



Title of the Program: Medical Doctor (MD) Programme

Language of study: English

Degree awarded after completion of the program: Medical Doctor (MD)

The volume of the programme: 360 ECTS(1 ECTS Credit equals to 25 hours), 60 ECTS per year, 30 ECTS per semester. The duration of the program is 6 academic years (12 semesters).

The level of Education: One-Cycle educational programme in Medical, corresponds to Mater's level.

Programme leader: Irine Sakhelashvili

Prerequisites for admission to the programme:

- a) The holders of a certificate of full general education or those with the equal status on the basis of the results of Unified Entry Examinations shall have the right to take the Program at the University.

- b) Foreign citizens and stateless persons who have received general secondary or equivalent education in a foreign country.
- c) Georgian citizens who acquired general secondary education in a foreign country or have studied the last two years of general secondary education abroad.
- d) Foreign citizens (except students enrolled in the joint programme of higher education and exchange students) who study or studied and receive credits or qualifications in a higher educational institution recognized by the state in concern.
- e) Georgian citizens (except students enrolled in the joint programme of higher education and exchange students) who live/lived, study/studied in a foreign country for a period set by the Ministry of Education and Science of Georgia and receive credits or qualifications in a higher educational institution recognized by the state.
- f) Mobility students enrolled according to Minister's order N10/N (04.02.2010) on the Approval of the Procedure of Movement between Higher Education Institutions.

The University holds an interview with the prospective students who have the right to study without passing the Unified Entry Examinations. These persons are required to confirm their English language proficiency at B2.

The aim of the programme

The program aims at providing graduates with the necessary competences, presuming knowledge of biomedical and clinical sciences and clinical and professional skills in compliance with the national and international standards.

Therefore, the program is to provide graduates with the in-depth and systematic knowledge and competencies in:

- Biomedical, behavioral, preclinical sciences, research skills.
- Clinical sciences oriented at patient-centered approach and effective communication, evidence-based diagnosis, treatment and motivation for LLL.
- Understanding a patient in a broad social, cultural, etc. contexts, and global aspects of medicine.
- Applying ethical, legal and professional responsibilities in medical practice.

Learning Outcomes

Knowledge and Understanding

- Determine normal structure of the human body from micro-structures to macrostructures, its systems and organs, its physiological functions at all levels, molecular biology and embryonic development of the organism, the metabolism of the organism, the function and features of the immune system.
- Determine the basic principles and features of human behavior, motivation and emotions, human development, foundations and theories of emotion.
- Identify pathological structure of the disease, the mechanisms of its development, infection, and body's reaction to it, the characteristics of the body's immune system and mechanisms of its action;
- Identify the basic principles of clinical sciences, its different specialties and subspecialties, clinical manifestations of internal and surgical diseases, pathophysiological mechanisms of its development, epidemiology, principles of communication with patients, its ethical aspects.
- Determine the use of antibiotics and resistance to antibiotics; the principles of prescribing the medicines; the side effects of drugs, their interaction; blood and blood transfusion; drug action and pharmacokinetics; segregated drugs.
- Determine the role of doctor in health care system, the prevention of diseases; lifestyle, diet and eating; health support; screening and supervision of diseases; gender issues in health care; epidemiology; the cultural and ethics influence on health care; resource distributing and health care economy; global health and inequality.
- Determine the methodology of conducting scientific research; Principles of ethics for conducting scientific research; Its methods and means, the role of evidence in medical practice.

Skills:

1. Carries out a consultation with a patient

Examine physically the patient and determine the necessary instrumental examinations; Examines physically the surgical patient and determine the necessary instrumental examinations; Examines physically the surgical patient, registers the data and determine the necessary instrumental examinations; Takes case history, registers the data, conducts physical examination, selects appropriate investigations, interprets the results; Taking care of patients being in terminal condition and their families; Assesses the difficulty of a clinical case; Assesses the psychological status of a patient, the difficulty of the clinical case; Conducts physical examination Supports patients and defends their rights; Manages the chronic disease.

2. Assesses clinical presentations, order investigations, make differential diagnoses, and negotiate a management plan

Orders the relevant investigations and interpret the results; Selects appropriate investigations; Selects appropriate investigations, interprets the results; Analyses the results of physical and clinical examinations, synthesize the data, conducts differential diagnosis, provide with the appropriate diagnosis.\; Supports patients and defends their rights.

3. Provides first aid in emergency medical situations (First aid and resuscitation measures)

Treat the traumas in accordance with guidelines; Treat traumas in accordance with guidelines; To perform measures based on life support guidelines and cardiopulmonary resuscitation; Treats traumas and urgent medical conditions in accordance with the guideline; To perform measures based on life support guidelines and cardiopulmonary resuscitation.

4. Prescribes drugs

Write accurate and clear prescription; Relate drugs and their curing measures to appropriate clinical context; Analyze relevance of drug and other type of treatment and assessment of risks and potential benefits; Taking into account compatibility of drugs while prescribing them.

5. Conducts practical procedures

Examines different body systems, conduct palpation percussion, auscultation; defines vital signs; measures blood pressure; performs the local anesthesia, subcutaneous and intramuscular injections, vein puncture, vein catheterization, vein infusion of medications, use of transfusion equipment; Remove the stitches and drainage probes; Conduct surgical procedures: wound treatment, burn treatment, putting stitches, removing stitches, intravenous catheter insertion and fluid transfusion, stoma care, bleeding management, naso-gastric tube insertion and feeding. Use effectively computer and communication technologies, search for information sources. Assess the vital Signs: Pulse, respiration, temperature; Takes electrocardiography, reads it; Chest tube insertion; Open chest wound management (tube insertion, wound dressing); Conducts physical examination of a neurological patient; Examination of eyesight; Examination of the visual field; Examination of the external eye; Examination of the bottom of the eye – retina; Examination of the bottom of the eye – macula; Fiberoptic examination of nasopharynx; Examination of ear; Examination of hearing; First aid treatment in emergency situations on ear; First aid treatment in emergency situations on nasopharynx; Putting dressing after manipulations and operations; Putting tamponade after manipulations and operations; Perform medical treatment procedures on ear; Perform medical treatment procedures on nasopharynx; Placement of nasogastric tube; Examination of abdomen; Assess the vital Signs: Pulse, respiration, temperature; Measure blood pressure; Using nebulizer; Treatment of child aspiration; Examination of a newborn; BLS in a newborn child; Nasogastric tube feeding; Using nebulizer; Treatment of child aspiration.

6. Communicates effectively in a medical context

Demonstrate communication skills, both verbal and written, to establish effective communication with a wider audience; Conduct the effective doctor-patient relationship, provide with the consultation patients, their relatives, mediator; Conduct effective communication with any patient regardless their social status, cultural identity, religious belief or ethnicity, provide with the consultation patients, their relatives, mediator; Communicate with persons with limited abilities; Conducts effective communication with the patients; Communicate for breaking bad news; Conduct the patient-centered relationship; Manage the effective communication in conflict situations; Communicate for breaking bad news; Communicate for getting informed consent; Communicate with law enforcement bodies and mass media; Communicate with the experts in different fields.

7. Uses the Ethic and Legal Principles in Medical Practice

Uses ethical principles in dealing with patients; keeps confidentiality; uses ethical principles during treatment process; gets informed consent and makes further report; asks for autopsy.

8. Evaluates the psychological and social aspects regarding patients' disease

Finding out the stress connected with a disease; Finding out drug and alcohol addiction; Assessment of disease revelation and psychological factors influencing the patient; Assessment of disease revelation and psychological factors influencing the patient; Assessment of disease revelation and social factors influencing the patient; Assesses psychological and social factors influencing the patient; Assessment of disease revelation and psychological factors influencing the patient; Assessment of disease revelation and social factors influencing the patient.

9. Uses knowledge, skills and principles based on evidence

Analyze the published literature in the field of Cell Biology and Biochemistry, clinical correlations, provide with the analysis and make conclusions; Finds out the interaction between the symptoms and basic knowledge(in anatomy, physiology, biochemistry etc.) of disease; Correlate the pathology with the agent caused it; Determine and conduct the relevant literature research and fill the gaps in one's knowledge; Analyze the published literature, provide with the analysis and make conclusions; Analyzes critically the published literature, makes conclusion and uses them in practice; Assesses critically the published literature, make decisions; Relate drugs to the relevant clinical context; write prescriptions and relate drugs to the relevant clinical context; Use of evidence in practice; conducting and defining appropriate literary research; Critical assessment of published literature, decision making and its usage in practice.

10. Uses information and information technology effectively in a medical context

Search for the relevant scientific literature in scientific databases; Draw the relevant conclusions based on obtained scientific literature; Processes the research method - data: mean calculation, standard deviation, standard error, calculation of confidence interval, hypothesis testing, graphical presentation of data; Makes calculation of epidemiological research indicators (frequency, prevalence, mortality, etc.): ratio of odds and risk ratio; Seasonality index and seasonality coefficient; Sensitivity and specificity of diagnostic tests; Differentiates between infectious and non-infectious disease prevention issues; Reveals statistical associations by identifying public health indicators and analysis; Makes appropriate decisions about exposure and causal relationships; Critically evaluates the epidemiological issues of chronic disease to better understand the "risk" of developing a chronic, infectious disease or to avoid adverse health consequences; Identify pathological structure and mechanisms of the disease; Analyze the published literature, case studies, provide with the analysis and make conclusions.

11. Applies scientific principles, methods and knowledge to medical practice and research

Knowledge of methodology for conducting scientific research; Knowledge of ethical principles to conduct scientific research; Review writing skills based on critical analysis of the research literature in biomedicine; Show awareness of ethics of conducting scientific research; Ability to create a paper/review based on critical analysis of biomedical scientific literature; Ability to make research design, detailed planning, treatment of achieved results, conclusion; Ability to use achievements of biomedical scientists in practice.

12. Implements the health promoting events, engages with public health care issues, describes efficient performance within the health care system

Use of medical information technologies to enhance medical service quality and patient's security optimization; Contribution to patient's security; To perform the treatment which will minimized harmful risks of a patient; To perform prevention measures of disease transmission; Acknowledgment of problems connected with own health; Participation in healthcare activities on individual and population levels; Contribution to changes in healthcare system for enhancing service quality and results; Introduction of disease prevention, health care and disease supervision with individual patients.

13. Professionalism

Shows analytical abilities, critical and self-critical approach, reflective practice; empathy towards others; interpersonal skills; ability to adapt with new situations; impartiality, empathy towards patients; follows ethical principles; capacity for applying knowledge of biomedical sciences in practice; initiative,

will to succeed and lead other; capacity for applying knowledge of biomedical sciences in practice; ability of working in the interdisciplinary team; sensitivity while discussing end of life issues with patients and their families; commitment to maintaining good practice, concern for quality; ability to recognize limits and ask for help; recognize and respond to ethical issues encounter in practice; manage the multidisciplinary environment and adapt by using new strategic approaches; makes valuable questions for research and choosing corresponding methods for it; manages time and resources in order to balance patient care; organizes and plans the activities to be performed within a proper time; recognizes and manages the conflict of interest; works in inter-disciplinary team consult effectively with other healthcare professionals; work autonomously when necessary and make decisions, solve problems, able to recognize limits and ask for help; sensitively explore patients' and families' concerns related to physical, cultural, psychological, social and spiritual domains; delivers the highest quality care with integrity, honesty and compassion; respects medical, legal and professional obligations.

Teaching and Learning Methods and Activities

Methods of Teaching

To achieve the learning outcomes in the teaching-learning process will be used different knowledge transfer methods and activities, such as: lecture, working in a group, seminar, discussion, verbal presentation of studied material, laboratory work, home assignment, individual work, presentation, case study, presentation of clinical skills, practical training, E-learning.

The lecture - a creative process in which both a lecturer and a student take part. The basic purpose of the lecture is to help students to comprehend the major notions of the subject taught which implies creative and active perception of the material. In addition, attention should be paid to basic concepts, definitions, designations, assumptions. A critical analysis of main issues, facts and ideas is necessary. The lecture should provide for scientific and logically consistent cognition of basic concepts without going into unnecessary details. Therefore, it should be logically complete. Moreover, facts, examples, schemes, drafts, experiments, and other visual aids should help explain the idea conveyed by the lecture.

Seminar - the gradual learning of the theoretical material by means of solving concrete problems; this is the basis of developing skills for its independent use. The teacher should pay special attention to problem-solving methods, making drafts, sketches and schemes, using appropriate techniques for calculations, etc. Under the lecturer's instruction a student or a group of students search for and process additional information,

prepares presentations, writes an essay, etc. At the seminar discussions are held, students present reports, draw conclusions. The lecturer coordinates and makes the activities goal oriented.

Discussion – collaborative exchange of ideas among a teacher and students or among students for the purpose of furthering students thinking, learning, problem solving, understanding, or literary appreciation; stimulates critical thinking, helps students process information rather than simply receive it, encourages them to think more deeply and to articulate their ideas more clearly. Participants present multiple points of view, respond to the ideas of others, and reflect on their own ideas in an effort to build their knowledge, understanding, or interpretation of the matter at hand. Discussions may occur among members of a small group, or whole class and be teacher-led or student-led.

Debate – requires students to work as individuals and as a team to research critical issues, prepare and present a logical argument, actively listen to various perspectives, differentiate between subjective and objective information, ask cogent questions, integrate relevant information, develop empathy, and formulate their own opinions based on evidence.

Brainstorming – a method that students stimulate students' critical thinking and creativity, boosts problem-solving skills. The issue is discussed and evaluated in a group. Students express their ideas, assumptions related to the topic promoted by the lecturer. The discussion facilitates the lecturer.

Working in a group (collaboration) –students are divided into groups and are given different tasks. Group members work over it, discuss and communicate. The strategy promotes involvement of all students into educational process.

Practical Training - hands-on learning experience in a supervised setting aimed at the professional preparation and training of a student. Students should be exposed to various areas of the organization in which they work. Practical training provides learning opportunities related to all parts of the course program. The student always works with the support and appropriate help from the lecturer. However, the student is engaged in carrying out a particular activity. The course is held as a practical training in a simulation lab. During the semester skills are developed by role-playing or working on manikins. At the midterm and final exams are used simulated patients.

Clerkship - a part of clinical rounds where both student and instructor attend the patient's bedside to discuss the case and/or demonstrate a clinical procedure. This is the student's opportunity to see how the attending physician relates to the patient and to get hands-on instruction in interviewing a patient, physical examination, and counseling skills. In teaching in the patients' presence, learners have the opportunities to use

all of their senses and learn the humanistic aspect of medicine such as role modeling, which is vital but difficult to communicate in words. Students practice and develop their skills at the simulation lab. on manikins, by role-playing, etc.

Night on call – staying in the hospital overnight and care for the patients, and care for the new admissions.

Laboratory work – working with microscopes in laboratory, viewing microscopic specimens, identification of tissue samples, the pathological process, the level of lesion, outcome of the pathological process.

Role-playing – assume the roles of a patient and a doctor and develop and demonstrate practical/clinical skills.

Case study -real, significant cases related to the topic. Case study is a method of learning and teaching which allows students to focus on how and what they will learn. An unfamiliar, complex problem, situation or task is presented to the students and students are required to determine for themselves how they will go about solving the problem. This allows students to utilize their prior knowledge in the topic area and identify the gaps in their knowledge as they attempt to solve the problem, facilitates critical analysis of complex information, its synthesis, evaluation and making decision in a complex multidisciplinary environment, productive collaboration in a team.

PBL (Problem-Based Learning) - a method of learning and teaching which allows students to focus on how and what they will learn. An unfamiliar, complex problem, situation or task is presented to the students and students are required to determine for themselves how they will go about solving the problem. This allows students to utilize their prior knowledge in the topic area and identify the gaps in their knowledge as they attempt to solve the problem, facilitates critical analysis of complex information, its synthesis, evaluation and making decision in a complex multidisciplinary environment, productive collaboration in a team.

CBL (Case-based learning) - an approach where students apply their knowledge to real-world scenarios, promoting higher levels of cognition. In CBL classrooms, students typically work in groups on case studies, stories involving special cases and/or scenarios. The cases present a disciplinary problem or problems for which students devise solutions under the guidance of the instructor. CBL utilizes collaborative learning, facilitates the integration of learning, develops students' intrinsic and extrinsic motivation to learn, encourages learner self-reflection and critical reflection, allows for scientific inquiry, integrates knowledge and practice, and supports the development of a variety of learning skills.

CBCR (Case-based clinical reasoning) – is a mental process that happens when a student encounters a patient and is expected to draw a conclusion about (a) the nature and possible causes of complaints or abnormal conditions of the patient, (b) a likely diagnosis, and (c) patient management

actions to be taken. Clinical reasoning is targeted at making decisions on gathering diagnostic information and recommending or initiating treatment.

Methods of Assessment

Verbal presentation of studied material – organized information on a specific topic, discussion over specific issues in the form of narration or answering questions, demonstrates knowledge of theoretical topics.

Verbal presentation – demonstration of knowledge of theoretical topics, discussion over specific issues in the form of narration or answering questions, ability to solve tasks and arrive to correct solutions.

Demonstration of practical/clinical/professional skills – gather the data for case history, physical examination and registration of data; examination of a surgical patient; treatment of urgent cases; delivery of a basic first aid care; treatment of pain and distress; conduct local anesthesia; treatment of bleeding; transfusion of blood substitutes; perform suturing/putting stitches; subcutaneous and intramuscular injections, vein puncture; catheterization of the vein; Use the infusion equipment for introduction of medicines into a vein; Remove stitches and drainage probes, etc.

Demonstration of clinical skills – students practice and present examinations in ophthalmology by role playing, on a manikin or on a simulated patient, interpret the results of examination.

Presentation of a clinical case – develops students' clinical judgement skills; students select a clinical case and present it in a written form that involves comprehensive, detailed, focused on the problem data, analysis and synthesis of the results of physical and clinical examinations, the patient's treatment plan.

Presentation of a clinical skills and professionalism – presentation of a patient's case that facilitates students' ability to conduct patient-oriented communication, registration of data, demonstrate effective clinical problem solving and judgement skills for addressing a patient's problems, ability to interpret available data and integrate information to generate differential diagnosis and treatment plan. It consists of description of the patient's case (case history), analysis and synthesis of information (listing problems and differential diagnosis), case management (diagnosis and treatment plan).

Assessment of clinical examinations – students are provided with the results of clinical examinations – laboratory, radiological, they read, interpret the results and provide with the preliminary diagnosis.

Presentation - The presentation shows the student's knowledge and gained skills during the course. It may be prepared individually or in a group work. The aim of the project is to skill students in searching and processing the relevant references, make them develop own point of view concerning the issue. The selected topic or report (presented in writing and defended in front of the group). For evaluation of independent work, in line with the topics envisaged under the syllabus, during the lectures a student is given an assignment to be made in the form of presentation (project).

Home assignment: students are given topics for writing texts. Lecturer checks a text's structure and organization, purpose, style, text cohesion and coherence, etc.

Research Paper - in-depth analysis of a particular topic/issue. It requires reading and processing of additional literature and providing it in a written form. It enables the student to develop deeper knowledge, understanding, capabilities and attitudes of the course. It offers the opportunity to enhance the subject/field knowledge, capability to critically, creatively integrate the knowledge; clearly present and discuss the conclusions as well as the knowledge and arguments that form the basis for these findings in written and spoken English; understand the ethical aspects of a research work.

OSPE (Objective Structured Practical Examination) – an objective instrument for the assessment of theoretical, practical and problem-solving skills in preclinical sciences. Students are given anatomical, histological specimens, radiological images for identification and description of its structures.

OSCE (Objective Structured Clinical Examination) – the assessment method based on students' performance that measures their clinical skills/competencies. It is a hand-on, real-world approach to learning and enables a reliable assessment of a student's competence. Its content and scoring procedures are standardized. Each examination station is designed to focus on an area of clinical competence. Each student is asked to perform the same task within the same timeframe. The tasks in each OSCE station represent real-life clinical situations.

Quiz – written test – checking the assessment of specific cases within the studied material and skills of integration of knowledge.

Test - a written work at the mid-term and a final exams; assessment of theoretical knowledge.

Student knowledge assessment system:

The grading system shall allow:

a) **Five positive grades**

a.a) (A) **Excellent** – 91-100 grade points;

a.b) (B) **Very good** – 81-90 grade points;

a.c) (C) **Good** – 71-80 grade points;

a.d) (D) **Satisfactory** – 61-70 grade points;

a.e) (E) **Acceptable** – 51-60 grade points.

b) Two types of negative grades:

b.a) (FX) **Fail** – 41-50 grade points, meaning that a professional student requires some more work before passing and is given a chance to sit an additional examination after independent work;

b.b) (F) **Fail** – 40 and less grade points, meaning that the work of a professional student is not acceptable and he/she has to study the subject anew.

➤ The final score is calculated by summing the ongoing, midterm and final exams assessment.

➤ A student shall set for the additional exam in the same semester at least 5 days after the announcement of the result.

The development of the educational component provided for by the bachelor's program in Medicine requires interactive participation of students in the learning process and is based on the principle of continuous assessment of knowledge gained. For each form and component of the assessment there is a certain share of the final score (100) of the final grade, which is reflected in the specific syllabus and is reported to the student at the beginning of the academic semester.

Each form of assessment includes assessment components that determine the methods / techniques for assessing a student's knowledge, skills and / or competencies (oral / written exam, oral / written survey, practical / theoretical work, etc.). The assessment component combines common assessment methods (test, essay, demonstration, presentation, discussion, practical / theoretical task, working in a working group, participating in a discussion, etc.).

Method / Methods of assessment are measured by assessment criteria or a unit of measurement of the assessment method that determines the level of achievement of learning outcomes.

The minimum score for admission to the final exam is 21 points (out of 60 points) earned at the semester and midterm assessment.

The minimum score for passing the final exam is 50%.

Further Studies

A graduate holding a higher medical institution diploma shall have the right to:

1. complete a postgraduate vocational training programme (or the relevant vocational programme abroad recognized by the country in concern) and acquire the right to perform an independent medical practice after passing a state certification examination.
2. continue education at the third level of higher education system – doctoral level.

Field of Employment

The graduate of one-cycle higher education programme (Medical Doctor) is not granted to run the independent medical practice according to the applicable legislation, she/he can be:

1. employed as a Junior Doctor under the responsibility of an independent medical practitioner
2. carry out research and teaching activities in the theoretical fields of medicine or other fields of health care that do not include an independent medical practice.

Information on material resources required for the implementation of the program:

- Classrooms equipped with modern technologies, specialized classes, labs (chemistry and biochemistry lab; simulation labs; histology, microbiology labs; anatomy lab, etc.), IT infrastructure, etc.
- The University has agreements with clinics where the clinical courses of the curriculum are delivered.
- Library equipped with all required modern textbooks and various books for additional reading (printed books and e-books), computers where the students can study, work independently, work in a group of students. The students have access to databases, libraries, etc.

