



**MINISTER OF EDUCATION, SCIENCE AND SPORT OF THE REPUBLIC
OF LITHUANIA**

**ORDER
ON APPROVAL OF THE DESCRIPTOR OF THE STUDY FIELD OF PHARMACY**

30 June 2021 No. V-1213
Vilnius

In accordance with Paragraph 11 of Article 53 of the Law on Higher Education and Research of the Republic of Lithuania:

1. I approve the Descriptor of the Study Field of Pharmacy (enclosed).
2. I determine that the higher education institutions have to adjust their study programmes to the Descriptor of the Study Field of Pharmacy approved by Clause 1 hereby until 01 September 2022.
3. I recognize Order No. V-8021 of the Minister of Education and Science of the Republic of Lithuania of 23 July 2015 “On Approval of the Descriptor of the Study Field of Pharmacy” as invalid.

Minister of Education, Science and Sport

Jurgita Šiugždiniė

DESCRIPTOR OF THE STUDY FIELD OF PHARMACY

CHAPTER I GENERAL PROVISIONS

1. The Descriptor of the Study Field of Pharmacy (hereinafter – Descriptor) regulates the special requirements for the study programmes in the study field of pharmacy (G05) that belongs to the group of study fields of health sciences (G). The Descriptor regulates the study field of pharmacy (hereinafter – field of pharmacy) in the scope not covered by the General Requirements for the Studies approved by Order No. V-1168 of the Minister of Education and Science of the Republic of Lithuania of 30 December 2016 “On approval of the General Requirements for the Studies.”

2. The Descriptor was prepared in accordance with the Law on Pharmacy of the Republic of Lithuania, Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, and Directive 2013/55/EU of the European Parliament and of the Council amending Directive 2005/36/EC, and the Law on Recognition of Regulated Professional Qualifications of the Republic of Lithuania.

3. The Descriptor shall be applied to the college and university integrated studies conducted as full-time studies.

4. Upon completion of the studies in the field of pharmacy, the professional bachelor’s / master’s degree in health sciences and the qualification of pharmacist’s assistant (pharmacy technician) that are in conformity with the sixth/seventh level of the Lithuanian Qualifications Framework and the European Qualifications Framework for lifelong learning, and first/second cycles of the Framework for Qualifications of the European Higher Education Area attested by the professional bachelor’s / master’s diploma and its supplement issued by the higher education institution are awarded.

5. When studying in the study programmes of other study fields, the studies in the field of pharmacy cannot be selected as minor studies. Besides, the studies of pharmacy cannot be provided as studies within the study programmes classified under two study fields and within interdisciplinary study programmes.

6. There are no special requirements established in the Descriptor for the persons, who want to be admitted to the study programmes in the field of pharmacy.

7. In consideration to the cycle of the study programme, type and level of studies, the purpose of the pharmacy studies may be the following:

7.1. goals of the college studies:

7.1.1. to prepare pharmacist’s assistants (pharmacy technicians), who would know the characteristics of the medicinal products and their impact on organism, medicinal substances used to make medicinal products, production technologies of the medicinal products and other products of pharmaceutical industry, and the testing methods;

7.1.2. to train the ability to participate in the wholesale distribution activities of medicines;

7.1.3. to train the ability to sell (issue) pharmaceutical goods;

7.1.4. to provide knowledge and skills to provide information about consumption (use) and storage conditions of the pharmaceutical goods;

7.1.5. to train the ability to manage the reserves of medicinal products and pharmaceutical goods;

7.1.6. to provide knowledge, skills and competences necessary for work in the pharmacy in the team with the pharmacist, and to cooperate with other health care specialists;

7.1.7. to train the ability to provide pharmaceutical services and to sell (issue) medicinal products under the pharmacist's supervision;

7.1.8. to train the ability to make extemporal medicinal products under the pharmacist's supervision;

7.1.9. to provide knowledge and skills to make medicinal substances and medicinal products in the industrial companies;

7.1.10. to train the ability to improve the professional competence continuously;

7.2. goals of the university studies:

7.2.1. to prepare pharmacists, who are able to practice pharmaceutical activities in application of modern technologies, the latest knowledge of the science of pharmacy, and who would know the Lithuanian and EU legal acts governing the pharmaceutical activities;

7.2.2. to provide knowledge and skills to organise and/or implement production and quality control of medicinal products, investigational medicinal products, and active substances;

7.2.3. to train the abilities to organise and/or implement wholesale distribution of medicinal products or medicinal substances;

7.2.4. to grant abilities to organise and/or implement parallel import and parallel distribution of medicinal products;

7.2.5. to grant knowledge and skills to organise and/or implement sale (issuance) of the medicinal products to end users;

7.2.6. to train abilities to coordinate provisions of pharmaceutical services;

7.2.7. to provide knowledge, skills and competences necessary to provide services of pharmaceutical care;

7.2.8. to grant knowledge and skills to organise and/or implement production and quality control of extemporal medicinal products;

7.2.9. to provide knowledge, skills and competences necessary to provide pharmaceutical service and to promote rational use of medicines;

7.2.10. to train the abilities to propagate healthy lifestyle;

7.2.11. to train the abilities to convey the knowledge and to adapt the skills in independent activities.

CHAPTER II CONCEPT AND SCOPE OF THE STUDY FIELD

8. Pharmacy means a study field in the group of study fields of health sciences that links scientific knowledge, practical capacities and tools and that is intended to develop and produce safe and efficient medicines, to test, store, supply, and dispense them properly to the end user, to adapt them for treatment or protection from diseases, society's consultations about medicinal substances and medicines, and practice of pharmaceutical care. The main purpose of the work of pharmaceutical specialists is to assure use of safe and efficient medicines in application of modern pharmaceutical knowledge in practice.

9. Elements of the content of the study programmes in the field of pharmacy:

9.1. the theoretical area of the study field of pharmacy covers acquisition and practical substantiation of general pharmaceutical knowledge, analysis of information of pharmacy and health sciences, data synthesis and spread, and assessment of diversity of pharmaceutical activities and services, multiculturalism of pharmaceutical community and legal regulation of international space;

9.2. the professional area of the study field of pharmacy covers planning and implementation of professional pharmaceutical activities, assessment of the outcomes of pharmaceutical activities, communication and cooperation with other health care specialists, expansion of practical

pharmaceutical activities, professional behaviour and development, social responsibility in the health care system, and quality of provided pharmaceutical services;

9.3. the graduates of the study programmes in the field of pharmacy have to be ready to practice as pharmacists (upon completion of the integrated studies) or as pharmacist's assistants (pharmacy technicians) (upon completion of the studies of professional bachelor). The particular requirements for qualification and other requirements for pharmaceutical activities are determined in the Law on Pharmacy of the Republic of Lithuania and other legal acts governing practice and pharmaceutical activities of the pharmaceutical specialists.

10. The pharmacist's assistant (pharmacy technician), who has completed the college studies of pharmacy and intends to acquire the pharmacist's qualification has to complete the university full-time integrated studies of pharmacy of at least 5 years.

11. The object of the pharmacy is closely related to medical and health, natural and social sciences. The activities of the pharmaceutical specialists are related to the achievements of medicine and public health, cover the chemical, biochemical, biological, botanical developments, use of mathematical and statistical instruments, as well as knowledge of law, management, economics, psychology, communication and information.

CHAPTER III GENERAL AND SPECIAL LEARNING OUTCOMES

12. Upon completion of the college studies, the following learning outcomes have to be achieved:

12.1. knowledge and its application. The person:

12.1.1. is able to apply theoretical knowledge while planning and implementing search for professional information necessary for pharmaceutical activities, while working in the public, hospital, university or charity pharmacy, company of wholesale distribution, company making pharmaceutical products, and in other institutions implementing pharmaceutical activities;

12.1.2. knows the characteristics of medicinal products and the medicinal substances used to make them, production technologies of medicinal products, and applies them while making the medicinal products on the extemporal and industrial level;

12.1.3. knows the impact of medicinal products on the organism and is able to explain, how to consume (use) the medicinal products and pharmaceutical goods safely;

12.2. testing skills. The person:

12.2.1. is able to carry out the chemical, biological and microbiological testing of medicinal products in the field of pharmacy and to analyse the received results;

12.2.2. is able to adapt the testing results to solve the problems of pharmaceutical activities;

12.3. special skills. The person:

12.3.1. is able to make, package and label the extemporal medicinal products under the pharmacist's supervision and to assure their quality;

12.3.2. is able to provide pharmaceutical services according to the competence and to sell (issue) the medicinal products under the pharmacist's supervision;

12.3.3. is able to choose the goods for pharmacies according to the residents' needs;

12.3.4. is able to identify, describe, and register the suspected adverse reactions and to provide information about such cases to the competent authorities;

12.3.5. is able to follow the quality criteria while making the medicinal products;

12.3.6. is able to purchase, store and supply the medicinal products and substances in the course of wholesale distribution;

12.3.7. is able to apply legal and professional ethics requirements related to the pharmaceutical activities;

12.4. social skills. The person:

12.4.1. is able to collaborate with health care specialists and other persons;

12.4.2. is able to work individually and in team, to assume responsibility for the quality of own work and that of subordinate employees, and complies with the principles of professional ethics and civic consciousness;

12.4.3. is able to convey the knowledge of professional practice and science in the clear and reasoned way to specialists and other persons;

12.5. personal skills. The person:

12.5.1. is able to make decisions and understands moral and ethical responsibility for the impact of own activities and their results on the patients, society's welfare, its economic and cultural development and environment;

12.5.2. is able to assess critically own professional practice and to improve, while understanding the importance of life-long learning.

13. Upon completion of the university integrated studies, the following learning outcomes have to be achieved:

13.1. knowledge and its application. The person:

13.1.1. is able to apply the latest research-based knowledge about the medicinal products and the substances used to make them in the new environment;

13.1.2. is able to assess the latest information about the pharmaceutical technology, and physical, chemical, biological and microbiological testing of the medicinal products, and to apply this information for fundamental or applied research and introduction of novelties;

13.1.3. is able to apply the latest knowledge about the processes of medicines' metabolism and their impact, activity of toxic substances, purpose of medicines and their use in practical activities;

13.1.4. is able to apply the knowledge for independent work in all the areas of pharmaceutical activities;

13.1.5. is able to apply the knowledge while supervising the pharmaceutical activities and implanting the latest developments of science and practice of pharmacy;

13.2. research skills. The person:

13.2.1. is able to coordinate planning and performance of pharmaceutical research, to formulate the need for new pharmaceutical research, to initiate the research and projects in the science of pharmacy, and to attract the partners;

13.2.2. is able to prepare and carry out pharmaceutical research independently and with the help of the team of health care specialists, to apply the theoretical and experimental methods of the science of pharmacy practically, to foresee the applied value of research, and to use the received results for improvement of professional practice;

13.2.3. is able to analyse and assess the research data needed for scientific activities in order to implant new ideas, products, services and processes in the field of pharmacy;

13.2.4. is able to integrate the knowledge and to manage the difficult situations, to evaluate the alternative solutions and their possible impact on the environment;

13.3. special skills. The person:

13.3.1. is able to prepare pharmaceutical forms of the medicines, to produce medicinal products, and to examine the pharmaceutical products;

13.3.2. is able to test medicinal products in the medicines control laboratories;

13.3.3. is able to organise acquisition, storage and supply of medicines and medicinal substances, while carrying out the wholesale;

13.3.4. is able to organise acquisition of safe and efficient medicinal products, their preparation for use, tests, storage, keeping, and issuance to end users in public pharmacies;

13.3.5. able to organise acquisition of safe and efficient medicinal products, their preparation for use, tests, storage, keeping, and issuance and/or distribution in hospitals;

13.3.6. is able to evaluate the scientific data about the medicines, to give information and advice on the medicines, including information about their rational use;

13.3.7. is able to identify, describe, and register the suspected adverse reactions and to provide information about such cases to the competent authorities;

13.3.8. is able to adapt special legal and other requirements related to performance of pharmaceutical activities while implementing the health promotion programmes;

13.3.9. is able to assess correctness of the prescription, to select and issue the medicines according to prescription and non-prescribed medicines according to the resident's need and complaints, as well as to choose the goods for pharmacies according to the instructions of health care specialists and needs of the residents;

13.3.10. is able to provide pharmaceutical care services;

13.4. social skills. The person:

13.4.1. is able to think creatively and to apply the democratic and ethical values, to act for the benefit of patient's and society's welfare, and to feel responsible for development of national science and culture;

13.4.2. is able to work individually and in the teams of diverse health care specialists in Lithuania and in the international space;

13.4.3. is able to convey the knowledge of science and practice of pharmacy in the clear and reasoned way to specialists and other persons, and to assess it critically;

13.4.4. is able to assume responsibility for quality and improvement of own work and that of subordinate employees and to strengthen the image of the profession of pharmacy – to take care of its value and significance in the public life;

13.5. personal skills. The person:

13.5.1. is able to apply the skills of strategic and systemic thinking, while forming the team and supervising its activities and research works effectively, and to choose the direction of personal and team's development;

13.5.2. is able to develop own competences independently, to induce development of the colleagues' competences, to improve the professional qualification, and to project own professional career;

13.5.3. is able to work in the always changing environment, to foresee and manage the changes, and to plan the solution of assignments;

13.5.4. is able to think analytically, to substantiate the professional activities by the latest research data, to perceive and act creatively in the junction of pharmacy and various scientific areas;

13.5.5. is able to make innovative decisions independently, to evaluate possible public and ethical consequences of the activities, to understand and assume responsibility for the impact of own activities on the patients, society, scientific development, welfare, and environment.

CHAPTER IV TEACHING, LEARNING AND ASSESSMENT

14. The teaching, learning and assessment activities have to be organised in such a way so that the students would be able to achieve the aimed learning outcomes.

15. The didactic conception of teaching and learning has to cover application of various teaching methods, while searching for integrated didactic solutions.

16. The students starting the subject have to be introduced comprehensively to the programme of the taught subject, its goals and links with the general goals of the study programme, the expected learning outcomes, the planned learning/teaching load, terms and criteria of evaluation of learning achievements.

17. The applied learning/teaching methods have to be clearly defined, regularly revised and improved, with regard to the latest developments of the science of pharmacy, requirements of modern didactics, and changing needs of the labour market.

18. The learning and teaching methods have to conform with the concept of lifelong learning. The students should be prepared to assume responsibility for their lifelong learning and learning outcomes. The didactic system has to direct the study process to training of the student's ability to study aiming at the latest pharmaceutical knowledge and its motivated application.

19. Various learning/teaching methods, methods of assessment of learning outcomes, and activities enabling the students to assume an active role in the study process, have to be applied in the study process.

20. The learning/teaching methods may be active (group discussion, brainstorming, situation modelling, role plays, problem analysis and solutions, teaching and work practical trainings, preparation of report or presentation, project-based activities, research and other methods oriented to active and independent learning by the student), passive (lectures, workshops, seminars and other methods attributed to the traditional concept of studies), and interactive (online teaching courses, conferences, use of virtual environment, online pages of teaching material, products of video lectures, etc.). The same methods may be applied in different cycles of pharmacy studies; however, the content of the given assignment, level of complexity, and expression of the student's independence have to differ.

21. The methods stimulating individual studies are reflexion, case analysis, problem solution, imitation, learning by teaching, experience-based learning, search for solution of an individual problem, control and self-control, etc.

22. The learning has to be related to research and its spread carried out in the following forms: scientific-practical seminars, students' research carried out in scientific laboratories or practical institutions, presentation of final works of the graduates, joint publications of students, teachers and practitioners, and presentations in the scientific conferences.

23. Higher education institutions have to establish a procedure for assessment of learning outcomes. The particular assessment criteria, the appropriate assessment methods enabling to determine whether the learning outcomes have been achieved in order to assure objectivity of assessment have to be provided in the descriptor of this procedure by common agreement of teachers, students, experts, and employers.

24. The procedures applied to assess the students' achievements have to be based on clearly formulated criteria that enable to reflect reliably the level of knowledge, abilities and practical skills achieved by the student in the course of studies. Various assessment methods of learning achievements may be applied: written or oral examination, report on laboratory works and their defence, solution of exercises, oral and stand-based presentations, report on individual or teamwork, report on practical training, reflexion diaries, tests when questions of closed and/or open type are asked, essays, and defence of final (graduation) work/project.

25. The students with disabilities preventing accounting in the ordinary procedure are entitled to account in the alternative modes. The alternative examination method shall be selected individually by the teacher and it shall assure assessment of the achieved learning outcomes.

26. The final exam and work (project), its defence and assessment shall summarise general and special knowledge and skills obtained by the student that would satisfy qualification requirements for the degrees of professional bachelor or master.

CHAPTER V

REQUIREMENTS FOR IMPLEMENTATION OF STUDY PROGRAMMES

27. The foundation of the study programme is competent and qualified teachers. The teachers have to be selected and their qualification and competence have to be assessed according to their research, pedagogical and practical experience: participation in applied research, application of advanced teaching/learning methods, interest and activeness in creation of more effective teaching/learning methods, level of scientific activities, recognition in professional, scientific and public communities, participation in educational programmes, ability to communicate fluently in at least one foreign language of international communication, professional insight and personal interest in the students' studies and leisure.

28. The higher education institution has to make sure that at least 70 percent of all the subjects taught in the course of university integrated studies in the field of pharmacy were taught by teachers holding a title. It is recommended that at least 70 percent of the teachers of subjects taught

in the course of university integrated studies in the field of pharmacy would have a degree in medicine or health sciences and that the field of their scientific work would correspond to the taught subjects. At least 20 percent of the subjects of the study field have to be taught by persons, who hold an office of a professor;

29. The higher education institution has to determine the proportion of contact and individual work for each part of the studies, taking the specific peculiarities of respective part into consideration.

30. The practical training during the studies in the field of pharmacy is integral and compulsory. It helps to link the pharmaceutical knowledge and skills acquired while studying with practical experience. The ability to work in real environment, to work in team, and to assess critically own competence limits is trained. The professional practical training is organised in accordance with the procedure for organisation of professional practical training approved by the higher education institution that would define requirements for practical training, requirements for practical training bases, supervisors of practical training, particular assignments, expected learning outcomes and assessment system of the achievements, support to the student during the practical training, as well as the criteria that help to recognise and assess the skills of certain level acquired by the student in the course of practical training. In the cases provided in the study programme, the practical training may be organised beyond the semester in the procedure established by the higher education institution. Additional practical training may be also conducted in the higher education institution in the procedure established by the higher education institution.

31. In case of college studies, the practical training and other practical teaching has to account for at least one third of the study programme. The volume of practical training in the companies carrying out pharmaceutical activities has to amount to at least 30 study credits.

32. The purpose of professional practical training in the course of college studies of pharmacy is to link theoretical knowledge with practical skills, aiming at the planned learning outcomes, training of the student's competences, professional responsibility, developing of the practical work skills, performing pharmaceutical activities in various health promotion areas, and applying the latest technologies under the conditions of professional activities in pharmacies and other enterprises. The place of final practical training has to conform to the topic of the final work and to be similar to the workplaces, where the graduate is planning to work.

33. In case of university integrated studies, the volume of practical training in public or hospital pharmacy has to amount to at least 18 study credits.

34. The purpose of practical training in the course of university integrated studies of pharmacy is to prepare the specialists in pharmacy, who would be able to consolidate creatively the theoretical knowledge acquired in the course of studies, to form skills for independent work of pharmacist in public, manufacturing public, university or hospital pharmacies, manufacturing hospital pharmacy, or in hospital under supervision of the unit of pharmacy of respective hospital, as well as to apply the acquired knowledge in multifunctional and complex environment in order to solve smoothly and effectively the issues of supply of medicinal products to society.

35. The supervisors of practical training from the higher education institution and the pharmacy are assigned to achieve the goals of the pharmaceutical professional practical training:

35.1. the supervisors of practical training have to be familiar with the procedure for organisation of professional practical training in pharmacy;

35.2. the supervisors of practical training from the higher education institution have to be teachers responsible for organisation and coordination of practical training, and assessment of the student's report on practical training;

35.3. the supervisors of practical training from the pharmacy must have at least 3-year work experience in the pharmacy related to certain part of the practical training, and they have to work in the student's practical training place.

36. Practical training base (pharmacy):

36.1. has to be licensed for work with narcotic and/or psychotropic substances;

36.2. has to have the right to issue compensated medicines;

36.3. at least 2 pharmacists have to be employed in the pharmacy at the time of the student's practical training;

36.4. the pharmacy has to create the conditions needed to fulfil the goal and tasks of the programme of practical training of pharmacy: the pharmaceutical services have to be provided in the pharmacy to 20 residents (patients) at the least in one day of practical training; the load of manufacturing practical training (technology and analysis of medicines) in the pharmacy has to amount to at least 5 manufacturing and 5 analysis cases in one day of practical training.

37. The college study programme ends in evaluation of the graduate's learning outcomes through defence of the final work (project) and final examinations.

38. In order to assess the achievements of the college study programme, the qualification commission (hereinafter – commission) of at least 5 members shall be formed. The commission shall include representatives of employers (at least half of the commission members), one of which is assigned to the office of the commission's chair, and at least one teacher responsible for implementation of the study programme. The scientists in the fields of medical and health sciences and teachers from other higher education institutions may be included into the commission.

39. The final work (project) of professional bachelor has to manifest the student's ability to carry out the research oriented to the pharmaceutical activities, to analyse and summarise the empiric research material, and to foresee the possibilities to improve the pharmaceutical activities. The final work (project) has to reflect the skills in conformity with the learning outcomes of the study programme.

40. The study programme of university integrated studies ends in evaluation of the graduate's knowledge and skills through defence of the final work (project) and final examinations.

41. The final work (project) has to be based on independent exploratory or applied research, application of knowledge, or prepared as a project manifesting the skills in conformity with the learning outcomes of the study programme. The student should use the final work (project) to manifest his/her level of knowledge and understanding, ability to analyse the chosen topic, to assess earlier works in the field of pharmacy carried out by other persons, to study and carry out pharmaceutical research individually, to describe the performed research, and to formulate clear and reasoned research conclusions in accordance with the requirements approved by the higher education institution.

42. The assessment and defence commissions of final works (projects) of the university integrated studies shall be formed from competent scientists in the study field, pharmacy practitioners who have graduated the integrated study programme, and representatives of other stakeholders. At least one member of the commission (chair, as recommended) should be from another research and higher education institution. If the final examination is provided in the study programme, the composition of the final examination's commission should be the same as that of the assessment and defence commissions of final works (projects).

43. In order to fulfil the study programme successfully, it is necessary to have the material and methodical facilities satisfying the requirements below:

43.1. the lecture halls have to satisfy the requirements of hygiene and work safety, to be contemporarily equipped and to have the necessary audio and video equipment and demonstration tools.;

43.2. the laboratories have to satisfy the requirements of hygiene and work safety. The laboratory equipment, devices, and their level have to be sufficient for each student to learn to use the modern research methods applied in pharmacy. In order to fulfil the college study programme, the laboratories of pharmaceutical (medicines) chemistry, pharmaceutical technology, pharmacognosy, pharmacology, and microbiology with the equipment and devices satisfying the safety requirements and quality standards have to be available. The students should have the possibility to acquire skills to perform chemical and physicochemical, microbiological analysis of active substances and excipients, and to make various pharmaceutical forms of extemporal and industrial manufacturing medicines. The level of the laboratory equipment and devices intended for the integrated study programme should be sufficient to teach the student to use modern methods of

instrumental analysis of active substances and products, synthesis, technologies, and biological tests. Each student should have an opportunity to use the modern equipment directly or via the servicing staff in any laboratory involved in implementation of the study programme;

43.3. the library must have sufficient number of pharmaceutical and scientific literature, textbooks, manuals and other publications in Lithuanian and foreign languages necessary to implement the study programme. The library must have computers with online access to international databases;

43.4. the sufficient number of computers with the necessary software to process texts, qualitative and quantitative data, innovative teaching software and with online access has to be available;

43.5. the material facilities, equipment and furniture have to be adapted to the students with special needs. They must have the possibility to study qualitatively.

44. The graduates of the study programme of the pharmacy field will acquire the professional identity, sense of unity with colleagues, and professional satisfaction in conformity with high moral values and ethical principles.
