

Approved

By the Rector's Order #01/1/16 (issued
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King Tamar University of Georgian
Patriarchate of Georgia

**N(N)LE- Non-entrepreneurial (Non-commercial) Legal Entity
Saint King Tamar University of Patriarchate of Georgia**

Bachelor's Program

Program title: Pharmacy 0916.1.1

Qualification/academic degree to be awarded: Bachelor of Pharmacy

Programme volume in credits: 245 (ECTS) Credits

Basic Educational Structural Unit Implementing the Programme:

Faculty of Biomedical and Natural Sciences and Healthcare.

Program Director: Academician Eter Kemertelidze, Professor of Saint King Tamar University of Patriarchate of Georgia

Language of instruction: Georgian

The program purpose

The student will acquire a thorough knowledge in the field of pharmacy, taking into account its various aspects, will study human structure, body functions, growth and connections with the nature, the impact of nature and ecosystem on it, the impact on pathologies of the body with medicinal pharmaceuticals, phyto-homeopathic, preventive, hygienic, nutrition, first aid items - finally their realization before the society.

To study the basic scientific subjects of medicine, the basics of pharmacology, pharmacognosy, biopharmacy, pharmacodynamics, pharmacokinetics and biotransformation.

Also, he/she will gain knowledge in the field of clinical medicine, pharmaceuticals, pharmaceutical production, pharmaceutical technologies, social pharmacy, pharmaceutical management. Also, he/she will develop the skills of sectoral and general/transferable competencies. The programme is aimed at developing the necessary skills for the management and administration of a pharmaceutical organization, so that the graduate will be able to obtain a job in a pharmacy network, pharmaceutical industry, analytical laboratory or governmental public service and further take care of career growth. The graduate will understand the basic normative documents regulating the registration, commodity turnover, quality control and advertising of pharmaceutical products.

The Program Admission Requirements

The Program admission requirements are: The person holding a state certificate of full general education or a person equal to him/her, has the right to participate in the Bachelor's Program and will be enrolled in the unified list of the University students according to the established rule.

For the citizens of Georgia - the results obtained in the Unified National Examinations, taking into account the priorities of the subjects established by the University and duly announced, and their respective coefficients. Foreign citizens will be admitted to the programme according to the rules defined by the Ministry of Education of Georgia. The following persons shall be admitted to the programme: foreign nationals and stateless persons who have received a full general or equivalent education in a foreign country; citizens of Georgia who have received full general or equivalent education in a foreign country and have studied abroad for the last two years of full general education; persons who study/have studied and received credits in a foreign country in a higher education institution recognized according to the legislation of that country.

According to the admission requirements of the programme, subjects, priorities, and coefficients are defined by the level of knowledge required to start the given programme.

Subjects and their coefficients are non-permanent, change according to the quality improvement strategy to achieve the program outcomes, and are published annually following established rules.

Enrollment in the Bachelor's Program is also possible through the mobility under the Georgian legislation and in accordance of the University regulations. The terms of admission to the program and other information related to the admission is annually placed on the website of the National Center of Evaluation and Examinations and the University.

Student's learning outcome

a) Knowledge

Has an extensive knowledge of the field that includes critical consideration of theories and principles, understanding of the complex issues of the sphere, namely: Knowledge of methods for obtaining and analyzing pharmaceutical information.

Manipulation with the knowledge of human structure, physiology, biochemistry.

Has systematic knowledge of pharmacist activities in laboratories, factories, pharmacies. The student knows the major chemical, biological, genetic, and physiological processes, which are the basis for the existence of a healthy organism.

The student is aware of the classification of drugs and their pharmacy technologies. The student knows the basics of pharmaceutical and clinical toxicology and their application in practice.

The student understands the basics of pharmacology, analytical and physico-colloidal chemistry data in key pharmaceutical drug manufacturing technologies. Knows Latin language with professional, pharmaceutical terminology. Knows the processes of biotransformation based on the knowledge of biodynamics-biokinetics; Understands the basic principles of social pharmacy, pharmaceutical management.

b) Ability:

Implements a project of a research or practical nature describing the given area, in accordance with the recommendations determined in advance. Masters the modern methods of the specialty based on the knowledge of the basic methods of analytical chemistry, physico-colloidal industry and biochemistry.

Manipulates by selection and application of different groups of medications for different diseases. Identifies the drugs nomenclature, principles of keeping properly, due storage and realization principles.

Knows the rules of work in pharmacies, laboratories, pharmaceutical workshops and the requirements of safety equipment. Knows the basics of pharmaceutical and clinical toxicology and their application in practice.

Understands the rules of making basic pharmaceutical formulations, based on the knowledge of physico-colloidal chemistry. Knows the rules of dealing with the medical-pharmaceutical property.

Participates in field expeditions in nature, recognizes medicinal plants.

Possesses the skills of application of pharmaceutical business management and marketing methods in practical activities.

Is able to plan, organize, motivate and control activities in pharmaceutical facilities, manage the introduction of innovations. Is able to think critically and has the ability of self-criticism; is able to identify and solve problems;

Has the ability of correct planning and time-management.

Is able to collect and interpret the features characteristic to the field, as well as perform the analysis of the non-figurative data and situations using the standard and some distinctive methods, make a substantiated conclusion:

Data collection, recording and analysis in the conditions of a pharmacy, laboratory, workshop or expedition. Has the ability to select medicines in case of over-the-counter dispensing;

Ability to make the right decision (in agreement with the doctor) in case of a prescription incompatible or incorrectly dosed; Ability to evaluate the clinical efficacy and cost-effectiveness of a drug;

Ability to reconcile the results of drug analysis (optical, chromatographic methods) and draw reasoned conclusions;

Ability to determine the stability of drugs and the expiration dates; Ability to use the state pharmacopoeia and conduct analysis in accordance with its requirements.

Has an ability to prepare the detailed written report on existing problems and their resolution, to verbally transfer the information to specialists and non-specialists in Georgian and English, to use creatively modern information and communication technologies; Can accurately provide medical reports, documents and other materials

using appropriate technologies;

Has the ability to find, store and apply information through information technology in practical pharmacy;

Is able to find, analyze, interpret and synthesize information and data from various sources in order to make reasoned decisions;

Ability to carry out laboratory research procedures and make conclusions within the competence, analyze the problem and elaborate ways to solve it;

Ability to reason and defend the management decision.

Is able to communicate with patients, social groups, as well as people with communication problems; is able to communicate orally and in writing in Georgian and English languages;

Can use information and communication technologies; Has the ability to work in a group; Has team-work skills; Has the ability to interact/dialogue between people.

c) Responsibility and Autonomy

Is able to identify the need for consistent assessment of his/her own knowledge, further learning, understanding and consistent deepening of knowledge, with a certain degree of independence, using special literature;

Has the ability to realize the need for continuing education (lifelong learning); Ability to determine directions of self-development; Ability to improve knowledge using the latest scientific sectoral literature.

Ability to adhere to professional and ethical values with customers, colleagues and physicians in business relationships.

Take part in the process of formation of values and strive for their establishment. The graduate realizes the professional, ethical and legal norms of pharmacy and implements them in his/her daily activities, that contributes to appreciation, respect of differences and cultural diversity between people, motivation of staff working in a medical facility, organization of the personnel to achieve common goals, participation in the process of formulating the values of the health care system and establishment of this process.

Methods for accomplishing learning outcomes

Teaching and learning methods and the means of their realization will be used to achieve the learning outcomes of the programme:

The teaching/learning methods used in the teaching process of the concrete learning course that is component of the program are indicated in the syllabus of each training course.

Lecture - conveying a learning material to students in a regular and consistent manner; explanation of the topic or any issue for discussion. It is active when it takes the form of a dialogue, while is passive in the form of a monologue. Within the training course, lectures are offered with presentations in an interactive mode. Lectures are conducted using demonstration materials (atlases, posters, tables, etc.) and current computer technology.

Verbal or oral method - In the mentioned process, a lecturer verbally transfers and explains the educational material, while students actively understand and comprehend it by listening, memorizing and understanding.

Explanatory Method - a detailed explanation of the theoretical material, if required, using visual aids. **Demonstration method - this method implies visual presentation of information.** It is quite efficient in terms of achieving the outcomes. Frequently, the material is delivered to students simultaneously in audio and visual forms. Study material

can be demonstrated by both a teacher and a student. This strategy visually presents the essence of the issue/problem. Demonstration might be of a simple type.

Practical training - individual practical work of the student with the patient, doctor's assistance. Practical lessons are held as curation in the clinic/auditorium, where the discussion of the key topics of the lecture material takes place; following visuals will be used: posters, video-materials.

Practical methods - combines all forms of teaching that develop practical skills of the student. In this case, the student independently performs this or that action based on the acquired knowledge, for example, practical skills development through clinical practice.

Demonstration of practical skills - differentiation of physiological and pathological condition of the patient, assessment of physical and functional conditions, development/of individual/special rehabilitation measures;

Case Study - Discussion of situational tasks - complex/atypical cases that may require

additional information about the disease, differential diagnostics, and diagnosis; Defining a treatment plan and demonstrating practical skills can be done in the form of group work. It promotes analytical thinking - skills of analysis and synthesis, group work, clinical reasoning, and decision-making; skills to participate in medical discussions, have efficient communication with colleagues in a medical context.

Analysis and Synthesis - Analyze and synthesize data within a particular clinical case and make relevant conclusions.

Quiz / Theoretical material survey - consists of theoretical and practical issues, tests the student's theoretical knowledge. **The laboratory method** involves the following actions: showing video material, dynamic material, etc.

E-learning - involves guiding the learning process using a learning process management system. The Learning Management System is an Internet-based software, which is necessary for the organization and conducting the learning process based on the information and communication technologies, in particular, for the provision of learning materials, for communication with a student or/and teacher of the higher education institution, testing, advising, monitoring of student progress and other purposes.

E-learning is carried out in the form of asynchronous or synchronous communication. Asynchronic communication envisages the interaction when a sender and a recipient of the information are not communicating simultaneously, and synchronic – when the communication is simultaneous. The e-learning programme is built in accordance with the requirements set by law for the higher education programme.

The entirely distance learning considers conducting an academic process without a physical presence of a professor. The training course is conducted in electronic format remotely from the beginning to the end.

Based on the specifics of the component of the educational program, for achieving the learning outcomes, any other teaching/learning methods/activities may also be applied.

Students' independent work - is the amount of working time (work) spent for successful mastering of courses provided by the curriculum from the introduction-study of basic literature - to group work and preparation for the midterm and final exams. The results of the midterm exam will be discussed.

In each component of the educational programme, due to its specifics, those methods and activities of teaching/learning are applied which condition the efficient achievement of the learning outcomes provided for by that component,

while their totality ensures the achievement of the learning outcomes provided for by the educational programme. The teaching/learning methods/activities used to achieve the learning outcomes of the educational programme component are outlined in the syllabi.

Student's Knowledge Assessment System

The aim of the evaluation of student's knowledge, achieved progress, is to qualitatively determine his/her learning outcomes with regard to educational goals and parameters.

Within module/learning course, the structure of assessment is divided into two elements, such as midterm assessment and final assessment. Each has its percentage share in the assessment system. The midterm element of the evaluation can be divided (attendance, activity, presentation of the abstract, practical work, etc.) into components, which also have their percentage share within this element. Taking into account the relevant percentage share, each concrete assessment is based on the results of the sum of both elements.

The format of the midterm assessment, as well as of the final exam (written, oral), assessment components and their relative share, is determined by the leading staff of the academic course, through the learning course (syllabus).

According to the scale of Transfer and the European Credit Accumulation System (ECTS), for evaluation of students' knowledge is used a credit - a unit, which expresses the volume of work performed by the student to complete one subject, reflected in the time unit - in hours.

Credits can be obtained only after achievement of learning outcomes by the student planned according to the learning course (syllabus), which is reflected by one of the positive assessments provided by the established assessment system.

It is unacceptable to evaluate the learning outcomes reached by a student on a one-time basis - it must be done only by evaluating the final examination. The evaluation of the student's knowledge by a certain ratio considers midterm and final examination.

The maximum evaluation for the academic course equals to 100 points:

The final examination is not evaluated by more than 40 points. The right to retake the final examination shall be given to the student who accumulates 51 scores, taking into account the maximum scores of the midterm evaluations and the final examination. The evaluation component defines the minimum competency threshold, which is reflected in the syllabus of the educational programme component. Sum of the minimum margin of competence of the midterm evaluation and maximum point of the final evaluation shall not be less than 51 points, while minimal margin of competence for the final evaluation shall not exceed 50% of the final assessment (which equals to less than 20 points).

The student's knowledge determination is allowed:

a) Five types of positive evaluation:

a) (A) Excellent – 91% and over of maximum grade; b) (B)

Very good - 81-90% of maximum grade; c) (C) Good - 71-80% of maximum grade;

(D) Satisfactory - 61-70% of maximum grade; (E) Sufficient - 51-60% of maximum grade.

b) Two types of negative grades:

b.a) (FX) Did not pass - 41%-50% of the maximum grade, meaning that a student requires some more work before passing and with independent work is given the right to retake additional exam once again. The additional examination shall be appointed in no less than 5 days after publishing the results of the final examination results.

b.b) (F) Fail – 40 and less of maximum point, which means that the work carried out by the student is not enough and he/she has to retake the course.

The date for appointing an additional examination in case of getting FX in an educational program component will be appointed no later than 5 days after the announcement of the examination results.

The amount of points received in the final evaluation is not added to the evaluation received by a student for the additional exam.

The evaluation received for the additional examination is a conclusive evaluation and it will be reflected in the final evaluation of the educational program component.

Taking into consideration the evaluation received at the additional examination, if a student receives 0-50 points in the final evaluation of the academic component, he/she will receive the evaluation - F-0 points.

The student has the right to request his/her knowledge to be fairly evaluated and appeal undesirable examination results in accordance with the established rule. The student, who does not agree with the evaluation and/or examination results, is allowed to submit a reasoned complaint to the Dean of the Faculty not later than within three working days after the examination and request the revision of the results. The evaluation forms, the evaluation components and methods are described in detail in the syllabi of the academic courses in accordance with the specifics of the academic course.

The Bachelor's Program is considered to be completed by the student's if he/she has accumulated credits provided by the educational programme and successfully defended the Bachelor's Thesis in accordance of the rule established within the University.

The Bachelor's thesis is a kind of summary work, by which the student's reasoning, analysis and synthesis skills are checked in the specialty, as well as the ability to see and evaluate problems. It reveals the compliance of the student's level of knowledge and the level of creative, research skills with the requirements determined by the Bachelor's Program.

Bachelor's thesis should meet the requirements listed below:

a) Bachelor's thesis should not be less than 30 pages of A-4 format. Font: „Sylfaen“; Font size: 12; Headings/subheadings size: 14; Space between text lines: 1,5; page margins (from all sides): 2 cm;

b) The following components should be considered in the structure of the Bachelor's thesis: b.a) Cover page (the first page of the Bachelor's thesis);

b.b) Annotation (should not exceed one page, should reflect the structure, objectives and brief conclusion of the Bachelor's thesis); b.c) Introduction (substantiation of the topic's urgency, goals, objectives, research subject and methods used);

b.d) Main part of the text (should be divided in chapters and paragraphs. It can be attached by diagrams, tables, drawings); b.e) Conclusion (should reflect the results of the Bachelor's thesis);

b.e) The list of used literature (should be presented at the end of the thesis in alphabetical order. First editions published in Georgian and then in foreign languages).

b.f) The following should be indicated in the bibliography:

b.f.a) In the event of using a periodical: Surname and initials of the author (authors), title of the work, year, volume/number, name of the scientific journal (in italics), Edition number and pages, where the thesis has been published;

b.f.b) In the event of using a book or a monograph: Surname and initials of the author (authors), title of the work (in italics), publishing year, place, publishing house;

b.f.c) In the event of using the Internet resource: Surname and initials of the author (authors) of the material, author of the web-site, title of the material with a link, web address, date of finding the material;

b.f.d) In case of using an electronic edition: Surname and initials of the author (authors) of the article, title of the article, year, name of the electronic publication (in italics), number of the publication, chapter, paragraph (written in parentheses), web address and date of finding the material;

b.f.e) In case of using governmental documents: Name of the country, name of the institution, whom the document belongs to; Type of the document (order, law and etc.), name of the document with the relevant identification number and indication of a year, place of the publishing house, where the indicated document was found and the name of the publishing house, where the indicated document was found; b.f.f) The literature used in the text should be marked as follows: At the end of the quotation a bracket is opened and a number of named literature is written by the attached list and is embedded with a comma. Then the pages are indicated, from which the quotation or the thesis is taken. (e.g. 15, 150-161);

b.f.g) Footnotes should be used in the main part of the work to indicate additional information (e.g.: Please, view Annex 2).

c) The thesis should be bound in the following sequence: The cover page, Annotation, Table of contents, Introduction, Chapters, Conclusion, Bibliography and Appendix (footnotes).

The student has a supervisor while working on the Bachelor's thesis. The supervisor of the Bachelor's thesis is selected by the student from the academic staff of the university. The Bachelor's student is able to choose the topic and supervisor of the Bachelor's thesis only after covering 210 credits, at the beginning of the 8th academic semester, not later than one month after the beginning of the academic semester. The topic of the Bachelor's thesis can be changed only once, not more than two months prior the end of the submission period, in agreement with the supervisor and by submitting a written application to the Dean of the main educational structural unit (faculties) of the University.

Supervisor of a Bachelor's work: Assists the student in guiding the Bachelor's thesis in the right direction, helps him/her to select a topic, to draft a work plan and process a bibliography; Checks the progress of the student's work on the topic, makes remarks and recommendations; In case of wrong direction of the research, he/she helps the student in its correction; After the student completes the work on the Bachelor's thesis, in accordance with the rules established by these internal regulations, reviews the Bachelor's thesis (preliminary review) and evaluates it by around 60 points within no later than 2 weeks.

The supervisor of the Bachelor's thesis has the right to make a reasoned refuse to supervise Bachelor's thesis of the student in writing, both before the start of the work and during the work on the topic, not later than one month after the beginning of the work. The Bachelor's thesis is defined in the general evaluation system by an independent percentage share, and the evaluation received as a result of its defense in accordance with the established rule is indicated in the standard annex of the relevant diploma.

The maximum grade for the bachelor's thesis is equal to 100 points, which is divided into the following components of the evaluation:

A) Preliminary review of the Bachelor's thesis - by the supervisor of the Bachelor's thesis - is evaluated by 60 points, according to the following criteria:

A.a) Novelty and relevance of the topic - 10 points

a.b) Thoroughly researched relevant literary sources, their systematization - 10 points; a.c) Ability to study and present the materials around the research topic - 10 points;

a.d) Ability to identify, research and analyze the problem, consistency of reasoning - 20 points; a.e) Technical, stylistic and grammatical correctness of the paper - 10 points.

B) Public Defense of the Bachelor's thesis - is evaluated by 40 points by the Faculty Council according to the following criteria: B.a)

Comprehension of the submitted paper -10 points;

b.b) Verbal part of the presentation - 15 points; b.c)

Technical part of the presentation - 5 points;

B.d) Answer given to questions, comments and recommendations - 10 points.

To obtain the right to present Bachelor's thesis for public defense, a student must have accumulated at least 11 points at the preliminary review of a Bachelor's thesis.

The evaluation score of the Bachelor's thesis is calculated using the arithmetic mean of the points written by the Faculty Council. The Bachelor's thesis will be considered fulfilled by the student, if he/she accumulates 51 points or more.

In case of evaluation of the Bachelor's thesis by 41-50 points, the student is additionally given the right to publicly defend the Bachelor's thesis once. The interval between the public defense and the additional defense of the Bachelor's thesis should be not less than 10 days. In case of evaluating the Bachelor's thesis by 0-40 points, the student is given the right to choose a new topic and defend the Bachelor's thesis before the Faculty Council in accordance with the established rule.

Information on the human resources necessary for the implementation of the educational program

The human resources required for the implementation of the educational programme are determined by the personnel - 2 professors, 8 associate professors and 20 invited specialists (teachers) who have the necessary knowledge/skills to produce the learning outcomes of the programme, Doctor's academic degree or its equivalent scientific degree, professional experience, special training and other competencies relevant to the requirements defined by law. See Annex

The employment agreements concluded with academic staff and invited specialists (teachers) according to the rules established by the legislation of Georgia.

Information about material resources, needed for the programme implementation;

The programme is implemented on the base of Saint King Tamar University of Patriarchate of Georgia, which has modern material and technical resources and is ensured with other necessary resources: classrooms equipped with modern equipment and inventory, the library (book fund and scientific electronic databases), resources of the Center for Research, Development and Innovation, etc. Memoranda on cooperation have been signed with various structures and successful organizations and the programme components will be implemented using all resources available to the University.

The institution has an appropriate infrastructure to implement the Bachelor's education programme and to achieve the learning outcomes provided by the programme: Well-equipped study auditoriums, library space and book fund,

library with international electronic library network, academic staff workspace, administrative rooms, meeting rooms and conference halls, student spaces and recreation area, and a well-designed yard. In order to implement the practical component, the institution has concluded memoranda.

Programme Structure/Curriculum

Academic Course	Code	EC TS	Volume of study activities in astronomical hours		Distribution of credits by semesters								The lecturer	Admission requirement
			Class room	and	1	2	3	4	5	6	7	8		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Mandatory disciplines of specialty		163												
General and Inorganic Chemistry	B0916.1.1.01	4	36	64	4									Invited Teacher Lela Amiranashvili
General and Medical Biology	B0916.1.1.02	4	36	64	4									Associate Professor Ketevan Shalashvili

Medical Physics, Biophysics	B0916.1.1.03	4	36	64	4									Invited Teacher Khatuna Chikvinidze	
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Medical Chemistry	B0916.1.1.04	3	36	39		3						Invited Teacher Nanuli Nadaraia	
Microbiology- Virology- Immunology 1	B0916.1.1.05	4	36	64		4						Invited teacher Darejan Chikviladze	B0916.1.1.03 B0916.1.1.04
Microbiology- Virology - Immunology 2	B0916.1.1.06	4	36	64			4					Invited teacher Darejan Chikviladze	B0916.1.1.05
Human Anatomy 1	B0916.1.1.07	4	36	64	4							Invited teacher Grigol Sulaberidze	
Human Anatomy 2	B0916.1.1.08	4	36	64		4						Invited teacher Grigol Sulaberidze	B0916.1.1.07
Human Physiology 1	B0916.1.1.09	4	36	64		4						Invited teacher Davit Chkhobadze	
Human Physiology 2	B0916.1.1.10	4	36	64			4					Invited teacher Davit Chkhobadze	B0916.1.1.09
Pharmacology 1	B0916.1.1.11	3	36	39					3			Invited teacher Nadezda Mushkiashvili	B0916.1.1.28 B0916.1.1.26
Pharmacology 2	B0916.1.1.12	3	36	39						3		Invited teacher Nadezhda Mushkiashvili	B0916.1.1.11
Processes and Apparatus	B0916.1.1.13	3	36	39						3		Associate Professor	B0916.1.1.29

in the Pharmaceutical Industry													Lia Tsiklauri	
Latin language, Medical Terminology	B0916.1.1.14	3	36	39	3								Invited teacher Nino Tsereteli	
Medical Biochemistry 1	B0916.1.1.15	3	36	39				3					Associate Professor Ketevan Shalashvili	
Medical Biochemistry 2	B0916.1.1.16	3	36	39					3				Associate Professor Ketevan Shalashvili	B0916.1.1.15
Pharmaceutical Chemistry 1	B0916.1.1.17	3	36	39					3				Invited Teacher Nanuli Nadaraia	B0916.1.1.26
Pharmaceutical Chemistry 2	B0916.1.1.18	3	36	39						3			Invited Teacher Nanuli Nadaraia	B0916.1.1.17
Pharmaceutical Chemistry 3	B0916.1.1.19	3	36	39							3		Invited Teacher Nanuli Nadaraia	B0916.1.1.18
Basics of Hygiene	B0916.1.1.20	3	36	39		3							Associate Professor Tamaz Gelovani	
Toxicological Chemistry	B0916.1.1.21	3	36	39						3			Associate Professor Maya Merlani	
Toxicology.	B0916.1.1.22	3	30	45				3					Invited Teacher Manana	B0916.1.1.26 B0916.1.1.28

													Zhuruli	
Organic Chemistry 1	B0916.1.23	3	36	39		3							Invited Teacher Nanuli Nadaraia	B0916.1.1.20
Organic Chemistry 2	B0916.1.1.24	3	36	39			3						Invited Teacher Nanuli Nadaraia	B0916.1.23
Analytical Chemistry 1	B0916.1.1.25	3	36	39			3						Invited Teacher Lela Amiranashvili	B0916.1.1.01
Analytical Chemistry 2	B0916.1.1.26	3	36	39				3					Invited Teacher Lela Amiranashvili	B0916.1.1.25
Phys-Colloidal Chemistry 1	B0916.1.1.27	3	36	39			3						Invited Teacher Lela Amiranashvili	B0916.1.1.01
Phys-Colloidal Chemistry 2	B0916.1.1.28	3	36	39				3					Invited Teacher Lela Amiranashvili	B0916.1.1.27
Technology of Drugs 1	B0916.1.1.29	3	36	39					3				Associate Professor Lia Tsiklauri	B0916.1.1.06
Technology of Drugs 2	B0916.1.1.30	3	36	39						3			Associate Professor Lia Tsiklauri	B0916.1.1.29
Technology of Drugs 3	B0916.1.1.31	3	36	39							3		Associate Professor Lia Tsiklauri	B0916.1.1.30
Social Pharmacy	B0916.1.1.32	3	36	39							3		Invited teacher Tamar Saghareishvili	B0916.1.1.29 B0916.1.1.12
Biotechnology	B0916.1.1.33	3	36	39						3			Associate Professor Ketevan Shalashvili	B0916.1.1.06 B0916.1.1.19

Botany 1	B0916.1.1.34	3	36	39				3					Associate Professor Ketevan Shalashvili	B0916.1.1.02
Botany 2	B0916.1.1.35	3	36	39				3					Associate Professor Ketevan Shalashvili	B0916.1.1.34
Pharmacognosy 1	B0916.1.1.36	3	36	39					3				Invited teacher Mariam Benidze	B0916.1.1.25
Pharmacognosy 2	B0916.1.1.37	3	36	39						3			Invited teacher Mariam Benidze	B0916.1.1.36
Pharmaceutical Informatics	B0916.1.1.38	3	36	39							3		Invited teacher Tamar Saghareishvili	B0916.1.1.18 B0916.1.1.30
Pharmakokinetics	B0916.1.1.39	3	36	39						3			Invited teacher Nana Kavtaradze	B0916.1.1.16 B0916.1.1.41
Instrumental methods of analysis	B0916.1.1.40	3	36	39					3				Invited teacher Lela Amiranashvili	B0916.1.1.28 B0916.1.1.26
Biopharmaceutics	B0916.1.1.41	3	36	39				3					Invited teacher Nana Kavtaradze	B0916.1.1.16 B0916.1.1.28
Pharmaceutical and medical commodity science	B0916.1.1.42	3	36	39					3				Invited teacher Tamar Saghareishvili	
Pharmaceutical Management and Marketing	B0916.1.1.43	3	36	39							3		Invited teacher Tamar Saghareishvili	B0916.1.1.18 B0916.1.1.30

Clinical Pharmacy and Pharmacotherapy	B0916.1.1.44	3	36	39							3		Invited teacher Nadezhda	B0916.1.1.12
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Teaching practice in botany	B0916.1.1.45	3	36	39				3					Associate Professor Ketevan Shalashvili	
Teaching practice in Pharmacognosy	B0916.1.1.46	3	36	39							3		Invited teacher Mariam Benidze	
Pharmacy practice	B0916.1.1.47	6	62	38							6		Invited teacher Razhden Gelbakhiani	
Teaching Practice in Clinical Pharmacy	B0916.1.1.48	3	38	37								3	Invited teacher Nadezhda Mushkiashvili	
Teaching Practice in social Pharmacy	B0916.1.1.49	3	38	37								3	Invited teacher Razhden Gelbakhiani	
Teaching Practice in Pharmaceutical Chemistry	B0916.1.1.50	3	38	37								3	Invited teacher Nanuli Nadaraia	
Teaching Practice in Pharmaceutical technology	B0916.1.1.51	3	38	37								3	Invited teacher Razhden Gelbakhiani	
b) Elective courses		24												
Preventive Medicine	B0916.1.1.001	3	36	39				3					Associate Professor Tamaz Gelovani	

Reproduction, production and cultivation of medicinal plants	B0916.1.1.002	3	36	39					3				Invited teacher Mariam Benidze
Phytotherapy	B0916.1.1.003	3	36	39								3	Invited teacher Mariam Benidze
Methodology of inclusive education.	B0916.1.1.004	3	36	39								3	Invited teacher Khatuna Kobakhidze
History of Medicine	B0916.1.1.005	3	36	39	3								Invited teacher Irine Bibileishvili
Eastern Medicine	B0916.1.1.006	3	36	39					3				Invited teacher Khatuna Urushadze
Drug design	B0916.1.1.007	3	36	39				3					Associate Professor Lia Tsiklauri
Medical psychology	B0916.1.1.008	3	36	39		3							Associate Professor Lana Sulkhanishvili
Environmental Medicine	B0916.1.1.009	3	36	39						3			Invited teacher Ketevan Kashia
Family medicine	B0916.1.1.010	3	36	39							3		Associate Professor Marine Bzishvili
Basics of therapy	B0916.1.1.011	3	36	39					3				Associate Professor Lali Kokaia

Workplace hygiene	B0916.1.1.012	3	36	39							3		Invited teacher Ketevan Kashia	
Ecology	B0916.1.1.013	3	36	39	3								Associate Professor Irma Tskhovrebadze	
Medical Genetics	B0916.1.1.014	3	36	39		3							Associate Professor Ketevan Shalashvili	
Technology of cosmetic and perfumery remedies	B0916.1.1.015	3	36	39				3					Associate Professor Lia Tsiklauri	
Pathology	B0916.1.1.016	3	36	39			3						Invited teacher Dinara Kasradze	
General or free components, research: A) Mandatory disciplines		56 27												
Academic Writing	B0101	4	36	64				4					Invited teacher Bella Saria	
Foreign language 1 (English)	B0102	4	36	64	4								Invited teacher Irene Menabde	

Foreign language 2 (English)	B0103	4	36	64		4							Invited teacher Irine Menabde	B0102
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Foreign language 3 (English)	B0104	4	36	64			4					Invited teacher Irine Menabde	B0103
Information Technologies	B0105	3	36	39	3							Associate Professor Nana Gumbaridze	
Bioethics 1	B0106	4	36	64				4				Professor Archimandrite Adam (Akhaladze)	
Bioethics 2	B0107	4	36	64					4			Professor Archimandrite Adam (Akhaladze)	B0106
B) Elective courses		15											
Issues of normalization of modern Georgian literary language	B0108	3	36	39	3							Invited teacher Bella Saria	
Generative analysis of literature	B0109	3	36	39			3					Invited teacher Bella Saria	
Old Testament	B0110	3	36	39			3					Deacon Iakob (Ushikishvili)	
New Testament	B0111	3	36	39			3					Deacon Iakob (Ushikishvili)	
Introduction to Christian Doctrine	B0112	3	36	39		3						Deacon Iakob (Ushikishvili)	

History and Culture of Georgia 1	B0113	3	36	39	3								Professor Zaza Tsurtsunia	
History and Culture of Georgia 2	B0114	3	36	39		3							Professor Zaza Tsurtsunia	B0113
Anthropology	B0115	3	36	39					3				Professor Archimandrite Adam (Akhaldze)	
Culture of Speech	B0116	3	36	39			3						Invited teacher Bella Saria	
Behaviorist psychology	B0117	3	36	39					3				Associate Professor Lana Sulkhanishvili	
Preparing /defending a Bachelor's thesis		14	70	280								14		
In total		245			32	31	30	31	31	31	30	29	245	

Program Goals

Map of Learning Outcomes

Program Goals	Program learning outcome 1	Program learning outcome 2	Program learning outcome 3	Program learning outcome 4	Program learning outcome 5	Program learning outcome 6	Program learning outcome 7
A) The student should gain a extensive knowledge in the field of pharmacy, considering its different aspects,							

<p>should learn human structure, body functions, growth and connections with the nature, the impact of nature and ecosystem on it, the impact on pathologies of the body with medicinal pharmaceuticals, phyto-homeopathic, preventive, hygienic, nutrition, first aid items - finally their realization before the society.</p>	X		X	X		X	
<p>B) To develop the skills of clinical practice and the ability to apply the gained knowledge in practice, to study the general scientific basic subjects of medicine, the basics of pharmacology, pharmacognosy, biopharmacy, pharmacodynamics, pharmacokinetics and biotransformation.</p>	X	X	X	X	X		X
<p>C) To gain knowledge in the field of clinical medicine, pharmaceutics, pharmaceutical production, pharmaceutical technologies, social pharmacy, pharmaceutical management. Also develop field and general / transfer competencies skills. Develop the essential skills for the management and</p>		X	X	X		X	X

administration of a pharmaceutical organization							
<p>D) The graduate is able to obtain a job vacancy in a pharmacy network, pharmaceutical industry, analytical laboratory or governmental public service and further take care of career growth.</p> <p>Understand the basic normative documents regulating the registration, commodity turnover, quality control and advertising of pharmaceutical products.</p>	X	X			X	X	X

Learning outcomes	Characteristics of learning outcomes	Note
Learning outcome 1	The Bachelor of Pharmacy will have the theoretical and practical knowledge and skills relevant to modern standards: On the methods of obtaining and analyzing pharmaceutical information, about the activities of a pharmacist in human structure, physiology, manipulation by knowledge of biochemistry, laboratories, workshops, pharmacies. Understands the major chemical, biological, genetic, and physiological processes, which are the basis for the	

	existence of a healthy organism.	
Learning outcome 2	<p>Is aware how to classify drugs and their pharmacy technologies. Knows the basics of pharmaceutical and clinical toxicology and their application in practice. Understands the basics of pharmacochemistry, analytical and physico-colloidal chemistry data in key pharmaceutical drug manufacturing technologies.</p> <p>Knows Latin language with professional, pharmaceutical terminology. Knows the processes of biotransformation based on the knowledge of biodynamics-biokinetics; Understands the basic principles of social pharmacy, pharmaceutical management.</p>	
Learning outcome 3	<p>Manipulates by selecting and using different groups of medications for different diseases. Is familiar with the nomenclature of medicines, as well as the principles of its proper storage, stacking and sale. Knows the procedures of work in pharmacies, laboratories, pharmaceutical workshops and the requirements of safety equipment.</p> <p>Knows the basics of pharmaceutical and clinical toxicology and their application in practice. Understands the rules of making basic pharmaceutical formulations, based on the knowledge of phys-colloidal chemistry. Knows the rules of dealing with the medical-pharmaceutical property. Participates in field expeditions in nature, recognizes medicinal plants.</p>	
Learning outcome 4	<p>Possesses the skills of application of pharmaceutical business management and marketing methods in practical activities. Possesses the skills of application of pharmaceutical business management and marketing methods in practical activities. Is able to think critically and has the ability to self-criticism; is able to identify and solve problems; has the ability of correct planning and time-management.</p> <p>Is able to collect and interpret the features characteristic to the field, as well as perform the analysis of the non-figurative data and situations using the standard and some distinctive methods, make a substantiated conclusion: Data collection, recording and analysis in the conditions of a pharmacy, laboratory, workshop or expedition.</p> <p>.</p>	

	<p>Ability to select medicines in case of sale without prescription; Ability to make the right decision in case of a prescription incongruity or incorrectly dosed in agreement with a doctor;</p> <p>Ability to evaluate the clinical efficacy and cost-effectiveness of a drug;</p>	
<p>Learning outcome 5</p>	<p>Has the ability to find, store and apply information through information technology in practical pharmacy;</p> <p>Is able to find, analyze, interpret and synthesize information and data from various sources in order to make reasoned decisions;</p> <p>Ability to carry out laboratory research procedures and make conclusions within the competence, analyze the problem and elaborate ways to solve it; Reasoning and defending the management decision.</p> <p>Is able to communicate with patients, social groups, as well as people with communication problems; is able to communicate orally and in writing in Georgian and English languages;</p> <p>Is able to use information and communication technologies; Has the ability to work in a group;</p> <p>Is able to use information and communication technologies; Has the ability to work in a group;</p>	
<p>Learning outcome 6</p>	<p>Is able to identify the need for consistent assessment of his/her own knowledge, further learning, understanding and consistent deepening of knowledge, with a certain degree of independence, using special literature;</p> <p>Has the ability to realize the need for continuing education (lifelong learning); Ability to determine directions of self-development; Ability to raise knowledge using the latest scientific sectoral literature.</p> <p>Ability to adhere to professional and ethical values with customers, colleagues and physicians in business relationships.</p>	

Learning outcome 7	Taking part in the process of formation of values and striving for their establishment. The alumni realizes the professional, ethical and legal norms of the field of pharmacy and implements them in his/her daily activities, which stipulates to appreciation, respect of differences and cultural diversity between people and motivation of staff working in a medical facility and to organize them to achieve common goals, to participate in the process of formulating the values of the health care system and to establish it.	

Curriculum map of the bachelor's program "Pharmacy"

1- Introduction, 2 - deepening, 3 - strengthening

		Competence of the graduates of the bachelor's program "Public Healthcare"		
	Name of the academic course	Knowledge	Skill	Responsibility and Autonomy
1	General and Inorganic Chemistry	1	1	1
2	General and Medical Biology	1	1	1
3	Medical physics, biophysics	1	1	1
4	Medical chemistry	1	1	1
5	Microbiology- Virology- Immunology 1	1	1	2
6	Microbiology- Virology- Immunology 2	2	2	2
7	Human Anatomy 1	1	1	1
8	Human Anatomy 2	2	2	2
9	Human physiology 1	1	1	1

10	Human physiology 2	2	2	2
11	Pharmacology 1	2	2	2
12	Pharmacology 2	2	2	2
13	Processes and apparatus in the pharmaceutical industry	1	2	2
14	Latin language, Medical terminology	1	1	1
15	Medical biochemistry 1	1	2	1
16	Medical biochemistry 2	2	2	2
17	Pharmaceutical chemistry 1	1	2	2
18	Pharmaceutical chemistry 2	2	2	2
19	Pharmaceutical chemistry 3	2	2	2
20	Basics of Hygiene	1	2	1
21	Toxicological Chemistry	1	2	2
22	Toxicology.	2	2	1
23	Organic Chemistry 1	1	2	2
24	Organic Chemistry 2	2	2	2
25	Analytical chemistry 1	1	2	2
26	Analytical chemistry 2	2	2	2
27	Phys-Colloidal Chemistry 1	2	2	2
28	Phys-Colloidal Chemistry 2	2	2	2

29	Technology of drugs 1	1	2	2
30	Technology of drugs 2	2	2	2
31	Technology of drugs 3	2	2	2
32	Social Pharmacy	2	2	2
33	Biotechnology	1		
34	Botany 1	1	1	1
35	Botany 2	2	2	1
36	Pharmacognosy 1	2		
37	Pharmacognosy 2	2	2	2
38	Pharmaceutical Informatics	1	1	1
39	Pharmacokinetics	1	2	1
40	Instrumental methods of analysis	1	2	2
41	Biopharmaceutics	2	2	2
42	Pharmaceutical and medical commodity science	2	2	2
43	Pharmaceutical Management and Marketing	2	2	2
44	Clinical Pharmacy and Pharmacotherapy	2	2	2
45	Teaching practice in botany	3	3	3
46	Teaching practice in pharmacognosy	3	3	3
47	Pharmacy practice	3	3	3

48	Teaching Practice in Clinical Pharmacy	3	3	3
49	Teaching Practice in social Pharmacy	3	3	3
50	Teaching practice in pharmaceutical chemistry	3	3	3
51	Teaching Practice in Pharmaceutical technology	3	3	3
	Elective			
1	Preventive Medicine	1	1	1
2	Reproduction, production and cultivation of medicinal plants	1	1	1
3	Phytotherapy	1	1	1
4	Methodology of inclusive education.	1		
5	History of Medicine	1	1	-
6	Eastern Medicine	1	1	-
7	Drug design	1	1	-
8	Medical psychology	1	2	2
9	Environmental Medicine	1	2	1
10	Family medicine	2	1	1
11	Basics of therapy	2	2	1
12	Workplace hygiene	2	1	1
13	Ecology	2	1	1
14	Medical Genetics	1	1	1

15	Technology of cosmetic and perfumery remedies	2	1	1
16	Pathology	2	1	1
	General or free components, research: A) Mandatory Courses			
17	Academic Writing	1	1	-
18	Foreign language 1 (English)	1	1	-
19	Foreign language 2 (English)	1	1	-
20	Foreign language 3 (English)	2	2	-
21	Information Technologies	1	1	1
22	Bioethics 1	2	2	1
23	Bioethics 2	2	2	1
	B) Elective courses			
24	Issues of normalization of modern Georgian literary language	1	1	=
25	Generative	1	1	-

	analysis of literature			
26	Old Testament	1	1	-
27	New Testament	1	1	-
28	Introduction to Christian Doctrine	1	1	-
29	History and Culture of Georgia 1	1	1	-
30	History and Culture of Georgia 2	1	1	-
31	Anthropology	1	1	-
32	Culture of Speech	1	1	-
33	Behavioral Psychology	1	1	=
34	Preparing /defending a Bachelor's thesis	3	3	3

Programmes of the academic courses (syllabi)

Programmes of the teaching courses (syllabi) with attachment (see the attached CD-R)