



*Telavi State University*





## *History*

Iakob Gogebashvili Telavi State University (TESAU) is one of the oldest Educational centers in Georgia. The University has been a successor and of Ikalto Academy (XII Century), Telavi Philosophical and Theological Institute (1758-1782), Theological Academy (1782-1801), Theological Institute (1818-1918), Teachers' Professional Institute (1939-1951) and Pedagogical Institute (1951-1999); It has multi-century educational traditions.

The University is named after the great Georgian teacher and outstanding public person Iakob gogebashvili. In 1999 the University became an autonomous State University. Teaching language is Georgian.

There is Bachelor, Master and Doctor's renewed teaching programs. Professional education is also available there.

## *Financial and Technical Base*

There are four teaching campus, playgrounds, Centre for Art and Culture.

There functions a library at the University, where more than 200 000 books are available.

12 Professors, 51 Associate Professors and 27 Assistant Professors work and teach at TESAU. There are studying approximately 2000 students at Telavi State University.

Scientific works of TESAU Professors, PhDs, and Bachelors' are published annually. Journal "Telavi University" is published twice a year.

TESAU has relations with European and American Universities. Different exchange programs are available for TESAU students and staff.

There are held local, Republic, International Conferences and Symposiums.

There functions different centers for Scientists, learning centers for culture and history of different countries; intellectual and discussion clubs.

## *There Functions:*

5 Faculties with corresponding Departments

More than 30 laboratories

Teaching workshops

Internet Network

Sociological Research group

Computer Centre

Foreign Languages and Professional Retraining Centre

Caucasus Research Centre

Room for Archeology

Juridical Clinic

Foreign Language Centre of International Black Sea University

Centre for German Language and Culture (Biberach Room)

Centre for European Studies

Journalistic Teaching Centre

American Teaching Centre

Francophone Centre

Students' Self-government

Sport and Cultural Clubs



Iakob Gogebashvili Telavi State University

Telavi, Kartuli Universiteti str, №1, Tel.: 0350 272 401, E-mail: info@tesau.edu.ge

Faculty of Exact and Natural Science

First level educational program of Higher Education

Pharmacy

Field / Specialty: 09 Healthcare / 0903 Pharmacy

Heads of the program:

Maradi Burduli, Ph.D (Candidate of Science) in Medicine Associate professor

Nana Natsvlshvili Ph.D (Candidate of Science) in Medicine Associate professor

1. Recommended by the Faculty of Exact and Natural Sciences and the Quality Assurance Office of the university

Protocol № 2013

Head of Quality Assurance Office

/Sh. Tchkadua/

2. Approved by the Exact and Natural Sciences Faculty Board

Protocol №, 17<sup>th</sup> April, 2013

Dean of the Faculty

/Prof .T. Mchedluri/

3. Approved by the Academic Board

Protocol №

Rector

/T.Javakhishvili/

Telavi

2013

Academic Degree Offered:

# *Bachelor of Pharmacy*

- **Faculty** - Exact and Natural Science
- **Department** - Healthcare
- **Title of the Program:** Pharmacy
- **Heads of the program:**

Maradi Burduli - Associate professor, Head of the Department of Healthcare at the Faculty of Exact and Natural Science Tel: 0350 271 991.

Nana Natsvilishvili - Associate professor, deputy dean at the Faculty of Exact and Natural Science Tel: 0350 271 559.

[nananatsvlishvili@mail.ru](mailto:nananatsvlishvili@mail.ru)

- **Academic educational level:**  
Undergraduate I level
- **Type of the educational program:**  
academic
- **Teaching language:**  
Georgian
- **Program volume in ECTS:**  
240



### *Preconditions for Admission to the Program:*

Precondition for admission to the program is the school graduation certificate. For Georgian citizens – National Exam certificate. Precondition for admission to the program includes the results of the national examination; set of course priorities and their respective coefficients given by the university. Foreign citizens and stateless persons who have obtained the right to receive higher education in accordance with the laws of the country in which they have received secondary or equivalent education are entitled to study without passing national examination.

### *Goals of the educational program:*

Educational program comes into accordance with the mission and goals of Iakob Gogebashvili Telavi State University. The program aims to prepare highly qualified, competitive bachelors according to the professional standards in the field of pharmacy who will work in pharmacies, pharmaceutical bases and pharmaceutical enterprises.

The goal of the program is to enable program graduates to make pharmaceutical assistance, rational pharmacotherapy, implementation of pharmaceutical technology and to lead the pharmaceutical institution in accordance with relevant communication/skills.

The program provides to continue studies, lifelong learning, develop the effective and appropriate professional skills.

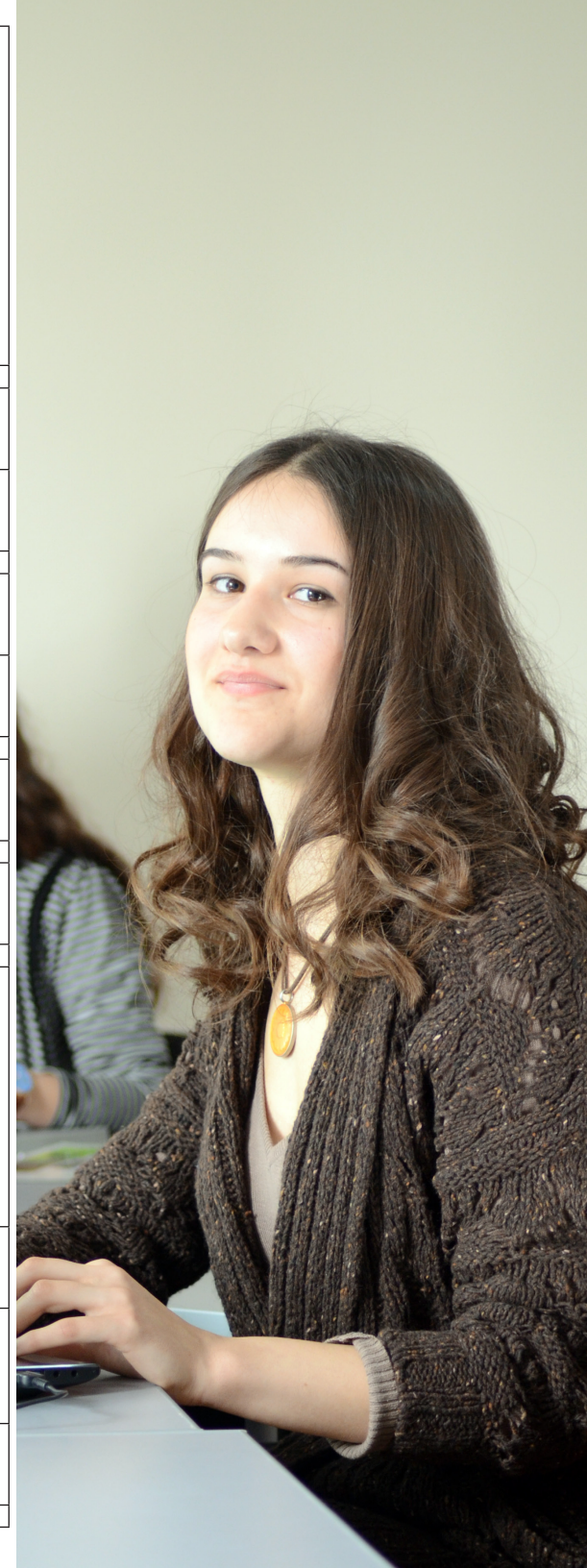
# Learning outcomes:

Knowledge and awareness	<p>Has comprehensive, specialized theoretical and practical knowledge.</p> <p>Acknowledges the critical understanding of professional work opportunities.</p>	<p>Aware of the structure and function of the human body at molecular, cellular, tissue, organ, organ system and whole Biosystem levels. Aware of the vital processes of biological and molecular mechanisms in the human body, inheritance and variation patterns either in times of normal or pathological conditions. Aware of the major classes' compositions and variations in the human body either in times of normal or pathological conditions. Knows the characteristics of physical - chemical and biological factors affecting of an organism and the basics of creating a secure environment to human health. Familiar with the chemical and pharmaceutical groups, knows their action mechanisms and is mastered in pharmacotherapy basics. Knows the principles of pharmaceutical institute enterprise organizations. Knows the basics of Math. Aware of pharmaceutical raw materials manufacturing, processing, storage, analysis, standardization principles, not only pharmacy but also industrial conditions. Is mastered in factory and pharmacy technologies. Familiar with the product serial production equipment and appliances, protects the safety rules. Understanding the role and importance of biologically active substances both physiological and pathological processes. Aware of the need to fulfill the requirements of the international standards of pharmacy practice and ethical and legal principles.</p>
Practical application of knowledge	<p>Able to use information sources and distinctive methods in the process of profession-related issues planning and implementation, develop a strategy to solve specific tasks and fill the gained results in order to improve future performance.</p>	<p>Is able to use standard methods for obtaining substances and implementing practical analyzing. Is able to produce process and store natural raw material. Able to analyze pharmaceutical products. Is able to produce medicine according to the prescription and consequently the production of pharmaceutical products, able to participate in the production of pharmaceutical products and to safely use the pharmacy equipment. Able to determine the suitability and quality control of pharmaceutical products and rational pharmacological support. Is able to lead pharmaceutical institution. Is capable to provide first aid in critical situations. Is able to effectively use the foundations of mathematics. Is able to produce and usage the necessary documentation. Is capable of written and oral communication both in native and English Language.</p>
Ability of decision-making	<p>Is able to collect, analyze, use the distinctive methods and make reasoned conclusion. Gain necessary data to solve a specific problem.</p>	<p>Is able to use the necessary methods in any pharmaceutical activities and through the usage of information technologies select alternative possibilities, analyze, discussion and make necessary conclusions. Is able to make reasoned conclusion and solve problems by critical thinking and logical reasoning in case of problems.</p> <p>Is able to determine the suitability of the for pharmaceutical products by usage of necessary methods, define time frames, quality control and prove the conclusions.</p>
Communication skill	<p>Can make effective use of modern information and communication technologies to solve profession-related problems. Is able to prepare written and oral reports and presentation both in Georgian and foreign languages.</p>	<p>Is able to perform oral and written communication with employees, colleagues and customers. Is able to acquire any kind of new information technology and deliver necessary information to consumers in accordance with his/her professional competence. Capable of taking responsibility and secure ethical norms, gain necessary data for the colleagues and costumers in native and foreign languages, prepare written and oral reports. Is good at group as well as individual work and ability to adapt to a critical situation</p>
Learning ability	<p>Able to consistently and deliberately manage their own studies, aware of the necessity of lifelong learning in a rapidly changing environment.</p>	<p>Realizes and independently plans the steps for improving professional and career development. Is able to retrieve necessary resources, select study components and providing study opportunities at the next level.</p>
Values	<p>Is responsible for values characteristic to the professional activities and strives to promote them.</p>	<p>Knows and respects the Georgia's contributions to the history of medicine and pharmacy. Aware of Georgian Geography – Ecology and is careful to the environment. Posses ethical and legal principles and accordingly uses it toward customers and colleagues. Upholds the principle - no harm”.</p>

# Map of the learning outcomes

Nº	Academic Courses	Knowledge and awareness	Application of knowledge/ practical skills	Ability of decision -making	Communication skills	Learning skills	Values
1	Foreign language I	X	X		X	X	
2	Information technologies	X	X	X	X	X	
3	Normal anatomy of human	X	X			X	
4	Basics of Higher Mathematics	X	X	X		X	
5	Medical and Biological Physics	X	X	X		X	
6	General and inorganic chemistry	X	X	X		X	
7	Medical Biology	X	X	X		X	
8	Professional Latin language	X	X		X	X	
9	Botany I	X	X	X		X	
10	Basics of Histology	X	X	X		X	
11	Organic Chemistry I	X	X	X		X	
12	Foreign Language II	X	X		X	X	
13	Bioethics	X	X	X	X	X	X
14	Botany II	X	X	X		X	
15	Hygiene Basics	X	X	X		X	
16	Human Physiology I	X	X	X		X	
17	History of Pharmacy	X	X	X			X
18	Academic Writing	X	X	X	X	X	X
19	Organic Chemistry II	X	X	X		X	
20	Fundamentals of Microbiology and Virology	X	X	X		X	
21	Human Physiology II	X	X	X		X	
22	Analytical Chemistry	X	X	X		X	
23	Foreign Language III	X	X		X	X	
24	Pharmaceutical medical Commodity	X	X	X		X	
25	Physical and colloidal chemistry	X	X	X		X	
26	First aid	X	X	X	X	X	X
27	Foreign Language IV	X	X		X	X	
28	Instrumental Methods of Analysis	X	X	X		X	
29	General biochemistry	X	X	X		X	
30	Fundamentals of general pathology	X	X	X		X	
31	Pharmacognosy I	X	X	X		X	
32	Pharmaceutical Chemistry I	X	X	X		X	
33	Pharmaceutical Chemistry II	X	X	X		X	
34	Foreign Language V	X	X		X	X	
35	Pharmacognosy II	X	X	X		X	
36	Pharmacology	X	X	X		X	
37	Pharmacy technologies of medicine forms	X	X	X		X	
38	Toxicological Chemistry	X	X	X		X	X

39	Elective courses						
	1. Modern						
	Dental	X	X	X	X		
	Materials						
	2. Georgian Geography and Ecology						
		X	X	X	X		
40	Foreign language VI	X	X		X	X	
41	Pharmacology	X	X	X		X	
	II						
42	Management and	X	X	X	X	X	
	Marketing in Pharmacy I						
43	Pharmacotherapy	X	X	X		X	X
44	Teaching practice	X	X	X	X	X	X
	In Pharmacognosy						
45	Teaching practice in	X	X	X		X	
	Pharmaceutical chemistry						
46	Basics of pharmacokinetics	X	X	X		X	
47	Industrial technologies of medicine forms	X	X	X		X	
48	Clinical Pharmacology	X	X	X	X	X	X
49	Management and	X	X	X	X	X	
	Marketing in Pharmacy II						
50	Biopharmacy	X	X	X		X	X
51	Elective courses						
	1. Perfumery	X	X	X			
	Means						
	2. Medical psychology	X	X	X	X		X
52	Practice in	X	X	X	X	X	X
	Pharmacy technologies of medicine forms						
53	Practice Industrial technologies of medicine forms	X	X	X	X	X	X
55	Practice in Management and	X	X	X	X	X	X
	Marketing in Pharmacy						
56	Bachelor Thesis	X	X	X	X	X	X



## ***Teaching and learning methods:***

It is impossible to study a particular issue through one method in the teaching process. Professor, in the teaching process, has to use various methods. In many cases there is a combination of methods. E.g., teaching material is presented in the form of visual presentation accompanied by a verbal explanation; then the discussion takes place. The student will be given an assignment to carry out independent task that means to work in the book, take notes, etc. Thus, in teaching –learning process method are complementary to each other and become mixed.

- Verbal or oral method.
- Method of working on book
- Writing method including the following activities: making extractions and notes, make an abstract of material, thesis writing, essay , etc.
- Laboratory method and demonstrative method– including the following activities: experiments, video materials, dynamic types of material and etc.
- Practical methods: – Combines all teaching forms that help students to obtain practical skills. Student will be able to independently perform certain activities based on knowledge. E.g. Industrial and pedagogical practice, field work, etc.
- Group working method

## ***Employment***

Pharmacist can make an application of acquired knowledge in scientific - research institutions, pharmaceutical industry, medicine and toxicological quality control laboratory, court and chemical expertise, pharmaceutical markets, pharmacies, chemical and medical technology departments.

## ***Material - technical base:***

Telavi State University provides students with the necessary educational and research material - technical base. For the program implementation relevant material resources, infrastructure and technical equipment are offered. This allow students to be provided with information about the program. Adequate learning environment exists at the university. Telavi State University has a two-storied library building according to modern requirements having a bookstorage room, a subscription and reading room, computer equipments, assembly hall and presentation rooms. Library book fund (both printed and electronic), is regularly enriched by the new books purchased by the university. The library is involved, “Ebsko” electronic library search system. The library fund is actually in line with the literature specified in the syllabus. In the computer halls computers with the modern software, the Internet and the internal network connected computers and other information technology equipments (printers, scanners, copy machines, etc.) are available for students as well as for staff. Projectors and other technical equipment are also used in order to achieve learning outcomes as specified in syllabuses of the program. Students conduct research in biology, chemistry technology labs at TESAU. The university signed the agreement with “Neoparm”.

# *Students' Assessment System:*

(See: university protocol on Credit circulation rules of educational program and students' knowledge assessment system on the TESAU webpage)

Teaching courses are rated 100-point system. Evaluation system produces:

## Five types of positive feedback:

- 1) (A) Excellent –maximum 91%  
and more;
- 2) (B) Very good – maximum 81-90%;
- 3) (C) Good – maximum 71-80% ;
- 4) (D) Satisfactory - maximum 61-70%;
- 5) (E) Enough - the maximum 51-60%;

## Two types of negative feedback:

- 1) (FX) not passed – maximum assessment of 41-50%, It means that a student needs to work more and she/he is given a right to take re-examination after independent work
- 2) (F) fail- maximum assessment of 40% and less. It means that there is not enough work done by the student and the subject should be learned again.

Credit is available to be given after reaching learning outcomes described in the syllabus.

Theoretical knowledge as well as practical tasks will be considered while students assessment. Students' knowledge will be assessed by considering the following components: Mid-term assessment and final exam totally 100 points. Among them:

- a) Mid-term assessment – max 60 point;
- b) Final exam – max 40 point.

Mid-term assessment shall be determined in accordance with the following three main components:

- 1) Mid-term exams - max 30 point (2 x 15 point);
- 2) max 20 point (4 x 5 point);
- 3) max 10 point.

The format and criteria of mid-term and final assessment is defined according to each course syllabus.

Mid-term, final and additional examinations will be held by the Examination Center at the University. In practice the student will be assessed by a 100-point system.

Master's thesis is evaluated by the 100-point system. Above described evaluation system statute regulates the rules of Master thesis development, designing, defense and assessment procedures.



### *Characteristics of Teaching organisation:*

The learning process is ensured by highly qualified professionals with relevant academic degree. Professors and associate professors, invited specialists having professional expertise and teaching experience. The program covers 240 ECTS. In V and VII obligatory elective courses are offered. Practice covers 35 ECTS , BA theses is given 10 ECTS.

### *Academic staff involved in the implementation of the program:*

1. Professor Manana Charibashvili
2. Professor Elizbar Elizbarashvili
3. Associate prof. Simony Okhanashvili
4. Professor Diana Mchedlishvili
5. Associate prof. Ana Abashidze
6. Associate prof. Giuli Andronikashvili
7. Associate prof. Maradi Burduli
8. Professor. Tamar Nadiradze
9. Associate prof. Mzia Ghagholishvili
10. Associate prof. Nana Natsvlishvili
11. Associate prof. Gela Azhikuri
12. Associate prof. Malkhaz Tsirekidze
13. Associate prof. Nino Kakhashvili
14. Associate prof. Laura Zuroshvili
15. Associate prof. Mate Javakhishvili
16. Associate prof. Ia Chakiashvili
17. Invited Dr. Tamaz Murtazashvili
18. Invited lecturer Ekaterine Onikadze
19. Invited lecturer Leila Metreveli
20. Invited lecturer Vera Khutsaidze
21. Invited lecturer Tamila Sharashenidze
22. Invited lecturer Elene Bezhuashvili
23. Invited lecturer Darina Chotolashvili

Appendix N2

Higher educational first stage educational program  
Pharmacy

Curriculum

№	Module/educational course	Status	კრედიტი	Credits								Distribution of Hours						Overall hours	Number of hours according to the weeks				
				I ს.წ.		II ს.წ.		III ს.წ.		IV ს.წ.		Contact					Lecture		Practical Work	Laboratory work	Practice	All	
				I semester	II Semester	III Semester	IV Semester	V Semester	VI Semester	VII Semester	VIII Semester	Lecture	Practical Work	Laboratory work	Practice	All							Independent
1	Foreign language 1	obligatory	5	X								15	30			45	80	125	1	2			3
2	Informational Technologies	obligatory	3	X								15	15			30	45	75	1	1			2
3	Normal anatomy of Human	obligatory	4	X								15	30			45	55	100	1	2			3
4	Basics of higher mathematics	obligatory	3	X								15	15			30	45	75	1	1			2
5	Medical and Biological Physics	obligatory	3	X								15	10	5		30	45	75	1	1			2
6	General and Inorganic Chemistry	obligatory	3	X								15	10	5		30	45	75	1	1			2
7	Medical Biology	obligatory	3	X								15	15			30	45	75	1	1			2
8	Professional Latin Language	obligatory	3	X								15	15			30	45	75	1	1			2
9	Botany I	obligatory	3	X								15	15			30	45	75	1	1			2
10	Basics of Histology	obligatory	3		X							15	15			30	45	75	1	1			2
11	Organic chemistry I	obligatory	4		X							15	20	10		45	55	100	1	1	1		3
12	Foreign language II	obligatory	5		X							15	30			45	80	125	1	2			3
13	Bioethics	obligatory	3		X							15	15			30	45	75	1	1			2
14	Botany II	obligatory	3		X							15	15			30	45	75	1	1			2
15	Basics of Hygiene	obligatory	3		X							15	15			30	45	75	1	1			2
16	Physiology of Human I	obligatory	3		X							15	15			30	45	75	1	1			2
17	History of Pharmacy	obligatory	3		X							15	15			30	45	75	1	1			2
18	Academic writing	obligatory	3		X							15	15			30	45	75	1	1			2
19	Organic Chemistry II	obligatory	4			X						15	20	10		45	55	100	1	2			3
20	Basics of Microbiology and Virology	obligatory	4			X						15	30			45	55	100	1	2			3
21	Physiology of human II	obligatory	3			X						15	15			30	45	75	1	1			2
22	Analytical Chemistry	obligatory	4			X						15	20	10		45	55	100	1	2			3
23	Foreign language III	obligatory	5			X						15	30			45	80	125	1	2			3

24	Pharmaceutical Medical	obligatory	4				X						15	30			45	55	100	1	2			3
25	Material studies Physical and Coloidar Chemistry	obligatory	3				X						15	10	5		30	45	75	1	1			2
26	First medical aid	obligatory	3				X						15	15			30	45	75	1	1			2
27	Foreign language IV	obligatory	5				X						15	30			45	80	125	1	2			3
28	Instrumental methods of analysis	obligatory	5				X						15	20	10		45	80	125	1	2			3
29	General bio chemistry	obligatory	5				X						15	20	10		45	80	125	1	2			3
30	Basis of General Pathology	obligatory	5				X						15	30			45	80	125	1	2			3
31	Pharmacognosy I	obligatory	5				X						15	30			45	80	125	1	2			3
32	Pharmaceutical Chemistry I	obligatory	5				X						15	20	10		45	80	125	1	2			3
33	Pharmaceutical Chemistry II	obligatory	5					X					15	20	10		45	80	125	1	2			3
34	Foreign Language V	obligatory	5					X					15	30			45	80	125	1	2			3
35	Pharmacognosy II	obligatory	5					X					15	30			45	80	125	1	2			3
36	Pharmacology I	obligatory	5					X					15	30			45	80	125	1	2			3
37	Pharmacy technologies of medicine forms	obligatory	5					X					15	30			45	80	125	1	2			3
38	Toxicological Chemistry	obligatory	3					X					15	10	5		30	45	75	1	1			2
39	Optional Courses:	obligatory						X																
	1. Modern dental material	obligatory	2					X					15	15			30	20	50	1	1			2
	2. Geography and ecology of Georgia																							
40	Foreign language VI	obligatory	5						X				15	30			45	80	125	1	2			3
41	Pharmacology II	obligatory	5						X				15	30			45	80	125	1	2			3
42	Management and Marketing in pharmacy I	obligatory	5						X				15	30			45	80	125	1	2			3
43	Pharmacotherapy	obligatory	5						X				15	30			45	80	125	1	2			3
44	Educational practice in Pharmacognosy	obligatory	5						X							75	75	50	125				25	
45	Educational practice in pharmaceutical chemistry	obligatory	5						X							75	75	50	125				25	
46	Basis of Pharmacokinetics	obligatory	5							X			15	30			45	80	125	1	2			3
47	Industry technologies of medicine forms	obligatory	5							X			15	30			45	80	125	1	2			3
48	Clinical pharmacology	obligatory	5							X			15	30			45	80	125	1	2			3
49	Management and marketing in pharmacy II	obligatory	5							X			15	30			45	80	125	1	2			3
50	Bio-pharmacy	obligatory	3							X			15	15			30	45	75	1	1			2
51	Optional subjects:	obligatory	2							X			15	15			30	20	50	1	1			2
	1. Make up means	obligatory								X														
52	2. Medical Psychology Educational practice Pharmacy technologies of medicine forms	obligatory	5							X						75	75	50	125				25	

53	Educational practice Industrial technologies of medicine forms	obligatory	10								X				100	100	150	250				25	
54	Educational practice management and marketing in pharmacy	obligatory	10								X				150	150	100	250				25	
55	Bachelor dissertation	obligatory	10								X	10				10	240	250	1				1
	All:		240													2430	3570						

Teaching practice in Pharmacognosy takes place for three weeks – 25 hours in a week.

Teaching practice in Pharmaceutical Chemistry takes place for three weeks- 25 hours in a week.

Teaching practice in Pharmacy technologies of medicine forms for three weeks- 25 hours in a week

Teaching practice in industry technologies of medicine forms takes place for four weeks-25 hours in a week

Teaching practice in management and marketing in Pharmacy for six weeks- 25 hours in a week.

Appendix N3

Higher educational first stage educational program  
Pharmacy

Additional scheme of educational plan

Nº	Module/Educational course	Code			Status	Prerequisite	lecturer	Major literature
1	Foreign Language I	U.1E1	I	5	Obligatory		Prof. Manana Gharibashvili	
2	Informational technologies	Z.1.I.22	I	3	Obligatory		Assoc. Prof. Svimon Okhanashvili	
3	Normal Anatomy of human	M.1.B.01	I	4	Obligatory		Invited teacher Ekaterine Onikashvili	
4	Basis of higher mathematics		I	3	Obligatory		Prof. Diana Mchedlishvili	
5	Medical and Biological Physics	Z1.P29	I	3	Obligatory		Assoc. Prof. Ana Abashidze	
6	General and Inorganic chemistry		I	3	Obligatory		Assoc. Prof. Giuli Andronikashvili	
7	Medical Biology	M.1.B.05	I	3	Obligatory		Assoc. Prof. Maradi Burduli	
8	Professional Latin language	M.1.B.04	I	3	Obligatory		Invited teacher Ekaterine Onikashvili	
9	Botany I		I	3	Obligatory		Prof. Tamar Nadiradze	
10	Basis of Histology	M.1.B.02	II	3	Obligatory		Assoc. Prof. Maradi Burduli	
11	Organic Chemistry I		II	4	Obligatory		Assoc. Prof. Mzia Ghagholoshvili	
12	Foreign language II	U.1E2	II	5	Obligatory		Prof. Manana Gharibashvili	
13	Bio ethics	M.1.B.13	II	3	Obligatory		Assoc. Prof. Nana Natsvlishvili	
14	Botany II		II	3	Obligatory		Prof. Tamar Nadiradze	
15	Basis of Hygiene		II	3	Obligatory		Invited teacher Leila Metreveli	
16	Physiology of Human I	M.1.B.23	II	3	Obligatory		Assoc. Prof. Gela Azikuri	
17	History of Pharmacy		II	3	Obligatory		Assoc. Prof. Malkhaz Tsirekidze	
18	Academic Writing	U. 1. AW	II	3	Obligatory		Assoc. Prof. Nino Kakhashvili	
19	Organic Chemistry II		III	4	Obligatory		Assoc. Prof. Mzia Ghagholoshvili	
20	Basis of Microbiology and Virology	M.1.B.09	III	4	Obligatory		Assoc. Prof. Laura Zuroshvili	

21	Physiology of human II	M.1.B.24	III	3	Obligatory		Assoc. Prof. Gela Azikuri	
22	Analytical Chemistry		III	4	Obligatory		Assoc. Prof. Mate Javakhishvili	
23	Foreign Language III	U.1E3	III	5	Obligatory		Prof. Manana Gharibashvili	
24	Pharmaceutical medical material studies	M.1.F.01	III	4	Obligatory		Invited teacher Vera Khutsaidze	
25	Physical and colloidar chemistry		III	3	Obligatory		Assoc. Prof. Mate Javakhishvili	
26	First medical aid		III	3	Obligatory		Invited lecturer Ekaterine Onikadze	
27	Foreign language IV	U.1E3	IV	5	Obligatory		Prof. Manana Gharibashvili	
28	Instrumental methods of analysis	M.1.F.02	IV	4	Obligatory		Invited Doctor Tamaz Murtazashvili	
29	General Biochemistry		IV	5	Obligatory		Assoc. Prof. Mzia Ghagholishvili	
30	Basis of General pathology	M.1.B.44	IV	4	Obligatory		Assoc. Prof. Maradi Burduli	
31	Pharmacognosy I	M.1.F.06	IV	4	Obligatory		Prof. Tamila Nadiradze	
32	Pharmaceutical Chemistry I	M.1.F.13	IV	5	Obligatory		Assoc. Prof. Mzia Ghagoloshvili	
33	Pharmaceutical Chemistry I	M.1.F.14	V	5	Obligatory		Assoc. Prof. Mzia Ghagoloshvili	
34	Foreign Language V	U.1E5	V	5	Obligatory		Prof. Manana Gharibashvili	
35	Pharmacognosy II	M.1.F.07	V	5	Obligatory		Prof. Tamar Nadiradze	
36	Pharmacology	M.1.F.35	V	5	Obligatory		Invited teacher Leila Metrevli	
37	Pharmacy technologies of medicine forms	M.1.F.08	V	5	Obligatory		Invited teacher Darina Chtalishvili	
38	Toxicological Chemistry	M.1.F.22	V	3	Obligatory		Assoc. Prof. Mate Javakhishvili	
39	Optional courses: 1. Modern dental material  2. Geography of Georgia, Geography and ecology	M.1.TS.15  M.1.F.25	V	2	Obligatory		1. Assoc. Prof. Nana Natsvlishvili  2. Prof. Elizbar Elizbarashvili	
40	Foreign language VI	U.1E6	VI	5	Obligatory		Prof. Manana Gharibashvili	
41	Pharmacology	M.1.F.36	VI	5	Obligatory		Invited Teacher Leila Metreveli	
42	Management and marketing in pharmacy I	M.1.F.29	VI	5	Obligatory		Invited Doctor Tamaz Murtazashvili	
43	Pharmacotherapy	M.1.F.42	VI	5	Obligatory		Invited teacher Leila Metreveli	
44	Educational practice in Pharmacognosy	M.1.F.21	VI	5	Obligatory		Invited teacher Darina Chotalishvili	
45	Educational practice in Pharmaceutical chemistry	M.1.F.16	VI	5	Obligatory		Assoc. Prof. Mzia Ghagoloshvili	
46	Basis of Pharmacokinetics	M.1.F.26	VII	5	Obligatory		Invited teacher Vera Khutsaidze	

47	Industry technologies of medicine forms	M.1.F.27	VII	5	Obligatory		Invited doctor Tamaz Murtazashvili	
48	Clinical pharmacology	M.1.F.44	VII	5	Obligatory		Invited teacher Leila Matreveli	
49	Management and marketing in pharmacy II	M.1.F.29	VII	5	Obligatory		Invited Doctor Tamaz Murtazashvili	
50	Bio pharmacy	M.1.F.30	VII	3	Obligatory		Invited teacher Vera Khutsaidze	
51	Elective courses::  1.Perfumery means  2Medical psychology	M.1.F.28	VII	2	Obligatory  Elective		1. Invited teacher Darina Chotalishvili ბოჭვეული  2. Assoc. Prof. Ia Chakiashvili	
52	Educational practice  Pharmacy technologies of medicine forms	M.1.F.11	VII	5	Obligatory		Invited teacher Tamila Sharashenidze	
53	Educational practice  Factory technologies of medicine forms	M.1.F.34	VIII	5	Obligatory		Invited doctor Tamaz Murtazashvili	
54	Educational practice, Management and marketing in pharmacy	M.1.F.45	VIII	10	Obligatory		Invited teacher Tamila Sharashenidze	
55	Bachelor dissertation		VIII	10	Obligatory		Invited Doctor Tamaz Murtazashvili	



Faculty of Exact and Natural Science

**Educational Program: One level**  
**Specialty: Certified Dentist**  
**Doctor of Dental Medicine (DMD)**

**Heads of the program:**

Maradi Burduli, Associated professor, head of health care department

Nana Natsvlshvili, Associated professor, Deputy dean of the faculty of Exact and Natural Sciences

Recommended by the Faculty and University

Quality assurance office

Protocol N 15, May 30, 2011.

Head of university Quality Assurance office

/Prof. D. Mtchedlishvili/

Approved by the Faculty board

Protocol N11, June 1, 2011

Dean of the faculty:

/Prof. T. Mtchedluri/

Approved by the Academic Board

Protocol N 16, June, 14, 2011

Rector of the university:

/T. Javakhishvili/

Modification of the program is approved by the protocol №13. of the Academic Board May 16, 2012

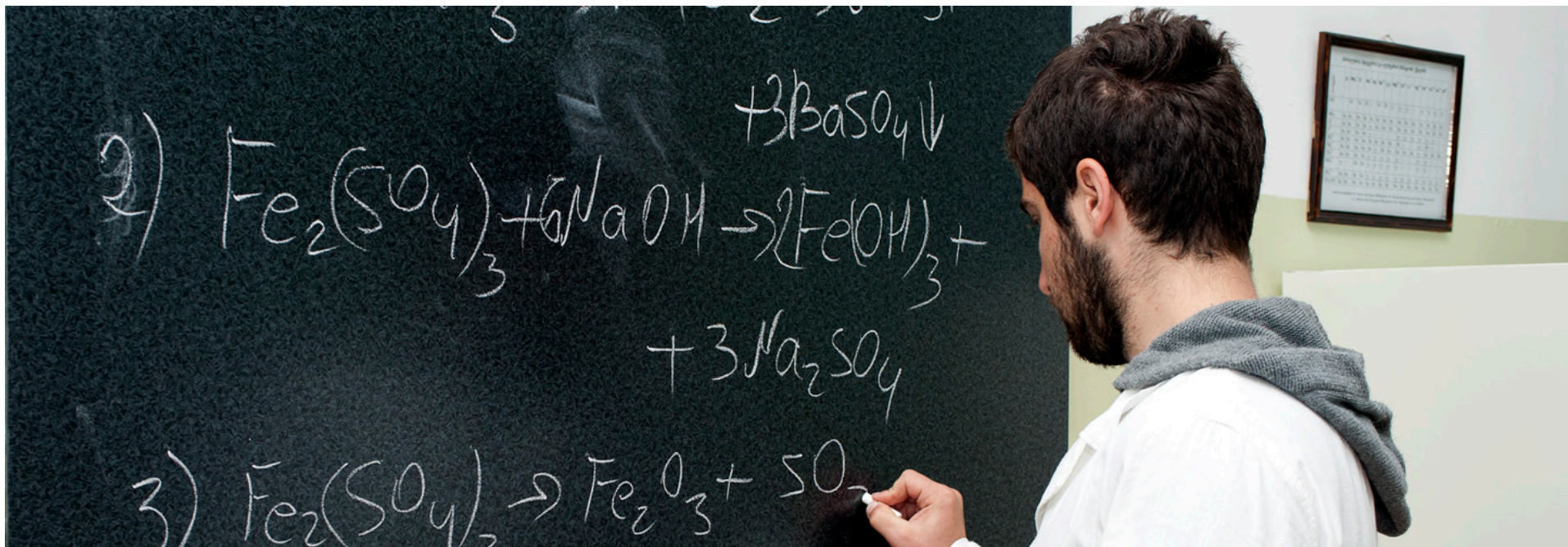
Telavi

2011

Qualification :

***Certified Dentist***

- **Faculty:** Exact and Natural Sciences
- **Department :** Medicine
- **Name of the educational program:**  
Certified Dentist, **Doctor of Dental Medicine (DMD)**
- **Heads of educational program:**  
Maradi Burduli, Associated professor, head of the health care department, Tel: +995350271991  
Deputy Dean of the Faculty of Exact and Natural Sciences  
Tel: [nananatsvlishvili@mail.ru](mailto:nananatsvlishvili@mail.ru)
- **Level of academic Education:** One-stage
- **Type of educational program:** Academic
- **Language of Instruction:** Georgian
- **Duration of program with the Credits:** Learning process lasts 5 years, it consists of 10 semesters. The volume of the program is 300 credits. Each year comprises 60 credits, each semester- 30 credits.  
  
One credit is equal to 25 hours, all- 7500 hours, which accordingly is distributed as the contact and independent work hours.  
  
Contact hours: all -3150 hours, 1062 hours are devoted to lecture, 1347 to practical work, 51 hours- laboratory, 705 hours to practice, and 4350 hours are for the independent work. All modules/courses are obligatory. The whole last V year is devoted to one module “clinical Dentistry”, where four main branches of clinical dentistry are united: therapy, orthopedic, and surgery and children age dentistry. Courses are under the curation, where lecture hours are maximally limited and the students are working under the supervision of curators at the clinics. The module finishes with the final exam, which includes issues from all four courses. 705 hours are devoted to practice.



### ***Study format:***

lecture, practical, laboratory, practicum. The following methods are used to gain the results: Discussion, group works, problem and action oriented learning, case analyses, situational tasks, demonstration method, analyses and synthesis, explanation method.

### ***Prerequisite :***

According to the Georgian legislation, successfully passed United National Exams.

### ***Objective of the educational program :***

The objective of the program is the realization of the personal potential, development of the professional skills, prepare the highly qualified certified dentist according to the modern requirements, who is aware of the modern technologies, obtains the skills and abilities suitable for the internal and external labour market.

Functions of the certified dentist are: investigation of the dentistry patients, diagnosis of mouth cavity disease, carrying out the prevention measures, carrying out the vital essential emergency measures on pre-hospital stage.

Effective communication with the patients, with their accompanied people and colleagues with the defense of the ethical norms.

The objectives of the program are constant professional self-development by the renovation of knowledge, taking part in the conferences and post-certified development programs, defense of the Evidence Based Medicine principles.

Certified dentists carry their activities in accordance with the laws and regulations governing the country.

Gaining and analysing the information by help of Information technologies and virtual communicational means. Exact production of appropriate and according documents.

# Learning outcomes:

Knowledge and Acknowledgment	<p>Awaring the basic natural sciences; awaring the hygienic norms and influence of environment factors on the health condition.</p> <p>Awaring the foreign language, computer technologies and ethical norms.</p>	<p>Awaring the modern dental sciences and systemic clinical sciences of medicine by the help of specific methods and defending the ethical norms, awaring the applied and neighbouring spheres. Accomplishment of clinical sciences;</p> <p>Information about the modern dental material and obtaining their annotation. Awaring prescription principles and medication itself used in dental practice and also in critical circumstances. Obtaining the knowledge about the public health care system and realization of the role of dentist in this system. Knowing the ethical and judicial principles, asepsis and antisepsis; preparing the dental material. Defending the safety norms.</p>
Skill of using the knowledge in practice	Is able to produce the documentation on native as well on foreign language, is able to carry out the activities to support the health, and is obtaining the research skills.	Is able to gather the anamnesis, investigate the mouth cavity, evaluate the particular case, planning the manipulation and carrying out the treatment activities with the defense of the hygienic norms. is able to do the anesthesia with the foreseeing the risks. Posseses the methods to do the dental manipulation in Cariesology, Endodontology, Parodontology and Disease of Mucous membrane. Carries the surgery dental manipulation under the supervision of the doctor. is aware of methods to create orthopedical dental construction in laboratory as well as in clinic. Foresees the peculiarities of children dentistry. is able to support the patient, give the explanation and advice, is able to evaluate the patient's psychological status, emergency medical situation and do the necessary steps to help the patient.
Ability to make conclusion	Is able to solve the problem created in different circumstances with the help of already known sources of information, analyses and evaluation of the problems on native as well as on foreign language.	<p>Is able to make the complex evaluation of the patient's condition; is able to make the proper conclusion and optimal diagnosis after the combination of the patient's desire and patient's status and accordingly create the treatment diagram for the patient.</p> <p>Has the ability to create the alternative working plan, is able to analyze the existing problem and do the grounded conclusion.</p>
Communication skills	Is able to communicate orally as well as in written form with the colleagues, patients and medical personnel. Gaining, using, and evaluating the information, has the ability of working in groups, manages the adaptation in new situation. Possesses the modern informational and communication means.	Is able to transfer the information and make the report connected to the profession on foreign language. Ability to adapt in new situation with the defense of moral and ethical norms. Is aware of the computer programs. Is able to make the presentation of the scientific paper in front of the broad society. Is able to plan and manage the work of colleagues. Independent acquisition of new information technologies.
Learning ability	Is able to evaluate the learning outcomes and lead the further learning needs independently	Is able to search and work out the sources, on the foreign language and get ready for the further next learning level.
Values	<p>Evaluates other people's attitudes towards the professional values at work and at different situations with the defense of the professional ethical norms.</p> <p>Has the ability to find out the task in any situation and is responsible for the work done. Is aware of constant development of knowledge.</p>	<p>Defends the ethical norms with the patients, colleagues and society. Is able to help people in any circumstances in the frame of his/her competences.</p> <p>Uses the ethical and Juridical principals in practice, defends the confidentiality.</p>

# Map of the learning outcomes

Nº	Course	Knowledge and	Skill of using	Ability to make	Communication	Learning Ability	Values
1	Normal anatomy of human I	X	X	X		X	
2	Normal anatomy of human II	X	X	X		X	
3	Latin language for professional purposes	X	X			X	
4	Topographical anatomy	X	X	X		X	
5	English Language I	X	X		X	X	
6	English Language II	X	X		X	X	
7	English Language III	X	X		X	X	
8	English Language IV	X	X		X	X	X
9	English Language V	X	X		X	X	X
10	English Language VI	X	X		X	X	X
11	Medical and Bio- physics	X	X			X	
12	Medical Chemistry I	X	X			X	
13	Medical Chemistry II	X	X			X	
14	Medical Biology	X	X	X		X	
15	Informational Technologies	X	X		X	X	
16	Course of Dentistry propedevtics I	X	X	X		X	
17	Course of Dentistry propedevtics II	X	X	X		X	
18	Bioethics	X	X		X		X
19	Prevention of the dental diseases	X	X	X	X	X	
20	Therapeutic dental cariesology	X	X	X	X	X	X
21	Therapeutic dental endodontic	X	X	X	X	X	X
22	Material studies of therapeutic dentistry	X	X	X		X	
23	Phantom course of therapeutic dentistry		X			X	
24	therapeutic dental parodontology	X	X	X	X	X	X
25	Therapeutic dentistry; diseases of mucous membranes	X	X	X	X	X	X
26	Histology, cytology, embryology	X	X	X		X	
27	Normal physiology of human I	X	X	X		X	
28	Normal physiology of human II	X	X	X		X	
29	Phantom course of orthopedic dentistry ( practice)		X	X		X	X
30	Material studies of orthopedic dentistry	X	X			X	
31	Orthopedic dentistry I	X	X	X		X	X
32	Orthopedic dentistry II	X	X	X		X	X
33	Orthopedic dentistry III	X	X	X		X	X
34	Orthopedic dentistry IV	X	X	X		X	X
35	Orthodontics	X	X	X		X	
36	Maxillo- facial orthopedic	X	X	X			X
37	Bases of general pathology	X	X	X		X	
38	patophysiology	X	X	X		X	
39	Medical biochemistry I	X	X			X	
40	Medical biochemistry II	X	X			X	
41	Microbiology, Virology, Immunology	X	X	X		X	
42	General hygiene	X	X	X			
43	pharmacology I	X	X	X		X	
44	Pharmacology II	X	X	X		X	
45	Surgery dentistry I	X	X	X	X	X	X
46	Surgery dentistry II	X	X	X	X	X	X
47	Surgery dentistry III	X	X	X	X	X	X
48	Surgery dentistry IV	X	X	X	X	X	X
49	Surgery dentistry V	X	X	X	X	X	X
50	Children age dentistry; Cariesology	X	X	X	X	X	X
51	Children age dentistry; Endodontic	X	X	X	X	X	X

52	Children age dentistry; Parodontology	X	X	X	X	X	X
53	Children age dentistry; Disease of Mucous membrane	X	X	X	X	X	X
54	X ray and radiology	X	X	X	X	X	X
55	General surgery	X	X	X	X	X	X
56	Surgery diseases	X	X	X	X	X	X
57	Propedevtics of the internal diseases	X	X	X	X	X	X
58	Internal diseases I	X	X	X	X	X	X
59	Internal diseases II	X	X	X	X	X	X
60	Inflectional diseases	X	X	X	X	X	X
61	Pediatrics	X	X	X	X	X	X
62	Dermato- venereology	X	X	X	X	X	X
63	Oncology	X	X	X	X	X	X
64	Oto- rhino laringo diseases	X	X	X	X	X	X
65	Critical medicine, anesthesiology	X	X	X	X	X	X
66	Neurology, psychiatry	X	X	X	X	X	X
67	Obstetrician- gynecologist	X	X	X	X	X	X
68	Public healthcare and health care defense organization	X	X	X	X	X	X
69	Therapeutic dentistry ( curation)		X	X	X	X	X
70	Surgery dentistry (curation)		X	X	X	X	X
71	Children age dentistry (curation)		X	X	X	X	X
72	Orthopedic dentistry (curation)		X	X	X	X	X
73	Academic writing	X	X	X	X	X	X
74	Medical psychology	X	X	X	X	X	X
75	Ophthalmology	X	X	X	X	X	X
76	Physiotherapy	X	X	X	X	X	X



## ***Intellectual and infrastructural base:***

The leading lecturers of the program are the university 10 academic staff, 2 of them are full professors and 7 associated professors, 1 invited associate professor, 1 assistant professor, 5 invited academic degree pedagogues, and 8 qualified invited teachers. There are lecture auditoriums, teaching laboratories, computer center and library for the implementation of the program.

Clinical practice takes place on the university base: LTD “Telavi Dental clinic” with the departments, teaching auditoriums and equipment laboratory, LTD “Kambarashvili’s clinic”.

## ***Employment:***

Graduate of the course is able to be employed in any medical institution, dental clinics. She/he has the possibility to continue the study on Residency, on Master and Doctorate level.

## ***Student knowledge evaluation system:***

Evaluation takes place with 100 grade system:

- (A) Excellent – max. Evaluation 91% and more,
- (B) Very good – max.evaluation 81-90%,
- (C) Good – max.evaluation 71-80%,
- (D) Satisfactory – 61-70%,
- (E) Enough – 51-60%, :
- (FX) Did not pass.Max.evaluation 41-50%.Is given the possibility to retake the exam.
- (F) Failed.Max.evaluation 40% and less.

Gaining the credits are possible after the reaching the results foreseen by the syllabus.

Evaluation foresees:

- a) Midterm evaluation 60% consists of 2 midterm written queries one of 15 grades, 4 short evaluation one of 5 grades (test, oral, written, homework), and presentation of 10 grades. .
- b) Final exam is 40 % (test, written)

Student has the right to take the additional exam in case of the negative grade on the final exam in no more than 10 days.

## *Detailed plan of practice*

Nº	Name of the practice	credit	semester	duration of practice (hours)	Weekly workload	Place of practice
1.	Phantom course of orthopedical Dentistry	5	III	90	6hours	LTD Telavi dental clinic technical laboratory
2	Phantom course of Therapeutic Dentistry	3	VI	45	3 hours	LTD Telavi dental clinic technical laboratory
3.	Therapeutic dentistry	15	IX	142	4 hours	LTD Telavi Dental clinic
4	Surgery Dentistry	15	IX	142	4 hours	LTD Telavi Dental clinic
5	Children and Adult Dentistry	15	X	143	4 hours	LTD Telavi Dental clinic
6.	Orthopedical Dentistry	15	X	143	4 hours	LTD Telavi Dental clinic
	All	68		705		

№	Course		Credit	Distribution of credits according to the academic years and semesters										Distribution of hours						Overall hours
				I year		II year		III year		IV year		V year		Contact					Independent	
				I Semester	II Semester	III Semester	IV Semester	V Semester	VI Semester	VII Semester	VIII Semester	IX Semester	X Semester	Lecture	Practicum	Laboratory	Practice	All		
1	Normal anatomy of human I	Obl.	4	X										15	30			45	55	100
2	Normal anatomy of human II	Obl.	4		X									15	30			45	55	100
3	Latin language for professional purposes	Obl.	2	X										15	15			30	20	50
4	Propedevtic course of Dentistry	Obl.	3	X										15	15			30	45	75
5	English Language I	Obl.	5	X										15	30			45	80	125
6	English Language II	Obl.	5		X									15	30			45	80	125
7	English Language III	Obl.	5			X								15	30			45	80	125
8	English Language IV	Obl.	5				X							15	30			45	80	125
9	English Language V	Obl.	5					X						15	30			45	80	125
10	English Language VI	Obl.	5						X					15	30			45	80	125
11	Medical Chemistry I	Obl.	3	X										15	12	3		30	45	75
12	Medical Chemistry II	Obl.	3		X									15	12	3		30	45	75
13	Medical Biology	Obl.	5	X										15	30			45	80	125
14	Medical and Bio physics	Obl.	4	X										15	15	15		45	55	100
15	Informational Technologies	Obl.	4	X										15	30			45	55	100
16	Propedevtic course of Dentistry II	Obl.	3		X									15	15			30	45	75
17	Prevention of Dental diseases	Obl.	3		X									15	15			30	45	75

earning plan

18	General hygiene	Obl.	3		X									15	12	3		30	45	75
19	Histology, Cytology, Embryology	Obl.	4		X									15	30			45	55	100
20	Normal physiology of human I	Obl.	3		X									15	15			30	45	75
21	Elective courses:		2		X									15	15			30	20	50
	1. Academic writing																			
	2. Medical Psychology																			
22	Normal Physiology of human II	Obl.	3			X								15	15			30	45	75
23	Topographical anatomy	Obl.	4			X								15	30			45	55	100
24	Therapeutic Dentistry; cariesology	Obl.	3			X								15	15			30	45	75
25	Phantom course of Orthopedical Dentistry (practice)	Obl.	5			X										90	90	35		125
26	Material studies of orthopedical Dentistry	Obl.	3			X								15	15			30	45	75
27	Orthopedical Dentistry I	Obl.	3			X								15	15			30	45	75
28	Medical Bio-chemistry I	Obl.	4			X								15	15	15		45	55	100

29	Medical Bio-chemistry II	Obl.	3					X						15	12	3		30	45	75
30	Bases of general pathology	Obl.	3					X						15	15			30	45	75
31	Pathophysiology	Obl.	3					X						15	15			30	45	75
32	Bio ethics	Obl.	3					X						15	15			30	45	75
33	Therapeutic Dentistry- Endodontic	Obl.	3					X						15	15			30	45	75
34	Orthopedical Dentistry II	Obl.	3					X						15	15			30	45	75
35	Surgery Dentistry I	Obl.	4					X						15	30			45	55	100
36	Children age Dentistry, cariesology	Obl.	3					X						15	15			30	45	75
37	Orthopedical Dentistry III	Obl.	3						X					15	15			30	45	75
38	Surgery Dentistry II	Obl.	3						X					15	15			30	45	75
39	Material studies of Therapeutic Dentistry	Obl.	3						X					15	15			30	45	75
40	Microbiology, virology, immunology	Obl.	3						X					15	15			30	45	75
41	Pharmacology I	Obl.	2						X					15	13	2		30	20	50
42	Pharmacology II	Obl.	2							X				15	13	2		30	20	50
43	X-ray, Radiology	Obl.	2						X					15	15			30	20	50
44	General Surgery	Obl.	3						X					15	15			30	45	75
45	Propedevtics of internal diseases	Obl.	3						X					15	15			30	45	75
46	Children age dentistry, Endodontic	Obl.	3						X					15	15			30	45	75
47	Phantom course of therapeutic dentistry(practice)	Obl.	3							X							45	45	30	75
48	Orthopedical dentistry IV	Obl.	3							X				15	15			30	45	75
49	Surgery dentistry III	Obl.	3							X				15	15			30	45	75
50	Children age dentistry, parodontology	Obl.	3							X				15	15			30	45	75
51	Surgery diseases	Obl.	3							X				15	15			30	45	75
52	Pediatrics	Obl.	2							X				15	15			30	20	50
53	Critical Medicine , anesthesiology	Obl.	3							X				15	30			30	45	75
54	Internal Diseases I	Obl.	3							X				15	15			30	45	75
55	Internal diseases II	Obl.	4								X			15	30			45	55	100
56	Orthodontic	Obl.	4								X			15	30			45	55	100
57	Therapeutic dentistry Parodontology	Obl.	5								X			15	30			45	80	125
58	Therapeutic dentistry, Mucous membrane diseases	Obl.	5									X		15	30			45	80	125
59	Maxillo-facial orthopedic	Obl.	4									X		15	30			45	55	100
60	Surgery dentistry IV	Obl.	4								X			15	30			45	55	100
61	Surgery dentistry V	Obl.	4									X		15	30			45	55	100
62	Children age dentistry; Disease of Mucous membrane	Obl.	4									X		15	30			45	55	100
63	Inflectional diseases	Obl.	4								X			20	20	5		45	55	100
64	Dermato- venereology	Obl.	5									X		22	23			45	80	125
65	Oncology	Obl.	3								X			15	15			30	45	75
66	Elective courses: 1. Physiotherapy 2. Ophthalmology		2								X			15	15			30	20	50
67	Oto rhino laryngo diseases	Obl.	3									X		15	15			30	45	75
68	Neurology- psychiatry	Obl.	3									X		15	15			30	45	75
69	Obstetrician- gynecologist	Obl.	3									X		15	15			30	45	75
70	Public health care and health care organization	Obl.	3									X		15	15			30	45	75
71	Therapeutic Dentistry (curation)	Obl.	15									X		8			142	150	225	375
72	Surgery Dentistry (curation)	Obl.	15									X		8			142	150	225	375
73	Children age Dentistry (curation)	Obl.	15										X	7			143	150	225	375
74	Orthopedical Dentistry (curation)	Obl.	15										X	7			143	150	225	375
	All		300											1062	1347	51	705	3150	4350	7500

One stage medical educational program:

**„Certified Dentist“**

All courses in the curriculum are obligatory

All literature, mentioned in the syllabus is available at TeSaU library,  
medicine department and university clinics

Additional table of the learning plan

N <sup>o</sup>	Module/ course	Code	Semester	Credit	Prerequisite	Lector(s)
1	Normal anatomy of Human I	M.1.B.18	I	4	does not have	Eka Onikadze,invited doctor
2	Normal anatomy of Human II	M.1.B.19	II	5	Human anatomy I	Eka Onikadze,invited doctor
3	Latin Language for professional purposes	M.1.B.04	I	2	does not have	Eka Onikadze,invited doctor
4	Topographical anatomy	M.1.B.34	III	4	Anatomy I -II	Invited pedagogue M. Chernokhatskaia
5	English language I	U.1E1	I	5	does not have	Prof.Manana Gharibashvili
6	English language II	U.1E2	II	5	Foreign Language I	Prof.Manana Gharibashvili
7	English language III	U.1E3	III	5	Foreign Language II	Prof.Manana Gharibashvili
8	English language IV	U.1E4	IV	5	Foreign Language III	Prof.Manana Gharibashvili
9	English language V	U.1E5	V	5	Foreign Language IV	Prof.Manana Gharibashvili
10	English language VI	U.1E6	VI	5	Foreign Language V	Prof.Manana Gharibashvili
11	Medical and Bio-physic	Z1.P29.	I	4	does not have	Assoc. Professor A.Abashidze
12	Medical Chemistry I	M.1.B.41	I	3	does not have	Assoc. Professor M. Gagolishvili
13	Medical Chemistry II	M.1.B.42	II	3	Medical Chemistry I	Assoc. Professor M. Gagolishvili
14	Medical Biology	M.1.B.05	I	5	does not have	Assoc. Professor L. Zuroshvili
15	Informational Technologies	Z.1.1.22	I	4	does not have	Assoc. Professor Svimon Okhanashvili
16	Propedevtic course of dentistry I	M.1.TS.12	I	3	does not have	Assoc. Professor M.Burduli
17	Propedevtic course of dentistry II	M.1.TS.13	II	3	Propedevtic course of dentistry I	Assoc. Professor M.Burduli
18	Bioethics	M.1. B.13	IV	3	does not have	Assoc. Professor M.Burduli
19	Prevention of dental diseases	M.1.TS.02	II	3	Propedevtic course of dentistry I	Assoc. Professor M.Burduli
20	Therapeutic dentistry, Cariesology	M.1.TS.03	III	3	Propedevtic course of dentistry I-II	Assoc. Professor M.Burduli
21	Therapeutic dentistry Endodontic	M.1.TS.04	IV	3	Therapeutic dentistry, cariesology	Assoc. Professor M.Burduli
22	Material studies of therapeutical dentistry	M.1.TS.06	V	3	Medical Chemistry I-II	Assoc. Professor M.Burduli
23	Phantom course of therapeutic dentistry	M.1.TS.07	VI	3	Therapeutic dentistry cariesology	Assoc. Professor M.Burduli
24	Therapeutic dentistry, Parodontology	M.1.TS.05	VII	5	Endodontic therapeutic dentistry	Assoc. Professor M.Burduli
25	Therapeutic dentistry; Disease of Mucous membrane	M.1.TS.08	VIII	5	Bases of general pathology Pathopithology	Assoc. Professor M.Burduli

26	Histology, Cytology, Embryology	M.1.B.02	II	5	Medical Biology	Assoc. Professor M.Burduli
	Normal Physiology of human I	M.1.B.23	II	3	Normal anatomy of human I	Assoc. Professor G. Azikuri
28	Normal Physiology of human II	M.1.B.24	III	3	Normal physiology of human I	Assoc. Professor G. Azikuri
29	Phantom course of orthopedical dentistry (practice)	M.1.OS.03	III	5	Propedevtic course of dentistry I	Assoc. Professor M.Burduli
30	Material studies of Orthopedical dentistry	M.1.OS.02	III	3	Medical Chemistry I_II	Assoc. Professor M.Burduli
31	Orthopedical dentistry I	M.1.OS.04	III	3	Propedevtic course of dentistry I	Assoc. Professor M.Burduli
32	Orthopedical dentistry II	M.1.OS.05	IV	3	Orthopedical dentistry I	Assoc. Professor M.Burduli
33	Orthopedical dentistry III	M.1.OS.06	V	3	Orthopedical dentistry II	Assoc. Professor M.Burduli
	Orthopedical dentistry IV	M.1.OS.07	VI	3	Orthopedical dentistry III	Assoc. Professor M.Burduli
35	Orthodontic	M.1.OS.09	VII	5	Propedevtic course of dentistry I-II	Assoc. Professor M.Burduli
36	Maxillo-facial orthopedic	M.1.OS.08	VIII	4	Orthopedical dentistry IV	Assoc. Professor M.Burduli
	Bases of general pathology	M.1.B.47	IV	3	Normal Anatomy of human I -II	Assoc. Professor M.Burduli
38	Pathophysiology	M.1.B.44	IV	3	Normal physiology of human I -II	Assoc. Professor G. Azikuri
39	Medical Bio -chemistry I	M.1.B.25	III	4	Medical Chemistry I- II	Assoc. Professor M. Gagolishvili
40	Medical Bio -chemistry II	M.1.B.26	IV	3	Medical Bio chemistry I	Assoc. Professor M. Gagolishvili
41	Microbiology, Virology , immunology	M.1.B.09	V	3	Histology, Cytology, Embryology	Assoc. Professor L. Zurashvili
42	General Hygiene	M.1.B.10	II	3	Does not have	Invited pedagogue L.Metreveli
43	Pharmacology I	M.1.B.51	V	2	Medical Bio chemistry I- II	Eka Onikadze,invited pedagogue
	Pharmacology II	M.1.B.52	VI	2	pharmacology I	Eka Onikadze,invited pedagogue
45	Surgery dentistry I	M.1.SS.01	IV	4	Propedevtic course of dentistry I-II, Topographical anatomy	Assoc. Professor N. Natsvlishvili
46	Surgery dentistry II	M.1.SS.02	V	3	Topographical anatomy, surgery dentistry I.	Assoc. Professor N. Natsvlishvili
	Surgery dentistry III	M.1.SS.03	VI	3	Surgery dentistry II	Assoc. Professor N. Natsvlishvili
48	Surgery dentistry IV	M.1.SS.04	VII	4	Surgery dentistry III	Assoc. Professor N. Natsvlishvili
49	Surgery dentistry V	M.1.SS.05	VIII	4	Surgery dentistry IV	Assoc. Professor N. Natsvlishvili
50	Children age dentistry, cariesology	M.1.ChS.02	IV	3	Therapeutic dentistry, Cariesology	Assoc. Professor N. Natsvlishvili
51	Children age dentistry; Endodontic	M.1.ChS.03	V	3	Children age dentistry Careiesology	Assoc. Professor N. Natsvlishvili
52	Parodontology of children age dentistry	M.1.ChS.04	VI	3	Children age dentistry - Endodontic	Assoc. Professor N. Natsvlishvili
53	Children age dentistry; Disease of Mucous membrane	M.1.ChS.05	VII	4	Children age dentistry - parodontology	Assoc. Professor N. Natsvlishvili
	X-ray, radiology	M.1.CM.09	V	2	Medical Physics, bio physics,Pathophysiology	Candidate of Medical Sciences G. Dzunashvili
55	General surgery	M.1.CM.05	V	3	Topographical anatomy	Candidate of Medical Sciences G. Dzunashvili
56	Surgery diseases	M.1.CM.55	VI	3	General surgery	Candidate of Medical Sciences G. Dzunashvili
	Propedevtics of internal diseases	M.1.CM.01	V	3	Bases of general pathology, pathophysiology	Invited Professor V. Malatsidze
58	Internal Diseases I	M.1.CM.15	VI	3	Propedevtics of internal diseases	Invited Professor V. Malatsidze
59	Internal diseases II	M.1.CM.16	VII	4	Internal diseases I	Invited Professor V. Malatsidze
60	Inflectional diseases	M.1.CM.11	VII	5	Microbiology, virology, immunology	Invited pedagogue M. Chernokhatskaia
61	Pediatrics	M.1.CM.61	VI	2	Pathophysiology, propedevtics of internal diseases	Invited Doctor Ekaterine Onikadze
62	Dermato- venereology	M.1.CM.26	VIII	5	Inflectional diseases	Invited pedagogue M. Tetradze
63	Oncology	M.1.CM.25	VII	3	Internal diseases I, Microbiology, virology, immunology	Candidate of Medical Sciences G. Dzunashvili
	Oto- rhino laryngo diseases	M.1.CM.76	VIII	4	Surgery diseases	Invited academic Doctor P. Khokhashvili
65	Critical medicine, anesthesiology	M.1.CM.45	VI	3	General surgery	Candidate of Medical Sciences G. Dzunashvili
66	Neurology, psychiatry	M.1.CM.54	VIII	3	Propedevtics of internal diseases	Invited pedagogue N. Kavrelashvili
	Obstetrician- gynecologist	M.1.CM.31	VIII	3	Physiology, Patophysiology	Candidate of Medical Sciences A. Kambarashvili
68	Public health care and health care organization	M.1.CM.65	VIII	4	Inflectional Diseases	Invited Pedagogue E. Onikadze
69	Therapeutic dentistry (curation)	M.1.TS.14	IX	15	Full course of therapeutic dentistry	Assoc. Professor M. Burduli
70	Surgery dentistry (curation)	M.1.SS.06	IX	15	Full course of surgery dentistry	Assoc. Professor N. Natsvlishvili
71	Children age dentistry (curationa)	M.1.ChS.09	X	15	Full course of children age dentistry	Assoc. Professor N. Natsvlishvili
72	Orthopedical dentistry (curation)	M.1.OS.19	X	15	Full course of orthopedical dentistry	Assoc. Professor M. Burduli
73	Academic writing	U. 1. AW	II	2	Does not have	Assoc. Professor N. Kakhashvili
74	Medical Psychology	M.1.CM.64	II	2	Does not have	Assistant prof. Ia Chakiashvili
75	Physiotherapy	M.1.CM.48	VII	2	Does not have	Invited pedagogue L. Mestvirishvili
76	Ophthalmology	M.1.CM.36	VII	2	Normal anatomy of Human, Physiology	Invited Pedagogue Z. Sekhniadze



ქმია იწის ხელოვნება წმინდის ძალით ქმდება ყოველი  
ოცნებებს ყოველი სხეულისა

ს.წ.წ. - VI

თუ გვსურს გავაუმჯობესოთ ყველას უნდა გვესმოდეს  
ქიმია ელემენტარულ დონეზე უნდა

ს.წ.წ. - VI



Appendix #4a

№	Module/Course	Major literature
1	Normal Anatomy of Human I	1.Z. Katsitadze, Anatomy of Human. Volume I, II, Tbilisi, 1995. 2.R. Khetsuriani, Normal Anatomy of human. Tbilisi, 2006.
2	Normal Anatomy of Human II	1 Z. Katsitadze, Anatomy of Human. Volume. III-IV. Tbilisi, 1991. 2 R. Khetsuriani, Normal Anatomy of human. Tbilisi, 2006.
3	Latin Language for professional Purposes	1.Lecture Course “Latin Language” Reader, Ekaterine Onikadze 2.N.Gigolaeva, R. Giorgobiani, Medical Latin Language, Tbilisi, 2007
4	Topographical Anatomy	Sh. Toidze, L. Kikalishvili, M. Kipiani, D. Kordzaia , Topographical Anatomy and Operational Surgery, 2002
5	English Language I	Evans,V; Dooley J. <i>Enterprise 1.Beginner</i> . Express Publishing.  Evans,V; Dooley J. <i>Enterprise 1.Beginner.Workbook</i> . Express Publishing.
6	English Language II	Evans,V; Dooley J. <i>Enterprise 1.Beginner</i> . Express Publishing.  Evans,V; Dooley J. <i>Enterprise 1.Beginner.Workbook</i> . Express Publishing.
7	English Language III	Evans,V; Dooley J. <i>Enterprise 1.Beginner</i> . Express Publishing.  Evans,V; Dooley J. <i>Enterprise 1.Beginner.Workbook</i> . Express Publishing.
8	English Language IV	1. Blanchard. K. , Root. C. (2007). For your information 1.. Pearson Longman. 2.Azar. B. S. (2003). Fundamentals of English Grammar.
9	English Language V	1. Blanchard. K. , Root. C. (2007). For your information 1.. Pearson Longman. 2.Azar. B. S. (2003). Fundamentals of English Grammar.

10	English Language VI	1. Blanchard. K. , Root. C. (2007). For your information 1.. Pearson Longman. 2.Mann, M.& Taylore-knowles. S., (2011) Destination B2 (Grammar&Vocabulary), Macmillan
11	Medical and Bio- physics	1. Asatiani, A, Zakaria, A, Gotsiridze, N, and Khutsishvili , L. (2005) Medical and Biological Physics. Tbilisi: Publishing house “Tsisnami” 2. Vepkhvadze, G.(1979). Course of General Physics. Part I. Tbilisi I. Tbilisi: Tbilisi University publication. 2/25 920-25 969; 2/27 505– 27 509; 34 519- 34 522 (58 .)
12	Medical Chemistry I	Arziani, B.(2008). Medical Chemistry.Tbilisi.Intelecti
13	Medical Chemistry II	O. Gabrichidze, Medical Chemistry, Tbilisi, Intellect, 2003 (TeSaU library)
14	Medical Biology	N. Kvitiia, Medical Biology, Part I –II. TSU Medical Biology and Parazitology department, Tbilisi, 2008
15	Informational Technologies	1.Lachashvili T., Okhanashvili S., Takashvili V. Management of teaching subject on the sample of transferring 10th numbers to 2th. Periodical scientific magazine Intellect #(33) Tbilisi, 2009 2. Gojiashvili, J. Bases of Informational Technologies , Tbilisi, 2006.
16	Course of dental Propedevtic I	1.V. Trezubovi, Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006 2. E.Borovski. Therapeutic dentistry, Mtatsmindeli, Tbilisi, 2007.
17	Course of dental Propedevtic II	V.Trezubovi, Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006 E.Borovski, Therapeutic dentistry, Publishing house Mtatsmindeli, Tbilisi, 2007
18	Bio Ethics	Mamulashvili, B. // Bioethics, Tbilisi, 2005
19	Prevention of dental diseases	E. Borovski, Therapeutic dentistry, ( L. Chelidze), Mtatsmindeli, Tbilisi, 2007.
20	Therapeutical dentistry, Cariesology	E. Borovski, Therapeutic dentistry ( L. Chelidze), Mtatsmindeli, Tbilisi, 2006
21	Therapeutical dentistry, Endodontic	E.Borovski, I. Barisheva, . Maksimovski, L. Dimitrieva and T. Lemetskaia, therapeutic stomatology (translator Kh. Gabitashvili). Tbilisi: Mtatsmindeli(2007
22	Material studies of therapeutical dentistry	V. Borovski, Therapeutic dentistry, (L.Chelidze), Mtatsmindeli, Tbilisi , 2007
23	Phantom course of therapeutical dentistry	V.Borovski, Therapeutic dentistry, Mtatsmindeli, Tbilisi, 2007
24	Parodontology of Therapeutical dentistry	E. Borovski, Therapeutic dentistry, Mtatsmindeli, Tbilisi, 2006
25	Therapeutic dentistry; Disease of Mucous membrane	E.Borovski, Therapeutic dentistry, Mtatsmindeli, Tbilisi, 2006
26	Histology, Cytology, Embryology	R.Rukhadze, Histology, Citology, Embriology, Oazisi, Tbilisi, 2003.
27	Normal Physiology of human I	I. Kvachadze, Physiology of human , 2008.
28	Normal Physiology of human II	I.Kvachadze. Human Physiology, 2008
29	Phantom course of Orthopedical dentistry (practice)	V. Trezubovi, Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006.
30	Material studies of Orthopedical dentistry	V. Trezubovi , Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006.
31	Orthopedical dentistry I	V. Trezubovi, Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006.
32	Orthopedical dentistry II	Shcherbakovi, A., and Mishnevi., D.(2006) Orthopedical dentistry, Publisher Tbilisi, Mtatsmindeli
33	Orthopedical dentistry III	V. Trbuzovi, A. Shcherbakovi, L.Mishnevi, Orthopedical dentistry, Tbilisi, Mtatsmindeli.(translation is done by the publisher), 2006.
34	Orthopedical dentistry IV	V. Trezubovi, Orthopedical dentistry, D. Epremadze), Mtatsmindeli, Tbilisi
35	Orthodonty	V. Trezubovi and coauthors, Orthopedical dentistry, publisher Mtatsmindeli, Tbilisi, 2006

36	Maxillo-facial Orthopedy	Trezubovi, Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006
37	General Path-bases	G. Burkadze, G. Turashvili, bases of general pathology, Zekari, Tbilisi, 2005
38	Pathopisiology	V. Kipiani, N. Pavliashvili, N. Bejitashvili, N. Pkhaladze, Q. Gambashidze, N. Kipiani. Pathopitology. text book for the students of dental faculty, Tbilisi, 2005.
39	Medical Bio chemistry I	1 M. Kokichashvili, Medical bio chemistry. Diogine, Tbilisi, 1996. (Lector's personal library)  2. M. Devlini. (Edit). Biochemistry with the clinical correlation. VIth edition (M. Beridze., T. Jorjoliani and others). Tbilisi Medical University, Tbilisi, 2008, (TeSaU library)
40	Medical Bio Chemistry II	1 M. Kokichashvili, Medical bio chemistry. Diogine, Tbilisi, 1996. (Lector's personal library)  2. M. Devlini. (Edit). Biochemistry with the clinical correlation. VIth edition (M. Beridze., T. Jorjoliani and others). Tbilisi Medical University, Tbilisi, 2008, (TeSaU library)
41	Microbiology, Virology, Immunology	Medical Microbiology, Giorgi Gogichadze, Meridiani, 2008
42	General Hygiene	N. Vepkhvadze. Hygiene, Tbilisi, 1998
43	Pharmacology I	G. Turmanauli, medical Pharmacology, textbook for the Medical faculty students, publisher "Tsis name" 2002
44	Pharmacology II	G. Turmanauli, medical Pharmacology, textbook for the Medical faculty students, publisher "Tsis name" 2002
45	Surgery dentistry I	O. Nemsadze, Surgery dentistry, Tbilisi, 2005
46	Surgery dentistry II	O. Nemsadze. Surgery dentistry Tbilisi, 2005
47	Surgery dentistry III	O. Nemsadze. Surgery dentistry, Tbilisi, 2005
48	Surgery dentistry IV	O. Nemsadze. Surgery dentistry, Tbilisi, 2005
49	Surgery dentistry V	O. Nemsadze. Surgery dentistry, Tbilisi, 2005
50	Children age dentistry - cariesology	1. T. Shishniashvili, Children age Therapeutic dentistry, Tbilisi, 2004  2. A. A. Kolesovi, Children age dentistry, Mtatsmindeli, Tbilisi, 2006
51	Children age dentistry Endodontic	T. Children age Therapeutic dentistry v, Tbilisi, 2004
52	Children age dentistry - parodontology	T. Children age Therapeutic dentistry, Tbilisi, 2004
53	Children age dentistry; Disease of Mucous membrane	T. Children age Therapeutic dentistry, Tbilisi, 2004
54	X-ray, Radiology	K. Giorgadze, ray diagnostics and ray therapy, Tbilisi, 2002  A. Kvashvili, Xray diagnostics, Tbilisi, 1966
55	General surgery	Surgery diseases, N. Grigolia, 2005
56	Surgery diseases	Surgery diseases, N. Grigolia, 2005
57	Propedevtics of Internal deaseses	1. N. Tatishvili, I. Tatishvili, Diagnostics of Internal Deaseses, Tbilisi, 2003  2. Internal deaseses and duties of nurse, V. Gvantsaladze, G. Kalandarishvili, 2001
58	Internal deaseses I	N. Tatishvili, G. Simonia. Internal Diseases, Publisher, Saqartveloss matsne, 1999  2 Internal deaseses and duties of nurse, V. Gvantsaladze, G. Kalandarishvili, 2001  3 V. Gvantsaladze, G. Kalandarishvili, Internal deaseses, 2000
59	Internal diseases II	N. Tatishvili, G. Simonia. Internal Diseases, Publisher, Saqartveloss matsne, 1998  2. D. Tvildiani, Clinical Cardiology, 2002
60	Inflectional diseases	1. E. Botsvadze, infectious diseases. LTD. Kabadoni, Tbilisi, 2000  2. L. Mekokishvili, Infectious diseases I. Lecture material, 2008

61	Pediatry	1. Manjavidze, N. and Megrelishvili, G. (2002), Pediatry, Tbilisi, TSU 2. Kerkadze, L. (2001) Pediatric, Tbilisi, Medea
62	Dermato- Venereology	1. D. Sakvarelidze, skin and ven diseases, Tbilisi, 2003. 2. L. Mekokishvili, Infectious diseases I. Lecture material, 2008
63	Oncology	1. Gvamichava, R., Shavdia, M. Oncology (textbook), Tbilisi, 2010 2. Mamulashvili B. Bioethics, Tbilisi, 2005  Web. sites: <a href="http://www.cancereurope.org/europadonna">www.cancereurope.org/europadonna</a> <a href="http://www.nccn.org">www.nccn.org</a>
64	Oto- Rhyno- laryngo Diseases	‘Oto- Rhyno- laryngology’ Tamaz Tokhadze, Publishing house- Ganatleba, 1995
65	Critical medicine, anesthesiology	„General Surgery” N. Grigolia, publisher “Meridiani” Tbilisi, 2005
66	Neurology, Psychiatry	1. Verulashvili, N. Ninua, R. Sigua, Neurology, Tbilisi, 1999.  G. Naneishvili, Short course of psychiatry, Tbilisi, 2001
67	Obstetrician- gynecologist	#1 m 1. M. S. Gigineishvili, midwifery, publishing house “medea”, 2003.  №2 2. M. S. Gigineishvili, M. M. Gigineishvili, Gynecology, publisher “medea” 1998
68	Public healthcare and healthcare organization	O. Gerzmava, public healthcare and Management, 1998
69	Therapeutic dentistry (curation)	E. Borovski, Therapeutic dentistry, Mtatsmindeli, Tbilisi, 2007
70	Surgery dentistry (curation)	O. Nemsadze, Surgery dentistry, Tbilisi, 2005
71	Children age dentistry (curation)	1. T. Shishniashvili, Children age therapeutic dentistry, Tbilisi, 2004  2. A. A. Kolesovi, Children age dentistry, Mtatsmindeli, Tbilisi, 2006
72	Orthopedical dentistry (curation)	V. Trezubovi, Orthopedical dentistry, Mtatsmindeli, Tbilisi, 2006
73	Academic writing	Tsuladze, L. (2006), pg 44-49
74	Medical Psychology	1. Imedadze. Bases of psychology, 2005  N. Sarjeladze. Psychological dialogues, 1995  Q. Chanturia. Using the psycho- diagnostic methods in clinics. 1995  Z. Beberashvili, N. O. Sarjeladze, Psychological help, 2000
75	Physiotherapy	M. Dgebuadze- Physiotherapy and resorts
76	Ophthalmology	Beradze N., Chikovani, L. (1987) Eye diseases. Publisher “Ganatileba” Tbilisi 1987

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