative, it must reflect the content of the programme and/or the qualification degree awarded. **The purpose of the programme** should be stated as briefly as possible (in 2-3 sentences), it should specifically and explicitly summarise competences to be acquired by students as well as their employability.

This guide provides model descriptions developed by ECTS project working groups.

Example 5. Sufficiently different examples of the purpose of two programmes are provided, which explicitly show the employability of the trained bachelor:

> The purpose of the bachelor's programme in chemistry[3] is to acquire theoretical knowledge in order to explain the properties of substances and to make predictions based on the principles of thermodynamics, kinetics and quantum mechanics. To acquire practical skills for performing standard laboratory procedures, synthesising and analysing chemicals, operating standard chemical equipment, applying physical methods of research. To assess critically chemical information and data, to solve qualitative and quantitative problems of known or unknown nature. To acquire skills in written and verbal communication in Lithuanian and English, presentation of information to the audience of specialists, working individually and in a team, organising your work and planning your time, studying and continuously improving your professional skills and general sophistication.
>
> The purpose of the bachelor's degree programme in social work[4] is to train social work specialists who are capable of creatively applying the latest knowledge of social work in the complicated, ever-changing and multicultural professional environment in order to efficiently deal with social problems of the society.

2.2. Study field, qualification degree and professional qualification

Thus, the title and the purpose shall be made in a way to show **study field** the programme is attributed to. **The bachelor's or master's degree** awarded to graduates is closely related to the title of the study field. If the programme is expected to award a double qualification degree, a reference should be made to its main (major) and related (minor) study fields. Professional qualification, such as a family doctor, a teacher, etc., shall be awarded only in cases provided by the law.

[3] Description of the bachelor's programme in chemistry, 2012.
[4] Description of the bachelor's programme in social work, 2012.

2.2.1. Key programme competences. What are they?

Based on Tuning and ECTS principles, a **competence** shall be understood as follows:

A competence is a dynamic combination of knowledge, skills, values and attitudes, which enables to properly perform activities. The key elements of competences fostered and developed during studies are as follows:

- **Knowledge and understanding** of a certain subject area;
- Ability **to apply the acquired knowledge** in given situations;
- **Values and attitudes.**

Key (programme) competences shall be competences the development of which is at the heart of the programme. These competences are classified into **generic** competences (broadly applicable skills) and **subject specific** competences (theoretical, practical and/or experimental knowledge and subject specific skills).

2.2.1.1. Generic competences

Generic competences shall be competences that may be developed in various degrees and applied in various contexts[5]. Its synonyms are **transferrable skills, generic skills**. Very often they are mistakenly associated only with the present market demand; however, they are demanded not only by the labour market. Their development is the necessity of the present-day life.

Key characteristics of generic competences: 1) ***multifunctionality***, which helps achieve goals in day-to day professional and social life, and helps deal with problems; 2) ***transferability***, which demonstrates that generic competences are needed not only in personal and family relations but also in interpersonal and social relations, as such competences help integrate thinking, acting, feeling and behavioural methods into any given area of personal life; 3) **integrated** development of a higher level of ***thinking and reasoning skills***, helps the development of independent, critical, analytical and reflective thinking; 4) ***multidimensionality***, as generic competences help develop the ability to perceive and resolve complex problems (perceptive dimension), to adequately assess the situation and make the right decision (normative dimension), to develop the proper social orientation and trust in people (cooperation dimension), to understand what is going on in his/her own life and in the life of other people, and to be able to describe it (narrative dimension)[6].

[5] More information about generic competences can be found in:
TUNING. 2010. *Tuning Education Structures in Europe. A Guide to Formulating Degree Programme Profiles. Including Programme Competences and Programme Learning Outcomes.* 21. http://www.deusto-publicaciones.es/ud/openaccess/tuning/forms_tuning/form_tuning26.html [2011-04-03].
Generic competences and methods of their assessment are described in detail in the following publication: Sánchez A. V., Ruiz M. P. 2008. *Competence-based learning. A proposal for the assessment of generic competences*. Deusto: University of Deusto.
TUNING. 2007. *Tuning Education Structures in Europe. General brochure*. 20-23. http://tuning.unideusto.org/tuningeu/images/stories/template/General_Brochure_final_version.pdf [2011-03-27].

[6] Rychen and Salganik. 2006, cit. pgl. Sanchez A. V., Ruiz M. P. (Eds.) 2008. *Competence-based learning. A proposal for the assessment of generic competences*. University of Deusto.

[7] TUNING. 2010. 63–64. http://www.deusto-publicaciones.es/ud/openaccess/tuning/forms_tuning/form_tuning26.html [2011-04-03].

The list of generic competences is provided in Annex 2 to 2010 Tuning guide[7]. Dozens of generic competences are listed:

- Ability for abstract and analytical thinking, and synthesis of ideas,
- Ability to plan and manage time,
- Ability to apply knowledge in practical situations,
- Independence: ability to work autonomously,
- Ability to communicate both orally and through the written word in first language,
- Ability to communicate both orally and through the written word in a foreign language,
- Ability to work in a team and commitment to tasks,
- Ability to work in an international context,
- Understanding of cultures and customs of other countries,
- Capacity to learn,
- Ability to use information and communications technologies,
- Information processing: Ability to search for and analyse information from a variety of sources,
- Ability to adapt to new situations,
- Ability to take the initiative and to foster the spirit of entrepreneurship,
- Ability to be critical and self-critical,
- Leadership,
- Ability to design and manage projects.

It is recommended to use this list creatively for the definition of competences of your programme. When defining generic competences, it is recommended to briefly name the competence and to expand on it after the colon, **e.g.:**

Multicultural competence: ability to work in a multicultural context, to communicate and cooperate with people representing a variety of cultures.

Or an explanation alone can be provided. An **example** of the model description of the bachelor's programme in *music performance (piano)* at the Lithuanian Academy of Music and Theatre:

Interpersonal and communication skills:
Ability to communicate, ability to work in a team.
Ability to work and improve skills autonomously.
Critical and self-critical thinking.
Ability to adapt to new situations, ability to resolve problems.
Ability to control your body and emotions on stage.

2.2.1.2. Subject specific competences

Apart from generic competences, each programme provides **subject specific competences**. It is the competences related to the specific field of studies. **Examples** of subject specific competences:

Bachelor's programme in *Chemistry*
Ability to perform standard laboratory procedures, synthesise and analyse chemicals, operate standard chemical equipment, apply physical methods of research.
Programme in *Social work*
Ability to influence social policy by analysing and assessing social processes, using social work theories as well as research and practice.

It is recommended to identify **8-15 key competences**, which best reflect the purpose and the orientation of the programme (usually more competences are developed in studies). Generic competences shall be described first, followed by the description of subject specific competences[8]. One must remember that the entry of any competence into the list of competences of the programme entails the identification of specific course units (modules) that would help develop the competence.

Competences shall be described by the committee of the programme (provided it exists in the higher education institution), viz. managers of the programme, the teaching staff and social stakeholders (existing and potential employers, representatives of the student body, alumni). In order to select competences that meet the needs of the modern society, a study of professional activities should be carried out, and the key part of such study should be the poll of employers, which would indicate what is mostly needed in the specific area of professional activities. However, the importance of the poll should not be overrated, as the opinion of employers should not be the only one to follow.

Example 6. Competences developed by the bachelor's programme in *German philology* at VU:

Generic competences	
1.	**Ability to work and study autonomously while applying the acquiring knowledge in practical situations:** ability to organise your work and study process by selecting proper strategies to perform tasks
2.	**Analytical and critical thinking:** ability to analyse, to see links and to assess information (phenomena, things, human behaviour, etc.)
3.	**Knowledge of the official and foreign languages:** ability to communicate in the official language in business situations; fundamentals of a foreign language (other than German)
4.	**Intercultural competence and ability to work in a team in line with human values:** ability to work in a multicultural context, to communicate and cooperate in order to achieve common goals
5.	**Aspiration to learn and to seek quality:** ability to value quality and aspiration to continuously improve
6.	**Creativity:** ability to have a novel and unique response in a variety of situations
Subject specific competences	
7.	**Critical knowledge and competencies in linguistics:** perception of the language as a phenomenon and linguistics as a scientific discipline
8.	**Understanding the system of German; its analysis at different levels:** phonetics, morphology, syntax, lexicology, etc.
9.	**Critical knowledge and competencies in literature:** perception of literature as a phenomenon and literary criticism as a scientific discipline
10.	**Understanding and analysis of German literature:** ability to analyse and interpret German, Austrian and Swiss literature as a phenomenon
11.	**Understanding the culture of German-speaking countries:** ability to understand and interpret the distinctive character of German, Austrian and Swiss culture
12.	**Ability to communicate in German (C1/C2):** listening, reading, speaking, writing, translation
13.	Knowledge and competencies in the Lithuanian language
14.	**Competence of a linguist (literary researcher):** ability to independently perform a linguistic or a literary research by applying the acquired knowledge and competencies of philology in practice
15.	**Ability to apply the competencies and knowledge of philology in practice (at the university and outside):** practical training and work-based practise

[8] TUNING. 2010. 41–42.

Example 7. Competences identified in the model description of the bachelor's programme in *social work* at VU[9], with generic competences being mentioned without specifying them in detail:

Generic competences	
1.	Ability to organise and plan
2.	Ability to be critical and self-critical
3.	Interpersonal skills
4.	Ability to work in a multicultural context
5.	Capacity to learn
6.	Initiative and entrepreneurial spirit
Subject specific competences	
7.	To establish a relationship of mutual trust with a client for the purpose of optimal social functioning and acting in undefined situations.
8.	To organise and assess social assistance by applying various methods of social work and assistance strategies, and following national and international legislation and professional ethics.
9.	To initiate and implement innovative social problem prevention programmes and social assistance strategies for the purpose of social justice and social welfare as well as the implementation of human rights.
10.	To cooperate with representatives of social work and other professions and institutions for the purpose of efficient social assistance.
11.	To influence social policy by analysing and assessing social processes, using social work and other theories as well as national and international research and practical work.
12.	To develop and strengthen the profession of social work by performing research for acquiring new knowledge of social work and improving the practical social work.
13.	To improve one's professional activities based on the critical assessment of the historical experience of social work and social assistance, and following the principle of lifelong learning.

2.2.2. Programme learning outcomes – intended learning outcomes

Once the picture of the trained specialist is defined and the required competences are described, a decision must be made which elements of competences are expected (undertaken) to be developed during the studies and at which level. This will be done by setting up the programme **learning outcomes, which define the level of the competence being developed**.

Programme learning outcomes are statements describing what the student has to know, understand and be able to do after the successful completion of a certain section of the process of studies – a course unit, a module and/or the entire programme. Programme learning outcomes describe the level of competences sought by the student and form a part of the programme description.

Programme learning outcomes help determine whether (and to what extent) the student has acquired certain competences; therefore, they must be formulated by stating the sought level so as to enable their assessment, i.e. they must be specific and explicit, objectively stated, achievable and important for seeking to achieve the purpose of the programme.

[9] *Description of the bachelor's programme in social work*, 2012.

Properly formulated programme learning outcomes shall contain the following components: a) a verb (or a verb phrase), b) the type of the learning outcome (knowledge, cognitive processes, skills, etc.), c) the course unit matter (the topic, the course unit), d) the intended level, and e) the scope (or context).

Example 8. The specification of the competence level of a linguist developed in the master's programme in linguistics, stated as a learning outcome:

<table>
<tr><th>COMPETENCE</th><th colspan="5">LEARNING OUTCOME (LEVEL OF THE COMPETENCE DEVELOPMENT)</th></tr>
<tr><td rowspan="3">Competence of a linguist: ability to independently study linguistic phenomena, to carry out linguistic research</td><td colspan="5">With due consideration to academic ethics and values, students will be able to resolve the problem of research by selecting the proper empirical material, methods of research and bibliographical sources, to critically describe the results of the performed linguistic research and to present conclusions in a 20-page scientific text.</td></tr>
<tr><td>VERB</td><td>TYPE (HOW?)</td><td>subject</td><td>STANDARD</td><td>SCOPE</td></tr>
<tr><td>To resolve, to describe</td><td>by selecting the proper empirical material, methods and bibliographical sources</td><td>Research problem, results of the linguistic research</td><td>Critical, scientific text, conclusions</td><td>Term paper of 20 pages</td></tr>
</table>

Learning outcomes are formulated by the teaching staff of higher education institutions together with internal and external social stakeholders. Learning outcomes can be formulated by using **Dublin Descriptors**, which include five descriptors implicating the value-based and ethical fundamentals of the study field, viz. 1) demonstrating knowledge and understanding, 2) applying knowledge and understanding, 3) making judgments, 4) communicating, 5) learning to learn[10].

Example 9. Qualification degree requirements according to Shared Dublin Descriptors:

Bachelor's degree, which proves the completion of the first cycle, shall be awarded to students who:	Master's degree, which proves the completion of the second cycle, shall be awarded to students who:
• have demonstrated knowledge and understanding in a field of study that builds upon and their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study; • can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study; • have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues; • can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences; • have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.	• have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context; • can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study; • have the ability to integrate knowledge and handle complexity, to formulate judgements with incomplete or limited information but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements; • can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously; • have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

[10] *Shared 'Dublin' descriptors for Short Cycle, First Cycle, Second Cycle and Third Cycle Awards*. 2004. http://www.eua.be/typo3conf/ext/bzb_securelink/pushFile.php?cuid=2556&file=fileadmin/user_upload/files/EUA1_documents/dublin_descriptors.pdf or http://www.tcd.ie/vpcao/academic-development/assets/pdf/dublin_descriptors.pdf.

Requirements for the professional bachelor's (college graduate), bachelor's or master's degree are of a different complexity; therefore, the learning outcomes should differ as well.

Example 10. Competences of *social work* study field and the description of their levels in terms of learning outcomes[11]:

Generic competence	**Will be able to organise and plan**		
	Professional bachelor	**Bachelor**	**Master**
Programme learning outcomes	Will fix the time for achieving the set goal and will follow the deadline. Will differentiate paramount and secondary goals of activities. Will plan activity (project) stages by making use of the provided guidelines.	Will be able to distribute roles for the team members in order to achieve the goal. Will be able to adjust activities with due consideration to the analysis of the operating performance and recommendations of experts. Will be able to plan activities by critically assessing conflicting information received from a variety of sources.	Will be able to plan complicated activities consisting of a variety of interrelated tasks. Will be able to adjust the plan in the process of implementation with due consideration to the changing situation. Will plan stages of activities by defining the unexpected situation risk.
Subject specific competence	**Will be able to influence social policy by analysing and assessing social processes, using social work and other theories as well as research and practice.**		
	Professional bachelor	**Bachelor**	**Master**
Programme learning outcomes	Will consider issues of the social assistance procedure and will submit proposals regarding the improvement of efficiency.	Will assess the social assistance procedure and will submit proposals based on theoretical knowledge and interdisciplinary practice, which would presuppose the improvement of efficiency of social assistance. Will critically assess Lithuanian and foreign social security systems and will submit proposals for the improvement of the Lithuanian social security system.	Will provide reasoning of initiatives and movements aiming at the reduction of the social exclusion and ensuring social justice. Will critically assess Lithuanian and foreign social security systems by analysing the efficiency of provided services.

Programme learning outcomes are also defined in the variety of Erasmus–Tuning networks[12], which summarise the study field-related experience of various European countries. Programme designers are recommended to find out whether there is an Erasmus–Tuning website for the relevant study field[13], which would help integrate the international dimension into the

[11] *Description of social work competences*, 2012.

[12] Chemistry Thematic Network Association (ECTN) has defined learning outcomes of chemistry studies: http://ectn-assoc.cpe.fr
Quality Assurance Network for Informatics Education has defined learning outcomes of informatics studies: http://www.eqanie.eu
Polifonia Thematic Network for Music has defined learning outcomes of music studies: http://www.polifonia-tn.org/Content.aspx?id=64
Thematic Network for History (CliohNet) has defined learning outcomes of history studies: http://www.stm.unipi.it/Clioh/filecabinet/tabs.htm
Network for Geography (HERODOT) has defined learning outcomes of geography studies: http://www.herodot.net/geography-benchmark.html
Network for Accreditation of Engineering Education (ENAEE) has defined learning outcomes of engineering studies: http://www.enaee.eu/the-enaee-network/
Learning outcomes of dental studies defined by the Association of Dental Education: http://www.adee.org/cms/uploads/adee/TFI_Profile_Competence_2010.pdf
Learning outcomes of public health studies defined by the Thematic Network for Dietetics and the European Federation of the Associations of Dietitians: http://www.thematicnetworkdietetics.eu/everyone/3049/2980

[13] The developed reference points for the design and delivery of degree programmes cover the following study fields: business administration, music, education, European studies, chemistry, physics, occupational therapy, mathematics, nursing *(Reference Points for the Design and Delivery of Degree Programmes in Business, Earth Sciences, Music, Education, European Studies, Chemistry, Physics, Occupational Therapy, History, Mathematics, Nursing).*

programme and provide the opportunity to compare the degrees in the European context of this study field.

The taxonomy of cognitive objectives by B. Bloom (knowledge, understanding, application, analysis, synthesis, evaluation – each level is based on the previous level), SOLO taxonomy, etc., can also be used. It is important not to limit yourself to knowledge; one must cover levels of different complexity – from knowledge to evaluation. Verbs that can be used when formulating learning outcomes according to the B. Bloom's taxonomy are provided in Table 1 (the list is not finite).

Table 1. Application of B. Blooms' taxonomy of cognitive objectives

6. Evaluation Information, data, process, etc., are evaluated according to a variety of parameters and criteria; conclusions are presented.	*To reason, assess, recommend, defend, forecast, critically compare, etc.*
5. Synthesis Individual elements, components are united into one entirety, into a system.	*To explicate, develop, unite, make a plan, systemise, summarise, etc.*
4. Analysis The entirety is divided into components.	*To analyse, divide, group, classify, distinguish (e.g. components, features), examine, compare, etc.*
3. Application Acquired knowledge (theories, rules, laws, etc.) is applied in a variety of situations.	*To apply, calculate, find out, use, etc.*
2. Understanding Recognition of information, explanation of information using other words and its description in another form.	*To define, explain, describe, illustrate, rephrase, interpret, translate, etc.*
1. Knowledge Reproduction and provision of information (theories, facts) from memory. The lowest level.	*To recognise, list, define, narrate, present, etc.*

Several programme learning outcomes are formulated for each competence of the programme. The example below shows potential competences and learning outcomes of the bachelor's programme in music performance (major: piano).

Example 11. Competences and corresponding learning outcomes of the bachelor's programme in *music performance (piano)*[14] at the Lithuanian Academy of Music and Theatre:

Generic competences		Programme learning outcomes	
1.	Interpersonal and communication abilities (to communicate, work in a team)	1.1	Will efficiently communicate and will be socially active when organising and implementing at least two different (chamber music, social, interdisciplinary) selected projects, which will be implemented during bachelor's studies.
		1.2	Will efficiently communicate with non-specialist audience and will integrate into different cultural contexts when participating in at least one project implemented in a non-traditional (non-academic) context.

[14] *Description of the bachelor's programme in music performance (piano)*, 2012.

2.	Critical and self-critical thinking	2.1	Will provide critical, constructive and reasoned assessment of the quality of their work and the work of others during performance classes and during the discussion of examinations in the principal instrument/singing.
		2.2	Will critically think, will fluently and reasonably express his/her thoughts orally (conversations and oral tests) and in writing (tests in writing) when discussing the key issues related to the writing, perception and performance of music in a variety of historical, cultural and social contexts, also ethical and scientific issues related to the profession of a musician.
3.	Ability to adapt to new situations, ability to resolve problems	3.1	Will efficiently apply in a variety of situations his/her imagination, intuition, emotional perception, the ability to think fast and work creatively when resolving problems related to the implementation of at least two different (chamber music, social, interdisciplinary, etc.) selected projects.
4.	Ability to control your body and emotions on stage	4.1	Will control and, if possible, avoid psychological problems, such as anxiety and stress related to public performance of music during examinations, assignments and public concerts.
5.	Ability to work and improve skills autonomously	5.1	Will seek to achieve the set goals, will be able to autonomously accumulate, analyse and interpret information, to develop ideas and to critically reason them.
Subject specific competences		**Programme learning outcomes**	
6.	The ability to professionally perform music of a variety of styles, genres and forms; the ability to acquire and improve skills of artistic expression and performance technique	6.1	Will be able to create and implement his/her artistic ideas by improvising, will have developed skills required for the said expression.
		6.2	Will know (examine) and perform the works of music of a variety of styles, genres and forms meeting the requirements of the repertoire of the first cycle studies of the chosen major.
7.	To know the traditions of music interpretation of various styles, genres and forms	7.1	Will be able to describe the peculiarities of interpretation of music styles, to compare them and to correctly use them in music performance.
		7.2	Will be able to professionally play in ensembles of a variety of compositions and styles.
8.	The ability to perform the repertoire in public in a variety of cultural and social contexts, to develop the experience of performing in public	8.1	Will master a broad concert repertoire the scope of which meets the requirements of the bachelor's programme in the chosen major, and will gain the experience of performing this repertoire in at least two different (cultural, social) contexts.
9.	The ability to choose and apply the most efficient instrument control and music performance techniques	9.1	Will work independently and accumulate the efficient experience of learning and rehearsing, which is required for the improvement of music performance.
		9.2	Will master good technique and posture skills allowing him/her to control his/her body in the most efficient and harmless way.
10.	To understand the language of music (music theory, analysis, harmony, polyphony), techniques of composing	10.1	Will be able to recognise the music played; will be able to methodologically analyse its structure and techniques of composing.
		10.2	Will know and will be able to describe the key elements of the language of music as well as structural music formations, will understand their interaction.
11.	To know the history of music of specific cultural contexts	11.1	Will know the key facts of the history of music and creative work in a variety of cultural contexts, will be able to recognise and describe their characteristics.
		11.2	Will know the key written sources of the history of music.
12.	The ability to understand the interrelationship between theoretical and practical studies	12.1	Will be able to describe and explain the links and relationship among all the above elements and between theoretical and practical studies.

2.2.3. Programme learning outcomes and learning outcomes of each course unit (module)

Programme learning outcomes should be specified and tied to specific programme components, i.e. ***modules*** (provided the programme is modular), which help achieve these outcomes. In other words, programme learning outcomes should be reflected in module or course unit descriptions. The two principal issues, which have to be considered first, are the **purpose of a course unit (module)** and **learning outcomes of a course unit (module)**.

The purpose of a course unit (module) shall be stated briefly and explicitly by tying it to competences (both generic and subject specific) of the programme. **Learning outcomes of a module (course unit)** shall be stated so as to be in line with the learning outcomes of the entire programme. The description of a course unit (module) must specify them greater detail and must state more learning outcomes than stated in the list of programme learning outcomes, as each module or course unit may better reflect the specific character of the studied programme or the occupational field.

Example 12. Learning outcomes of the bachelor's studies of *music performance (piano)*, which describe the purpose of course unit *Piano*[15]:

Purpose of the course unit
The course unit aims to develop: ability of critical and self-critical thinking (2); ability to control body and emotions on stage (4); ability to work and improve skills autonomously (5); ability to professionally perform music of a variety of styles, genres and forms; the ability to acquire and improve skills of artistic expression and performance technique (6); knowing of the traditions of music interpretation of various styles, genres and forms (7); ability to choose and apply the most efficient instrument control and music performance techniques (9).
Programme learning outcomes
• Will be able to objectively assess his/her abilities and will be able to select a music programme of the appropriate difficulty (2.1); • Will be able to control and, if possible, will avoid psychological problems, such as anxiety and stress related to public performance of music during examinations and assignments (4.1); • Will accumulate the experience of autonomous learning and rehearsing, which is required for improving music performance skills (5.1); • Will know the main piano concert repertoire, will know, rehearse and be able to professionally (technically, artistically and stylishly) perform the mandatory music programme of semester 2 of the bachelor's programme (6.2); • Will be able to understand the traditions of interpretation and the professional performance standards of the performed repertoire, and will be able to correctly perform the mandatory repertoire of semester 2 as far as instrument control, musical text, form, genre and style is concerned (7.1); • Will master good technique and posture skills allowing him/her to control his/her body in the most efficient way that is harmless to health (9.2).

[15] *Description of the piano course unit of the bachelor's programme in music performance,* 2012.

Example 13. Input of course unit *Chemistry of Heterocyclic Compounds*[16] on the development of competences provided by the master's programme in *chemistry*:

Purpose of the course unit
The course unit aims to develop:: a) general understanding of problems related to the chemistry of heterocycles; b) analytical and critical thinking (generic competence); c) to assess works performed by other scientific researchers.
Programme learning outcomes
• Will be able to analyse, compare and assess different ways of synthesis of a specific heterocyclic compound, and to select the most optimal one; • Will know how to determine the degree of unsaturation of the formed cyclic compound, and to assess its capacity to oxidise to aromatic compound; • Will know how to determine and assess when – before or after the formation of the cycle – the required substitutes should be introduced; • Will be able to assess physicochemical properties of the heterocyclic compound and to identify the fields and opportunities for its practical application.

2.2.4. Plan of the degree programme: Correlation of course units (modules) and competences as well as learning outcomes

The plan of the programme states all units (modules) comprising the programme by listing them in academic years (courses).

Modular studies may lose the concept of a semester and examination session, as modules can be taught in intensive cycles, while the traditional session period also becomes part of modular studies. In such case the student completes assignments according to the announced time-schedule of a module. It is important that the student accumulates 60 credits within an academic year. The credit distribution balance over academic years may help sustain a consistent workload of studies.

Each course unit (module) has a notice stating the competences of the programme that the course unit (module) intends to develop and which learning outcomes apply in order to determine whether (and to what extent) the competence has been achieved (cf. table *Plan of studies* in Annex 1 *Model form of the degree programme description*).

That module (course unit) in credits depends upon the formulated competences and learning outcomes. If any competence is more complex and important than the rest, it shall be awarded more credits, and more programme modules or course units shall seek to develop certain components of such competence.

Due consideration should be given to the sequence of programme course units (modules), and it must be stated which course units (modules) must be studied first, as they provide the basis for further studies, and which are recommended to be studied as related, as they complement one another.

Thus, the plan shows the links between the programme (the entirety) and its structural elements, the entire student's learning progression and the gradual improvement of the student. It is important to consider the academic content and the intended level when developing a plan of studies; one must remember that one of the principal goals of higher education is to foster autonomous learning of students. This goal predetermines the change of teaching and the methods

[16] *Description of the chemistry of heterocyclic compounds course unit of the master's programme in chemistry*, 2012.

of studies. It is important to balance the student's ***workload*** (stated in credits) in relation to time (academic years and cycles (semesters)) and each component of the programme.

2.3. Profile of the degree programme

It is also important to describe the profile (characteristics) of the programme. The profile of the programme is a short description of the programme: the content, the orientation and the distinctive features of the programme[17]. The description of the profile is the description of the key peculiarities, features and specific purposes of the programme, which defines the uniqueness that distinguishes it from other programmes. The key features of the components of the characteristics (profile) description are revealed further.

2.3.1. Content of the programme: Discipline(s)/subject area(s)

When discussing the study content, it is important to list its key structural elements, e.g. course unit or module groups, or macro modules (in brackets), especially if the programme is interdisciplinary.

Example 14. Proportion of the components of the content of *Scandinavian* studies and *European studies* in the master's programme:

> The master's programme in **Scandinavian and European studies** is comprised of Scandinavian studies (Scandinavian language, linguistics, literature, culture) and European studies **(75:25).**

2.3.2. Orientation of the programme

The orientation of the programme may be **applied**, more oriented towards practical professional activities, or **academic**, oriented towards scientific research activities. Mention should be made whether the programme is more general and provides broad academic education, or whether it is more of a specialist focus, or maybe it combines both aspects.

Example 15. Practical orientation of the bachelor's programme in *social work* at VU:

> The programme is oriented towards the critical application of research-based knowledge, skills and principles of social work in practical situations.

2.3.3. Distinctive features of the programme

Distinctive features of the degree programme are features by which this degree programme is unique and different from other degree programmes in the same field.

[17] TUNING. 2010. *Tuning Education Structures in Europe. A Guide to Formulating Degree Programme Profiles. Including Programme Competences and Programme Learning Outcomes.* 33–34. http://archimedes.ee/enic/File/Tuning_Guide_Publicada_CoRe.pdf [2011-04-03].

Example 16. Distinctive features of the bachelor's programme in *music performance (piano)* at the Lithuanian Academy of Music and Theatre[18]:

> Students are encouraged to acquire international experience by choosing partial studies abroad (from one semester to one academic year during the period of the entire degree programme) under student exchange programmes. Students are encouraged to additionally improve subject specific and generic competences of their major formally (by selecting course units in the music field or other fields, or related studies of pedagogy) and non-formally (practical training, master classes, concert activities, competitions; the priority shall be given to those who participate in interdisciplinary, international and social projects).

2.3.4. Admission requirements and specific arrangements for recognition of prior learning

In English, this attribute is called *admission requirements and specific arrangements for recognition of prior learning*. The minimum education requirements for admission must be stated, e.g. secondary education requirement to be admitted to the bachelor's programme.

Also, additional requirements, the formula for calculating the competition score, etc. can be listed.

Example 17. Requirements for admission to the master's programme in *chemistry*[19]:

> Minimum education: bachelor's degree in chemistry, biochemistry, bioengineering, chemical engineering. The admission score shall be calculated with due consideration to the grades in analytical chemistry, general chemistry, physical chemistry, inorganic chemistry, organic chemistry, polymer chemistry, biochemistry, quantum chemistry and the graduation thesis.

It will also be stated whether (and how) the prior learning (formal and non-formal) shall be recognised, i.e. the basis for possible recognition of prior studied course units. It is worth-while mentioning whether candidates will be eligible for admission to the master's programme after they complete additional studies, and whether graduated of another study area or field can apply for the master's programme.

2.3.5. Access to further studies

Access to further studies should be briefly described.

Example 18. Access to further studies after the master's programme in *social work* or *chemistry*:

> After completing master's studies in social work, students may continue their studies (e.g. psychotherapy, consulting, etc.).
>
> After completing master's studies in chemistry, students may continue their studies in chemistry or biochemistry-related doctoral programmes in Lithuania or abroad.

[18] *Description of the bachelor's programme in music performance (piano)*, 2012.
[19] *Description of the master's programme in chemistry*, 2012.

2.3.6. Employability

Employability shall be described by relating it to competences developed by the programme and by stating the principal fields of activity or potential positions.

Example 19. Employability of the graduate of the bachelor's programme in *social work*[20]:

> Graduates of the social work programme are engaged in scientific research or practical work. In practical work, they hold the position of a senior social worker, as well as leading positions (in public organisations and NGOs, also in municipalities and departments that administer social assistance and develop its policy.

[20] *Description of the bachelor's programme in social work*, 2012.

3. TEACHING, LEARNING AND ASSESSMENT METHODS, CONTENT OF STUDIES AND STUDENT'S WORKLOAD

3.1. Change of the teaching and learning process

The transition to learning outcomes based teaching and learning results in the change in the attitude towards the activities of the teacher and the student as well as towards the teaching and learning process. Certain didactic focuses emerge in the teaching and learning processes that show the successful attainment of learning outcomes (intended teaching and learning outcomes). The following material elements are the key in this process: 1) **such teaching-learning strategy and methodology**[21] is selected, which can ensure the acquisition of subject specific and generic competences intended by the programme, therefore, the main specific teaching-learning methods, tangible and time resources must be specified; 2) **modalities:** full-time, part-time, on-line, blended-learning, which determine the relationship between the student's work in class and autonomous work, real and virtual communication of students and teachers, teaching-learning and assessment methods, as well as the technical facilities required for e-learning and the maintenance of such facilities; 3) **supervision/tutoring of studies** – monitoring of students' learning – becomes very important in the new teaching and learning system; it is based on the individual and group tutorials for students, the provision of didactic assistance and feedback on autonomously performed assignments; 4) **assessment system**, which makes it clear what is being assessed, how and when, also specifies the criteria of assessment and the weight of the summarising assessment.

3.2. Student-centred teaching, learning and assessment methods

3.2.1. Modern teaching and learning methods

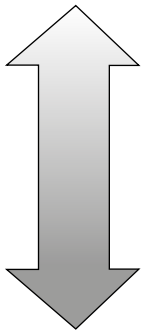
Teaching and learning methods are the entire teaching and learning activity. Disciplinary literature calls the following ways of teaching and learning prevailing in higher education institutions as teaching and learning methods: **lectures, seminars, workshops, laboratory teaching, practical training (work placement)**; however, these are merely categories of teaching and learning activity[22]. This can be stated by distributing contact hours by topics (see below), which should be further specified in the column *Teaching and learning methods*, e.g. to discuss the **problem-oriented teaching, inclusive lecture, film screening, brainstorming, concept maps, group discussions, debates, essays, preparation and making of presentations,** etc.

In student-centred teaching and learning, the student has to be in the centre of teaching/learning and become an active participant of the teaching and learning process who makes decisions and is responsible for them. In order to implement that, appropriate teaching and learning methods should be chosen.

[21] Sanchez A. V., Ruiz M. P. (Eds.) 2008. Competence-based learning. A proposal for the assessment of generic competences. University of Deusto

[22] TUNING. 2007. *Tuning Educational Structures in Europe. Universities' Contribution to the Bologna Process. An introduction*. 137–138. http://tuning.unideusto.org/tuningeu/images/stories/template/Lithuanian_version.pdf [žiūrėta 2011-03-27]. Plg. *Tuning Education Structures in Europe. General brochure*. http://tuning.unideusto.org/tuningeu/images/stories/template/General_Brochure_final_version.pdf [2011-03-27].

Table 2. Making teaching and learning methods student- or teacher-centred[23]

Role of the teacher and the student	Focusing of activity on the teacher	Teaching and learning methods and ways
Strictly defined The teacher strictly supervises the students' behaviour and controls their activity **Controller-assistant** The teacher and students organise activities together **Assistant** The teacher encourages autonomous activity of students and its self-assessment		Lecture Explanation Narration Presentation Key words Cross-discussion Discussion Group learning Debates Bilateral learning Round table Interview Simulation Project Self-assessment of activity
	Focusing of activity on the student	

The properly selected teaching and learning methods ensure the development of competences, while improper methods may suppress competences rather than develop them. For instance, if we seek to develop independence and critical thinking of students, we cannot restrict ourselves to the **delivered information methods, traditional lectures;** the priority should be given to **problem-oriented teaching, inclusive lecture, group discussions, independent preparation of analytical essays,** etc. If we seek to develop skills of public speaking, the planning of a module should not be limited to the **teaching** of the theory of rhetoric; it must also provide for the **preparation and reading of reports**, or similar assignments. **Group discussions and debates** will be perfect for students of a foreign language to be able to critically think, analyse the words of an interlocutor, to state their opinion, to defend and reason it, to respond to the interlocutor's statements in the studied foreign language**.**

3.2.2. Assessment methods

Assessment methods are closely related to competences being developed and to teaching and learning methods used for the development of the competences.

Table 3. Assessment methods and examples of assessment assignments (adapted according to Bulajeva 2007, 63-64)

Levels of cognition according to B. Bloom's taxonomy	Verbs to be used when formulating purposes and learning outcomes	Assessment methods	Examples of assessment assignments
1. Knowledge Reproduction and provision of information (theories, facts) from memory. The lowest level.	To know, to remember, to recognise, to reproduce facts, concepts, terms; to define, to describe classifications, criteria, methods, rules, theories, laws, consistent patterns, conventional signs, tendencies.	• Written, verbal quiz • Testing • Concept maps	• Open and closed-type questions / assignments: presentation of information / data (documents, texts, rules, dates, facts) from memory

[23] Ibid. 108.

Levels of cognition according to B. Bloom's taxonomy	Verbs to be used when formulating purposes and learning outcomes	Assessment methods	Examples of assessment assignments
2. Understanding Recognition of information, explanation of information using other words, rephrasing, description in another form.	To say in your own words, to translate (from one language into another), to rephrase, to interpret, to explain.	• Narration • Presentation • Written composition • Writing of a diary • Testing	• To explain the steps of carrying out a complicated assignment in your own words • To retell or translate a text read in a foreign language
3. Application Acquired knowledge (theories, rules, laws, etc.) is applied in a variety of new situations.	To apply, to select, to adapt, to modify, to recalculate, to prepare, to transform, to abstract, to specify.	• Practical studies • Testing	• To draw up a cost estimate using the pricelist • To assess the reliability of the test by applying the laws of statistics
4. Analysis The entirety is divided into components.	To separate, to distinguish, to establish elements, organisational principles, categories, relationship; to distinguish, to identify items, features that describe phenomena, peculiarities; to classify, to group into categories; to compare elements, relationship, subordination; to specify, to elaborate, to deduce, to contrast, to compare.	• Writing of essays • Project-related activities • Testing • Concept maps • Case analysis • Graphic methods	• To analyse the presented problem situation • To analyse the bibliographical source • To compare two phenomena, to distinguish similarities and differences
5. Synthesis Individual elements, components are united into one entirety, into a system.	To correlate, to tie components, to systematise; to summarise material, practical experience (verbally, in writing); to discover, to construct something new; to draft a plan of actions, reading material, a module, studies. To simulate, to formulate hypotheses, to draft a plan of verification of hypotheses; to prepare a methodological aid, to write a term paper.	• Compilation of a list of references • Construction of new models • Survey of references and other sources of information • Portfolio	• To draft a plan of actions • To formulate hypotheses and to draft a plan of verification thereof • To construct a theoretical model • To write a term paper
6. Evaluation Information, data, process, etc., are evaluated according to a variety of parameters and criteria; decisions are made and conclusions are presented.	To form an opinion, to assess, to evaluate, to reflect, to formulate assessment / quality criteria; to carry out expert assessment, to perform diagnostics, to diagnose; to make an assessment using the criteria, standards, collected information; To develop methods and instruments of assessment of practical activities; to reason, to present conclusions, to logically justify conclusions, to submit recommendations based on conclusions.	• Writing of essays • Research work • Projects (individual and group projects) • Case analysis • Portfolio • Preparation and delivery of presentations • Report	• To select the most efficient way of resolving the problem • To explain and justify the corporate budget • To prepare the research report and to submit recommendations based on conclusions • To diagnose the patient's condition

3.2.3. Methods of teaching, learning and assessment of the programme and each course unit (module)

The description of the programme briefly states the most characteristic teaching, learning and assessment methods of the programme, while descriptions of specific modules or course units provide detail information about teaching and learning methods as well as assessment.

The properly selected system of teaching, learning and assessment methods is the evidence demonstrating whether the upgraded or developed programme really is a competence and learning outcome-based programme, as the assessment of intended competences requires a more complex assessment system, which would include more variety of assessment methods, because the components of a competence, i.e. knowledge, abilities, skills and values, predetermine a different technique and procedures of their assessment (determination). For instance, if we want to assess knowledge, we may use tests of a variety of types (long or short Q-A); if as are assessing values, then the monitoring techniques, value-measuring scales or self-assessment methods would be the best. Various types of essay would be best for the assessment of thinking (analytical thinking, synthesis of ideas, comparison, critical, creative, etc.) abilities.

Student achievements. The properly organised teaching and learning process and the properly selected teaching and learning methods allow to turn learning outcomes (intended programme learning outcomes) into student achievements (achieved learning outcomes).

Student achievements show the individual level of competences achieved by the student, which is established when assessing learning outcomes (of the programme, a module or a course unit).

Speaking of the assessment, the ten-point scale assessment system applied in the majority of Lithuanian higher education institutions is stated first, and then the key assessment methods are listed.

Based on the concept of the programme, either cumulative or formative assessment is applied: tests and examinations (written and oral), papers, written assignments, reports, portfolios. One must remember that the bachelor's or master's thesis is one of the assessment methods.

Example 20. Correlation of learning outcomes, teaching and learning methods and assessment methods of the master's programme in *social work*[24]:

The purpose of a course unit (module): competences developed by the degree programme		
The course unit of the qualitative research aims at developing the following: a) the student's ability for analytical thinking and synthesis of ideas, b) ability to work in a group / team, c) ability to autonomously perform scientific research, d) ability to use high quality standards and ethics as the basis for activities, d) ability to use empirical data for the development of social assistance activities.		
Learning outcomes of a course unit (module)	**Teaching and learning methods**	**Assessment methods**
The student is able to create an empirical research design in order to analyse the selected problem.	Literature studies, problem-oriented teaching in class; discussions in student groups, drafting of a plan for the analysis of the selected problem	The plan for the analysis of the selected problem drafted in writing
The student is able to collect qualitative data using the selected method/methods.	Problem-oriented teaching; preparation and taking of narrative interview with a respondent/respondents	Report on the qualitative research, which was autonomously implemented

[24] *Description of the qualitative research course unit of the master's programme in social work*, 2012.

Example 21. Correlation of learning outcomes, teaching and learning methods and assessment methods of the bachelor's programme in *music performance (piano)*[25]:

<table>
<tr><th colspan="3">The purpose of a course unit (module): competences developed by the degree programme</th></tr>
<tr><td colspan="3">The course unit of piano aims at developing the following: ability of critical and self-critical thinking (2); ability to control body and emotions on stage (4); ability to work and improve skills autonomously (5); ability to professionally perform music of a variety of styles, genres and forms; the ability to acquire and improve skills of artistic expression and performance technique (6); knowing of the traditions of music interpretation of various styles, genres and forms (7); ability to choose and apply the most efficient instrument control and music performance techniques (9).</td></tr>
<tr><th>Learning outcomes of a course unit (module)</th><th>Teaching and learning methods</th><th>Assessment methods</th></tr>
<tr><td>Will be able to objectively asses his/her abilities and will be able to select a music programme of the appropriate difficulty (2.1).</td><td rowspan="6">Individual lectures, individual work (playing), studying of the repertoire, attending concerts, listening to music, rehearsing etudes for pass/ fail examinations, rehearsals</td><td rowspan="6">Formative assessment – when discussing individual lectures, rehearsals, examinations. Cumulative assessment – technical pass/ fail examination (etude), examination.</td></tr>
<tr><td>Will be able to control and, if possible, will avoid psychological problems, such as anxiety and stress related to public performance of music during examinations and assignments (4.1).</td></tr>
<tr><td>Will accumulate the experience of autonomous learning and rehearsing, which is required for improving music performance skills (5.1).</td></tr>
<tr><td>Will know the main piano concert repertoire, will know, rehearse and be able to professionally (technically, artistically and stylishly) perform the mandatory music programme of semester 2 of the bachelor's programme (6.2).</td></tr>
<tr><td>Will be able to understand the traditions of interpretation and the professional performance standards of the performed repertoire, and will be able to correctly perform the mandatory repertoire of semester 2 as far as instrument control, musical text, form, genre and style is concerned (7.1).</td></tr>
<tr><td>Will master good technique and posture skills allowing the student to control his/her body in the most efficient way that is harmless to health (9.2).</td></tr>
</table>

One of the difficulties encountered by teachers when assessing subject specific and generic competences that are being developed and that have already been developed is the issue of establishing the level at which such competences have been attained by students. Establishing of the competence ***attainability*** levels facilitates the assessment process.

Usually there are three competence attainability levels. They may be described according to the following criteria: 1) the basic (initial) level of knowledge, which is related to knowledge based on which the student may develop a skill; 2) the second level shows how the attained knowledge and skill is ***applied*** in a variety of situations (when analysing, diagnosing, taking a decision, collecting data, etc.); 3) the third level shows how the person is able to ***integrate*** the attained ability or skill into his/her life (academic, social, professional, etc., activities) and how he/she is able to ***demonstrate*** it.

The assessment of generic competences causes quite a few difficulties. Specialists of the University of Deusto[26] have developed the list of generic competences intended to be developed at a university; they have provided definitions of all competences and have indicated correlations with other generic competences, and have also described their levels and the level progress indicators. It is the system of criteria, which helps teachers organise the teaching, learning and assessment process, and which helps students perform self-assessment. Table 4 will illustrate this by providing a fragment of the system of criteria for the assessment / self-assessment of teamwork as a generic competence[27].

[25] *Description of the bachelor's programme in music performance (piano)*, 2012.
[26] Sanchez A. V., Ruiz M. P. (Eds.). 2008. *Competence-based learning. A proposal for the assessment of generic competences*. University of Deusto
[27] For more information: Ibid, p. 241-244.

Table 4. System for the assessment of teamwork competence

Definition of the competence. Active involvement and participation in order to achieve common (with other persons, divisions and organisations) goals.	
Correlation of the competence with other competences. Good socialisation and interaction. Strong social values based on the trust in the competence, integrity and honesty of other persons. Interpersonal communication. Trust in the efficiency of teamwork. Desire and interest in free sharing of ideas and information. Cooperation and solidarity values.	
Competence attainment levels	**Indicators**
1. Active participation and cooperation in performing team assignments, encouraging trust, sincerity and concentration for teamwork.	• Performance of assignments assigned to a group member in line with the set deadlines. • Active participation in team meetings, sharing of information, knowledge and experience. • Cooperation when defining, organising and distributing team assignments. • Concentration and commitment to perform agreements and shared assignments. • Consideration of views expressed by other team members and provision of constructive feedback.
2. Contribution to the consolidation and development of the team; encouragement of communication, well-balanced distribution of work, good atmosphere and team concentration	• Accepting and respecting group norms. • Assistance with making decisions and performing teamwork. • Participation in constructive settling of conflicts of the team. • Communication and interaction that helps compose the team. • Promotion of social importance of teamwork.
3. Managing teams by ensuring the integration of members and their orientation towards high performance results of the assignments	• Active cooperation when planning teamwork, distribution of assignments and setting of deadlines. • Efficient presiding over the meetings of the team. • Presentation of explicitly defined and ambitious goals to the team. • Positive management of a variety of opinions, control of disagreements and conflicts. • Involvement of all members into the management and activities of the team.

Presented indicators are excellent benchmarks for organising of teaching and learning processes and ensuring the gradual progress in the competence development, as well as for designing a clear and transparent assessment system.

3.2.4. Assessment strategy: Cumulative assessment, assessment criteria

The teacher shall select the assessment strategy with due consideration to learning outcomes, the specific character of attainment of such learning outcomes and **assessment methods**. The **summative assessment** will traditionally be conducted upon the completion of a course unit, a module or the whole programme. The most popular form of the summative assessment is the examination.

In order to ensure the quality and continuity of the teaching and learning process as well as the regular learning of students, the role of the **formative assessment** is growing. It is an element of supervision and monitoring of studies. The continuous assessment performed during the teaching and learning process helps make adjustments in teaching and learning path as well as strengthen the progress; it also teaches students to understand interim goals and assessment criteria of teaching and learning, to analyse their own progress and achievements, and take part in the process of making assessment decisions.

The formative assessment goes well together with the **strategy of the cumulative assessment** that is often selected by teachers. It is important that the description of a module

(course unit) states all interim assessments, which make up the final grade, and their percentage. Furthermore, the **assessment criteria** must be formulated by defining what points and how many points will be awarded. First of all, it is important for the student who wants to know how he/she will be assessed (such information may also help him/her perform self-assessment). It is also recommended to state the intended time for the completion of assessment assignments.

Example 22. The strategy for the assessment of student achievements in the master's programme in *linguistics*:

Assessment strategy	Weight, %	Time for the completion of assignments	Assessment criteria
Work in class during seminars	20	Throughout the semester	• 2 points: the student actively participates in discussions, answers questions, formulates problems and questions, provides critical remarks. • 1 point: the student participates in discussions, answers questions. • 0 points: the student practically does not participate in discussions, or he/she has missed more than 1/3 of the seminars.
Written paper (15 pages)	30	by December 1	The following aspects of the paper shall be assessed: • The structure and length of the paper: the structure of the written paper is clear and logical, the paper has all required components (introduction, which presents the topic, goals, objectives, methods, empirical material; narrative section, which presents the analysis and interpretation of the empirical material; conclusions), the paper is of the appropriate length (0.5 point); • Analysis and conclusions: the analysis is highly exhaustive, conclusions are justified and drawn on the basis of the empirical material (2 points); if the analysis is performed, yet it is not exhaustive, and if not all the conclusions are justified, 1 point shall be awarded; no points shall be awarded for superficial analysis; • Scientific style and research culture: proper treatment of sources and quotations; formulations and style are in line with the requirements for a scientific paper (0.5 point). Assessment if no written paper is submitted: 0 points.
Examination: test (may be divided into two parts: midterm and final)	50	January	The test consists of 50 open and closed-type questions (of a varied difficulty, from understanding to assessment), each question is worth one point. The assessment shall be as follows: **5**: Excellent knowledge and abilities. Evaluation level. 45-50 correct answers; **4**: Good knowledge and abilities; immaterial mistakes can be made. Synthesis level. 35–44 correct answers; **3**: Average knowledge and abilities; there are mistakes. Analysis level. 25–34 correct answers; **2:** Knowledge and abilities are below average; there are (material) mistakes. Knowledge application level. 15–24 correct answers; **1:** Knowledge and abilities still meet the minimum requirements. Many mistakes. Level of knowledge and understanding. 5–14 correct answers; **0**: The minimum requirements are not met. 0–4 correct answers.

It is extremely important to establish explicit assessment criteria. In ten-point scale of assessment, points are defined as *excellent, exceptional knowledge and abilities, average knowledge and abilities, there are some not essential mistakes*, etc. In order for this scale to be of more use for both the student and the teacher, it can be expanded (table 5; cf. text in the cursive).

Table 5. Assessment scale

10 (excellent)	**Excellent, exceptional knowledge and abilities.** Evaluation *level. 95-100 percentile of the intended learning outcome.*
9 (very good)	**Very good knowledge and abilities.** *Synthesis level. 85–94 percentile of the intended learning outcome.*
8 (good)	**Knowledge and abilities are above average.** *Analysis level. 75–84 percentile of the intended learning outcome.*
7 (average)	**Average knowledge and abilities; there are few not essential mistakes.** *Knowledge application level. 65–74 percentile of the intended learning outcome.*
6 (satisfactory)	**Knowledge and abilities are below average; there are mistakes.** *Level of knowledge and understanding. 55–64 percentile of the intended learning outcome.*
5 (weak)	**Knowledge and abilities meet the minimum requirements.** *Level of knowledge and understanding. 51–54 percentile of the intended learning outcome.*
4 (insufficient)	**The minimum requirements are not met.** *39–50 percentile of the intended learning outcome.*
3 (insufficient)	**The minimum requirements are not met.** *26–38 percentile of the intended learning outcome.*
2 (insufficient)	**The minimum requirements are not met.** *13–25 percentile of the intended learning outcome.*
1 (insufficient)	**The minimum requirements are not met.** *1–12 percentile of the intended learning outcome.*

Example 23. The assessment strategy applied to the course unit of the qualitative research[28] of the master's programme in *social work:*

Assessment strategy	Weight, %	Time for the completion of assignments	Assessment criteria
The written plan of the analysis of the selected problem	10	End of October	The following shall be assessed: • The ability to properly state questions regarding the analysis of the selected problem, • The ability to properly select the design: ways to obtain data, methods of analysis, • The ability to properly select the selection.
Independently performed qualitative research (limited to one interview)	90	Work is performed throughout the entire semester; the final report shall be submitted during the session of examinations, on the date of the examination set by the faculty administration	The following shall be assessed: • The student's ability to carry out a narrative interview, • The ability to prepare data for analysis (transcription), • The ability to rephrase, • The ability to conceptualise data*, • The ability to distinguish categories from data*, • The ability to empirically summarise the received categories – to write the final report text*. *The assessment mostly depends upon the ability to carry out these stages of analysis and interpretation.

[28] *Description of the qualitative research course unit of the master's programme in social work*, 2012.

Example 24. The assessment strategy applied to the *course unit of chamber music project (piano)*[29] of the bachelor's programme in music performance:

Assessment strategy	Weight, %	Time for the completion of assignments	Assessment criteria
Final examination: performance of the final chamber music project	100	by May 31	**Professional and ensemble-playing skills with regard to:** • Perception and uniformity of the artistic idea; • Uniform control of phrasing, metro-rhythmics, articulation, dynamics; • Control of the sound balance of individual parts; • Precision performance of the chosen repertoire as far as the music text is concerned; • Artistic quality of music sound; • Feeling of style; • Feeling of genre and form; • Virtuosity of a respective level; • Artistic skills. Justification of the assessment: **10 (excellent). Professional and ensemble-playing skills.** Artistic and correct performance of the programme as far as the music text is concerned, which reveals uniform artistic concept and the perception of style, genre and form. The key principles of ensemble-playing are implemented. **9 (very good). Professional skills.** Correct and professional performance of the selected repertoire, which reveals uniform interpretation and demonstrates the implementation of mandatory principles of ensemble-playing. **8 (good). Principal ensemble-playing skills.** Sufficiently correct performance of the programme as far as the music text is concerned; however, there is a lack of at least one skill listed in the description and mandatory for ensemble-playing. **7 (average).** Average implementation of the intended interpretation and the key ensemble-playing principles. Average ensemble-playing skills. **6 (satisfactory). Satisfactory ensemble-playing skills.** Messy performance of the music programme, which shows satisfactory artistic skills related to the lack of the key ensemble-playing principles. **5 (weak). Weak music performance skills.** Weak performance of the music programme as far as artistic performance, virtuosity or the feeling of style, genre or form is concerned; the failure to implement the intended general interpretation. **4 (unsatisfactory).** Unsatisfactory performance of the music programme with regard to the key assessment criteria.

[29] *Description of the chamber music project (piano) course unit of the bachelor's programme in music performance (piano)*, 2012.

Example 25. The assessment strategy applied to the *course unit of gas chromatography*[30] of the master's programme in *chemistry*:

Assessment strategy	Weight, %	Time for the completion of assignments	Assessment criteria
Description and presentation of laboratory works	20	Throughout the semester	The following aspects shall be assessed: 2 points: descriptions of all laboratory works are submitted; the interpretation of the results of laboratory works is correct; correct conclusions are drawn; answers have been provided to more than 50% of the questions posed during the presentation of laboratory works; 1 point: descriptions of more than 70% of laboratory works are submitted; there are mistakes in the interpretation of the results of laboratory works and in the conclusions; answers have been provided to less than 50% of the questions posed during the presentation of laboratory works; 0 points: descriptions of less than 70% of laboratory works are submitted; the interpretation of the results of laboratory works is incorrect; incorrect conclusions are drawn; answers have been provided to less than 25% of the questions posed during the presentation of laboratory works.
Examination: test	80	January	The test consists of 70 closed-type questions (of a varied difficulty, from understanding to evaluation), each question is worth one point. The assessment shall be as follows: **8:** 60–70 correct answers, **7:** 50–60 correct answers, **6**: 40–50 correct answers, **5:** 30–40 correct answers, **4**: 25–30 correct answers, **3:** 20–25 correct answers, **2:** 15–20 correct answers, **1:** 10–15 correct answers, **0:** 0–10 correct answers.

When developing the assessment strategy and formulating the assessment criteria, one should not forget to state the so-called **threshold criteria,** which describe the minimum mandatory competence level attained and which allow to give the lowest positive assessment to the student.

[30] *Description of the gas chromatography course unit of the master's programme in chemistry*, 2012.

4. PLANNING OF THE STUDENT'S WORKLOAD

A **credit** shall be a unit of the length of the programme used to measure the student's workload required to achieve learning outcomes of the specified level. The length of the actual workload of the student for which one credit is awarded varies from 25 to 30 hours. One academic year shall be equivalent to 60 credits.

Example 26. The structure of the master's programme in *molecular biology* at VU according to the student's workload and respectively awarded credits:

Course unit	Entire workload/contact hours/credits per semester			
	I	II	III	Total
Course units of the study field (60 credits)				
Compulsory course units				
Molecular cell biology	240/144/9			240/144/9
Genetics of microorganisms	120/48/4.5			120/48/4.5
Practical training in scientific research	200/24/7.5	320/36/12		520/60/19.5
Electives				
Molecular biology of plants	120/48/4.5			120/48/4.5
Molecular biology simulation systems	120/64/4.5			120/64/4.5
Systems biology	120/48/4.5			120/48/4.5
Cell technologies		120/48/4.5		120/48/4.5
Structural macromolecular biology		120/48/4.5		120/48/4.5
Immunotechnology	120/48/4.5			120/48/4.5
Molecular biology of cancer	120/48/4.5			120/48/4.5
Molecular mechanisms of symbiosis		120/48/4.5		120/48/4.5
Molecular biology of signals		120/48/4.5		120/48/4.5
Molecular virology		120/48/4.5		120/48/4.5
Molecular mechanisms of pathogenesis		120/48/4.5		120/48/4.5
Bioethics		120/48/4.5		120/48/4.5
Total course units in the group	**800/312–328/30**	**800/276/30**		**1600/588–604/60**
Preparation and presentation of the master's thesis (30 credits)				
Master's thesis			800/90/30	800/90/30
Total course units in the group			**800/90/30**	**800/90/30**
Total in the programme	**800/312–328/30**	**800/276/30**	**800/90/30**	**2400/678–694/90**

4.1. Programme learning outcomes. Teaching and learning methods. Student's workload

When stating the **length of the programme in ECTS credits**, it is important to also define the entire respective **student's workload**, which consists of the **contact hours** (attendance of lectures, seminars, workshops, tutorials, practical training, etc.) and **independent study hours** (library work, doing homework, writing a paper, preparation of a presentation, preparation for an examination, etc.).

Student workload is the time expressed in hours, which are allotted to a statistical student and necessary to successfully complete all assignments of the course unit (module) or the entire programme required to achieve specified learning outcomes in the forms specified in the programme (lectures, seminars, projects, practical work, independent study, examination, etc.).

The workload must be planned so as to allow developing the specified competences.

The planning and calculation of the student's workload is carried out with the assumption that one credit is equivalent to 25-30 hours of the student's workload; thus, e.g. the length of a 5-credit module may be equivalent to 125-150 hours. The specific length of a course unit (module) in hours should be established with due consideration to time required to spend to achieve the specified learning outcome by using the selected teaching, learning and assessment methods. The distribution of hours of modules of the same length for various activities may vary with respect to learning outcome and teaching-learning methods.

Example 27. The key learning outcome of the 5-credit practical course in a foreign language: oral communication skills in a foreign language in everyday situations. The studies of this course unit require the student to spend much time in class and working in pairs or in groups. Let's say, 6 contact hours per week can be provided to this module. The semester has 16 weeks; therefore, the entire contact workload per semester shall be 6x16=96 hours. If practical classes (contact work) are held three times a week for the total duration of 16 weeks, then we'll have 48 practical classes per semester. For each practical class the student will have to do certain homework for which he/she will spend, e.g., about one hour, as the abilities of spoken communication are developed in class when communicating in groups or in pairs. Thus, the total of 48 hours per semester shall be given for doing homework. The semester shall close with the examination. The examination grade shall form a part of the final grade; the other part of the final grade shall be accumulated throughout the semester. The examination shall last one hour; no time shall be needed to separately prepare for the examination, save for revising the material (3 hours). Thus, the total time spent for this 5-credit module shall be 96+48+1+3=148 hours.

However, if learning outcomes and teaching-learning methods are different, the purpose of the module is to develop not only oral communication skills but also writing skills, and the learning includes the creation of texts in a foreign language in a variety of genres, one hour of independent work spent prior to each practical class shall not be enough; in such case, there would be less contact work and more time would be devoted to independent work, such as the writing of texts, the analysis and discussion of texts written by colleagues (peer review). In this case, time could be distributed differently. 64 hours could be spent in practical classes (once a week for the development of speaking skills, and once a week – for writing skills). One hour shall be given to prepare for each practical class in spoken communication, the total of 16 hours. The preparation for practical classes in writing shall include the writing of texts and the analysis of texts written by colleagues; therefore, more time shall be needed, e.g. 3 hours for each practical class, the total of 48 hours. 8 more hours could be given for tutorials, as the student has many questions when independently writing texts and he/she needs advice. One-hour examination shall form a part of the final grade (another 3 hours shall be given for revising the material). The other part of the final grade shall consist of the composition, which will have to be submitted at the end of the semester. Some 10 hours shall be required for writing the final composition. Thus, the total workload of the semester shall be 64+16+48+8+1+3+10=150 hours, i.e. 5 credits.

Example 28. The module of rhetoric's and stylistics (5 credits) aims at enabling the student to creatively analyse rhetoric texts, to critically assess media, political, promotional, etc., discourses. Theory lectures shall be given 16 hours per semester. Another 16 hours shall be given for seminars. 8 seminars shall be held per semester. The preparation for each seminar includes reading of scientific literature and text analysis, which will take approximately 4 hours for each seminar, and the total of 32 hours of independent work. Furthermore, the programme provides that the student has to analyse a text of his/her choice, to prepare a presentation on this text and to deliver it in class. The student will have time to find the text (8 hours), to review the theoretical material that will form the basis of the analysis (16 hours) and to thoroughly analyse the text itself (48 hours). Moreover, another 6 hours will be needed to prepare and edit PowerPoint presentation. Presentation would be delivered and commented by colleagues during seminars devoted for that purpose; there will be 3 such seminars (2 hours each) per semester. Thus, the total workload of the semester shall be 16+16+32+8+16+48+6+6=148 hours.

Example 29. Another 5-credit module may be comprised of a lesser number of hours. Let's say, a 10-page analytical paper must be written to attain learning outcomes of a module. We have to spend time for searching for the required literature and collecting the material (30 hours), for reading the scientific literature, taking notes and analysing (100 pages = 30 hours), for the writing of the first version of the paper (30 pages = 30 hours), for editing the text (30 hours) and for tutorials (16 hours). The total for the course unit: 30+30+30+30+16=136 hours (5 credits).

4.2. Course content: breakdown of the topics of each course unit (module)

The student's workload can be properly planned for each module only if the module is broken down by topics. Not only the number of contact hours and the teaching, learning methods must be stated for each topic, but also the assignments given for independent studies and the time allotted for performing them, as this is what makes the basis for the calculation of the length of the course unit (module) in ECTS credits. After the course unit (module) is completed, the distribution of hours should be adjusted; student opinion survey data should be taken into consideration. The breakdown of the topics is presented in table 6.

Table 6. Model breakdown by topics

Topics	Contact hours and teaching-learning method						Time and assignments for independent studies	
	Lectures	Seminars	Practical classes	Laboratory work	Tutorials	Practical training	Independent work	Assignments
Topic A								E.g. problem-oriented composition
Topic B								E.g. written and verbal comments on compositions presented by colleagues
Topic C								E.g. presentation
Topic D								E.g. reading of scientific literature
Preparation to and taking of the examination								

4.3. What is the optimal ratio of contact and independent work?

There is no uniform recipe of how to distribute hours of contact and independent work. Different study fields have different specific character. The nature of read texts and performed assignments differs; just as different are the abilities, perception and the speed of learning of students.

The optimal ratio of contact and independent work will be established only over time, after the course unit (module) will be implemented several times with the teacher observing the students' work and trying to determine (e.g. with the help of a short anonymous questionnaire) how much time is needed for reading this or that source or for completing this or that assignment.

However, from the very start the time should be planned so as to provide the student with ample time for independent work. Recommendations according to the methodology developed by the teaching staff of Oulu University are provided below[31]. The title of this book – *Give me Time to Think* – presupposes that learning should be a conscious process, when students reflect on the things they are learning; thus, it needs quite some time. The distribution of time also depends upon the ways and methods of teaching and learning[32] (table 7).

Table 7. Recommended time distribution ratio

Ways and methods of teaching and learning	Contact hours	Independent study hours
A. INFORMATION TRANSMISSION		
A1. Traditional lecture	1	3
A2. Passive demonstration (the student only watches and listens)	1	2
B. ACTIVITY BASED TEACHING	1	2–3
B1. Cooperative learning	1	2
B2. Guided exercises	1	3
B3. Active demonstration (interaction; the student is involved)	1	2
B4. Work-based learning	Depending upon the goal	
B5. Problem-based learning (PBL)	1	5
B6. Seminars	1	2–4

When speaking about **written assignments**, the said authors state the following rule: **1 hour is required to compose a text of 100 words.**

When preparing a **presentation**, the time consumption shall be calculated by **multiplying the duration of the presentation by 3-6.** Furthermore, time required for the search for and reading of literature shall also be added.

The reading (and understanding) of literature needs time. The text will be well-understood only if it is read three times; thus, reading is performed in 3 stages: 1) synoptic reading (browsing through the book); 2) careful (in-depth) reading by noting the key points; 3) revision. The proposed ratios are presented in table 8[33].

[31] Karjalainen A., Alha K., Jutila S. 2004–2006. *Give me Time to Thin*k. Determining student workload in higher education. University of Oulu: Teaching Development unit. http://www.oulu.fi/w5w/tyokalut/GET2.pdf [2011-05-29].
[32] Ibid. 40–50.
[33] Ibid. 54–55.

Table 8. Time demand with due consideration to the complexity of the text

Complexity of the text	Number of pages	Number of hours
Reasonably readable text	100	20
Difficult text or text in a foreign language	100	30

For instance, the average of 200 hours shall be needed for reading 1,000 pages of fiction. However, if we read criticism, the number hours must be multiplied by the number of readings (e.g. 3 times).

5. REGISTRATION DATA (SUMMARY OF THE DEGREE PROGRAMME)

National code of the programme

The national code consists of 9 symbols, and each symbol has a certain meaning. The code is awarded during the registration of the programme with the Register of Degree and Training Programmes.

Higher education institution, the awarding subdivision

The description states the awarding institution. If the degree programme is a joint programme, information should be provided about all the awarding institutions, stating the country. Also, the subdivision(s) of the institution(s) in charge of the implementation of the degree programme should be indicated by stating its/their address.

Language(s) of instruction

The language of instruction must be stated, e.g. Lithuanian, English, German, etc. If the programme has more than one language of instruction, all such languages must be stated.

Kind of study

The kind of study – college studies or university studies – to which the programme is attributed must be stated.

Cycle of studies

The description must state for students of which cycle of studies (first, second or third cycle) the programme is intended; in other words, whether it is a professional bachelor's, a bachelor's, a master's or a doctoral programme. In case of integrated studies, it must be stated that the programme covers (integrates) the first and second cycles. According to the cycle of studies, different levels of learning outcomes shall be formulated (for more information see the Shared Dublin Descriptors[34] and chapter *Competences of the programme and key programme learning outcomes* of this document).

Level of qualification under the Lithuanian qualification framework

Apart from the cycle of studies, it must also be stated to which level of qualification under the Lithuanian qualification framework[35] the qualification attained by the graduates of the programme is attributed. The professional bachelor's or the bachelor's programme is of level VI, the master's programme is of level VII, and the doctoral programme is of level VIII.

[34] *Shared 'Dublin' descriptors for Short Cycle, First Cycle, Second Cycle and Third Cycle Awards*. 2004. http://www.uni-due.de/imperia/md/content/bologna/dublin_descriptors.pdf [2011-03-27].

[35] *Lithuanian Qualification Framework Descriptor* approved by Resolution No 535 of 4 May 2010 of the Government of the Republic of Lithuania http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=372306&p_query=&p_tr2= [reviewed on 5 April 2011].
Level VI qualifications are acquired during the first cycle of university or college studies and – in cases established by the Government of the Republic of Lithuania or its authorised body – in non-degree programmes and/or through professional experience and independent study. Level VII qualifications are acquired during the second cycle of university or college studies and – in cases established by the Government of the Republic of Lithuania or its authorised body – in integrated degree studies or non-degree programmes and/or through professional experience and independent study. Level VIII qualifications are acquired during doctoral studies and/or through professional experience and independent study.

Mode of study and length of the programme in years

The mode of study can be full-time or part-time. The length of the degree programme in years depends upon the mode of study. Presently, there is a requirement that part-time study cannot be one and a half times longer than full-time study, provided the latter is course unit to the standard of 60 credits per academic year.

Programme director (the chairman of the committee)

The programme director must be stated, and his/her contact data (position, scientific degree, employer's address, e-mail, telephone) must be provided. In higher education institutions that have committees of programmes, the programme director shall be the chairman of the committee of the programme.

Accreditation organisation and the period of reference

In Lithuania, the accrediting organisation is the Centre for Quality Assessment in Higher Education, which is stated in the description. The period of reference of the degree programme must also be stated.

Annexes

Annex 1. Study programme description

STUDY PROGRAMME DESCRIPTION

Title of the programme	Code

Higher education institution, responsible department	Language(s) of instruction

Kind of study	Cycle of studies	Level of qualification under the Lithuanian qualification framework

Mode of study and length of the programme in years	Credits	Students workload	Contact hours	Independent work hours

Study field	Minor study field (if available)

Qualification degree awarded and (or) professional qualification (if available)

Programme director	Contact information

Accreditation organization	Period of reference

Purpose of the programme

Profile		
Content of the programme: course unit (module) groups	Orientation of the programme	Distinctive features

Admission requirements	Recognition of prior learning

Access to further studies

Employability

Study methods	Assessment methods

Generic competences		Programme learning outcomes	
1.		1.1	
		...	
2.		2.1	
		...	
3.		3.1	
		...	
4.		4.1	
		...	
Specific competences		**Programme learning outcomes**	
5.		5.1	
		...	
6.		6.1	
		...	
7.		7.1	
		...	
...		8.1	
		...	

PLAN OF THE PROGRAMME

(MATRIX OF COURSE UNITS AND COMPETENCES, LEARNING OUTCOMES)

Code	Course units (modules)	Credits	Student workload	Contact hours	Independent work hours	Key programme competences															
						Generic competences								Specific competences							
						1.		2.		3.		4.		5.		6.		7.		8.	
						Learning outcomes															
						1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1	8.2
I year		**60**	**1600**																		
1 term										x											
Compulsory course units (modules)																					
	Course unit (module)						x									x					
	...									x											
Optional course units (modules)																					
	Course unit (module)								x												
	...																				
2 term																					
Compulsory course units (modules)																					
	Course unit (module)																				
	...																				
Optional course units (modules)																					
	Course unit (module)																				
	...																				

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II year		**60**	**1600**																		
3 term																					
Compulsory course units (modules)																					
	Course unit (module)						x									x					
	...									x											
Optional course units (modules)																					
	Course unit (module)								x												
	...																				
4 term																					
Compulsory course units (modules)																					
	Course unit (module)																				
	...																				
	Etc.																				

Annex 2. Course unit description

COURSE UNIT DESCRIPTION

Course unit title	Course unit code

Lecturer(s)	Department where the course unit is delivered
Coordinator: **Other lecturers:**	

Cycle	Level of course unit	Type of the course unit

Mode of delivery	Semester or period when the course unit is delivered	Language of instruction

Prerequisites

Number of ECTS credits allocated	Student's workload	Contact hours	Individual work

Purpose of the course unit: programme competences to be developed		
Generic competences to be developed *Subject-specific competences to be developed*		
Learning outcomes of the course unit	**Teaching and learning methods**	**Assessment methods**

Course content: breakdown of the topics	Contant work						Individual work: time and assignments	
	Lectures	Tutorials	Seminars	Laboratory work	Internship/work placement	Contact hours	Individual work	Assignments
Total								

Assessment strategy	Weight %	Deadline	Assessment criteria

Author	Publishing year	Title	Issue No or volume	Publishing house or internet site
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Recommended reading				

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