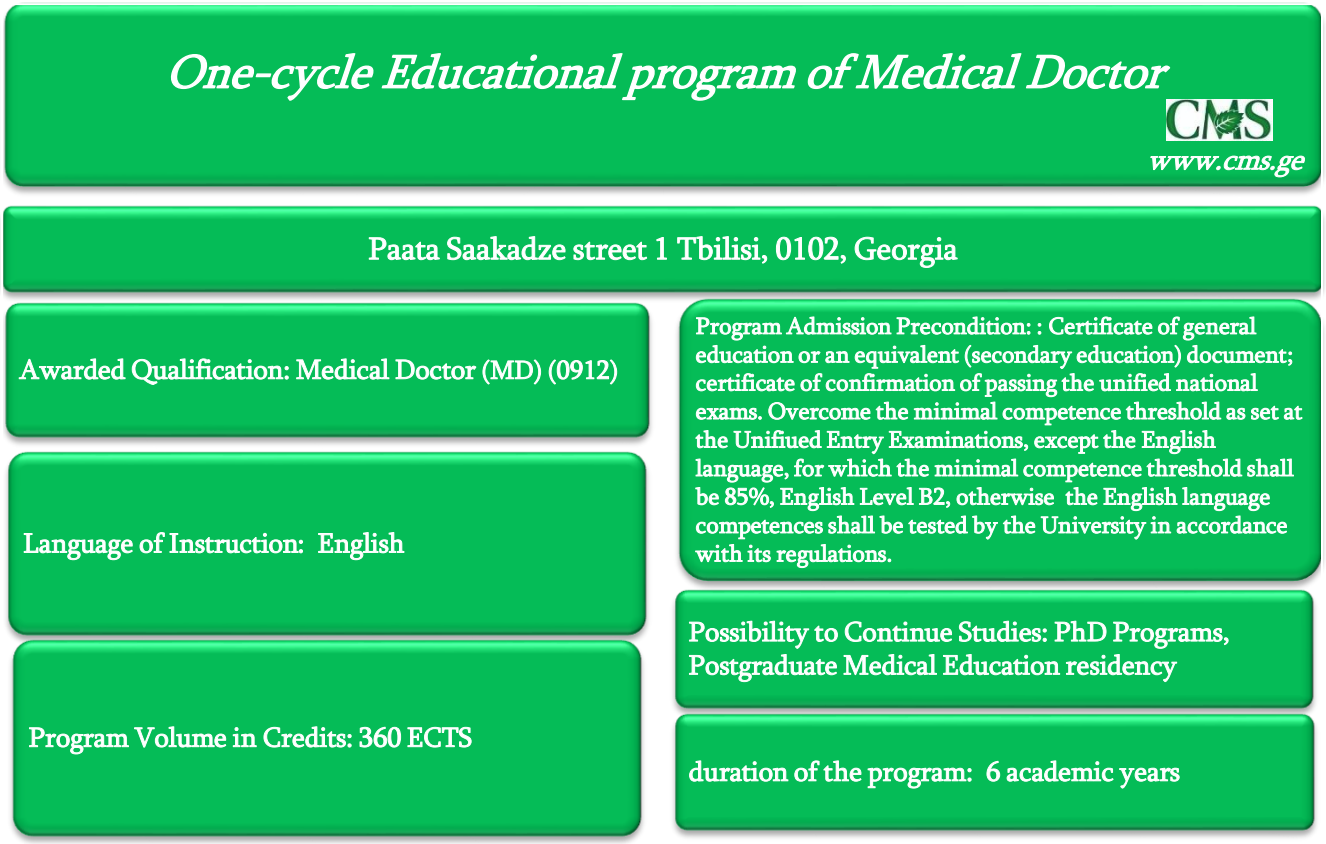
5.1. One-cycle Educational program of Medical Doctor



Program Objective: The goal of the educational program of Medical Doctor is to train competetivive and qualified professionals, with high ethical standards and in-depth and systematic knowledge, having relevant skills, necessary competencies and professional values for local and international labor markets, and thus to meet the demands of the society and support the overall mission of Caucasus University.

The educational program of Medical Doctor is based on the Georgian National Qualifications Framework, the Medicine sector benchmarks of higher medical education and current legislation, as well as the Global Standards for the Development of the World Federation of Medical Education (WFME) (2020)) and the guidelines of the International Association for Medical Education (AMEE).

One cycle educational MD Perogram of the Caucasus Medicine and Healthcare Management School was accredited in 2018 and launched in September 2020. In the face of pandemic constraints and regulations, the learning process was mainly conducted in online or hybrid learning mode, which was done by adapting the curriculum in such a way as to enable us to maintain the level of learning outcomes to be achieved.

The English language program will help to use the latest and advanced textbooks in teaching and learning methods, international medical scientific publications, online / distance conferences, webinars and other up-to-date information resources, to get acquainted with the latest achievements in biomedicine to the realities and demands of the system and the competitive labor market. It will also facilitate practical implementation of internationalization and

multiculturalism through the development of international exchange programs and active collegial, professional and cultural relations between foreign and local students involved in the program.

The program makes sure the graduates with assimilate and refine theoretical knowledge in basic biomedical and clinical sciences, and acquire clinical, laboratory or scientific practical skills, achieve professional standards, master ethical behavior and norms necessary for professional growth and development and for the successful conduct of medical practice.

The program's axis is a vertically and horizontally (partially) integrated curriculum based on a model of higher standard institutional education, collaborative group learning, active personal self-learning, and intensive acquisition, demonstration, and evaluation of practical skills in the real world. In addition to patient's bedside-teaching, early learning of research methods and communication skills, considerable attention is paid to the synergistic use of virtual simulation technologies, computer and video presentations, role-playing games, as well as the benefits of problem-based and case-based learning. Particular attention is paid to the flipped learning method.

In addition to midterm and final testing, the assessment of learning outcomes focuses on formative assessment methods and frequent and active feedback from the teacher to students, which is an important factor in the student development, error correction, motivation, individual learning strategy and responsibility. On the other hand, it helps the teacher to adapt the teaching and assessment materials to the students' interests with a view to optimizing the best learning outcomes. Based on the complex introduction of feedback and self-assessment, the program provides for the active implementation of the portfolio already from the preclinical stage. The program focuses on the effective use of laboratory and practical skills assessment, as well as objectively structured clinical or practical examinations (OSCE, OSPE), case-based discussions. All of this helps students develop a need for maximum responsibility and focus on short- and long-term outcomes from the first year.

The program consists of two stages: 1. Basic (Preclinical) teaching (I - III years), which in the I-II course includes natural sciences, foreign language and horizontally integrated modules on the structure and functions of body systems (anatomy, histology, physiology, biochemistry), Which are synchronized according to organ systems. The syllabus of these modules integrates the development of practical skills in biomedical research in the first 4 semesters, and the first aid module is implemented both at the patient's bedside and in the clinical skills laboratory, to which the first course of clinical skills is added from the second semester. From the very beginning of the first year of the Clinical, Research and Communication Skills Curriculum, the initial level of these extremely important elements for the future doctor is established by taking into account the requirements of the national qualification and field regulatory benchmarks. In parallel with the traditional methods of learning, the program uses flipped learning and rich resources of information technologies from the very first stage, and if necessary - online and hybrid learning. At this stage, Georgian language teaching is designed to prepare foreign students for social adaptation and for acquiring B1 level knowledge for the clinical stage - to communicate with patients and local colleagues. Georgian students can learn a foreign language (German, French from 2022) or can choose to improve their English language skills up to C1 level (CEFR).

From the 3rd year - at the stage of clinical training, the subjects of pathological structure and function of disease development, introduction to therapy and surgery (propaedeutics) are taught, and **from the 4th year** - special clinical courses are nitroduced. Using spiral training, pre-clinical subjects (pathology / histology, pathophysiology / biochemistry, microbiology, immunology, genetics, pharmacology) are replicated with basic knowledge elements and practical skills and already linked to the clinical context. The curriculum includes courses in clinical radiology and clinical pharmacology. At the same time, clinical and scientific skills are being taught, refined, and modeled on the most important ethical values, attitudes, and professionalism for the physician. Case-based Learning (CBL) or Case-Based Clinical Reasoning (CBCR) is actively used as a model. In-patient training during clinical rotations is supplemented by additional experience with simulators and standardized patients in the clinical skills lab, and the use of an objectively structured clinical trial (OSCE) or mini-clinical practice assessment in the assessment spectrum. In parallel, clinical rotations and the preparation and presentation of a course project - a summary scientific paper - occupy an important place in the final course of syndrome diagnosis and clinical pharmacology. Student activities are evaluated through Workplace based Assessment and MiniCEX, and all of this information is aggregated into a portfolio database from year one, facilitating the use of formative assessment and feedback by instructors.

The program is based on the integration of Caucasus University multidisciplinary approaches, well-deserved high reputation, large-scale international cooperation and many years of rich experience in a leading educational institution - in general management, healthcare management and public health. The development of priority areas for Georgia - integrated healthcare oriented of the primary healthcare, innovative and personalized services based on future technologies, and bringing up competent, ambitious professionals with exemplary ethical-professional values.

The mission of Caucasus University is to prepare for local and international markets, through research-oriented teaching and learning, competitive, highly-qualified, morally-grounded professionals committed to the ideals of democracy and thus satisfy society's educational needs and requirements.

The objective of the Educational Program of Medical Doctor (MD) of Caucasus Medicine and Healthcare School is to provide local and international labor markets with competitive and highly-qualified, ethical MD professionals having an in-depth and systematic knowledge, relevant skills, competencies and professional values, which will support the implementation of the general mission of the University.

The program provides the thinking, knowledge, and practical / clinical skills necessary to successfully pursue a professional career and pursue postgraduate study. The program pays special attention not only to the development of skills necessary for practical medical practice, but also to the attaining scientific research skills, ethical norms and standards and the highest level of professionalism.

The objectives of the program are to make effective use of human and material resources, to encourage group and independent learning, to maximize the realization of the personal potential of the graduates and to develop the following types of knowledge, skills and competencies:

1. Provide medical education based on modern international standards and evidence that is in line with medical development trends, the local context of public health, the advancement of medical technology, and global and local challenges.

2. Transform, demonstrate and refine theoretical knowledge into practical skills using the principle of result-oriented education and modern teaching methods, develop clinical, analytical and communication skills - to ensure competitiveness in the local and international labor market.

3. Develop patient-centered competencies, ethical values and attitudes. Respect and protect the interests of the patient, regardless of his/ her social, cultural, religious and ethnic background.

4. To develop the skills of planning, implementation and analysis of scientific research, mastering the principles of professional ethics in conducting biomedical research and scientific discussions.

5. Develop the habit of independent active self-learning, motivate the need for continuous medical education and professional skills development, professionalism, constant aspiration to increase personal and team responsibility, readiness to solve public health tasks and challenges.

Program Learning Outcomes: The learning outcomes of the Program of Medical Doctor are systematized on the basis of the National Qualifications Framework (NQF) evaluation criteria and the integration of competencies in the field of medicine, dividing 3 NQF domains (Knowledge and Understanding, Skills, and Responsibility and Autonomy) into 14 outcomes aligned with 14 competencies in the National Benchmark of High Medical Education of the National Center for Educational Quality Enhancement.

Knowledge **and Understanding**

Learning Outcome 1: (K&U) In-depth and systematic knowledge and understanding of the basic principles of biomedical, behavioral, social, clinical sciences and of the field

Program Graduate:

1.1. Demonstrates in-depth and systematic knowledge of biomedical sciences.

1.2. Examines and compares the structural organization characteristic of normal and pathological processes, the mechanisms of functional changes and metabolism - at the molecular, cellular, tissue, organ and system levels.

1.3. Discusses the function, components and characteristics of the immune system. Compares innate and acquired, humoral and cellular immunity. Analyzes the mechanisms of regulation and control of immune response disorders.

1.4. Evaluates the correlation between the development of pathological changes and mechanisms and the clinical manifestations of diseases when considering genetic (hereditary) diseases, inflammation, metaplasia, infection, autoimmune processes.

1.5. Discusses social and behavioral factors, explains their role in the development of pathological processes

1.6. Demonstrates in-depth and systematic knowledge of clinical medicine and integration with basic subjects. Describes the basic nosologies of internal medicine, surgery and their subspecialties, as well as obstetrics-gynecology, pediatrics, psychiatry. Classifies them, discusses their etiology, discusses their pathogenesis, compares their symptoms, diagnostic methods, and differentiates them.

1.7. Demonstrates knowledge of different methods of disease management and compares their area of use, indications, benefits and effectiveness.

1.8. Describes and evaluates the mechanisms of drug effects, their pharmacokinetics and pharmacodynamics, indications, contraindications, side effects and principles of their dosage regulation.

1.9. Evaluates the importance of the public health system and the role of the physician in the cost-effective management of individual and population health using this system.

1.10. Reveals deep knowledge of ethical and legal principles of medicine and patient rights.

Skills

Learning Outcome 2: (Competence S1) - Patient consultation

Program Graduate:

2.1. In the process of consulting a patient of any age, implements the proper structuring, proper communication and effective management of the patient appointment.

2.2. Obtains anamnesis from the patient as well as from other sources (with the patient's consent).

2.3. Conducts physical examination of patients of any age in compliance with the standard of consultation.

2.4. Assesses the patient's psycho-emotional state and determines the need for appropriate advice or specialist consultation. Expresses patient support.

2.5. Makes decisions based on theoretical knowledge and clinical thinking and provides reasonable recommendations to the patient.

Learning Outcome 3 (Competence S2): Assess clinical case, schedule examinations, differential diagnosis, discuss disease management plan.

Program Graduate:

3.1. Recognizes and evaluates the complexity of the clinical case manifestation of the disease when assessing a patient of any age.

3.2. Conducts the optimal set of examinations based on theoretical knowledge and patient data and interprets the results of the examinations.

3.3. Conducts differential diagnosis based on critical analysis of clinical, instrumental and laboratory data and determines the diagnosis of the patient’s major and concomitant diseases.

3.4. Introduces treatment tactics, to the patient and his / her caregivers; seeks agreement, explains and advises.

3.5. Takes care of the terminal patient and his/her family

3.6. Demonstrates the management of chronic disease.

Learning Outcome 4 (Competence S3): Emergency Medical Assistance (First Aid and Resuscitation)

The program graduate demonstrates the following skills:

4.1. Identifying and evaluating an emergency medical condition;

4.2. Basic first aid in different age groups (infants, children, the elderly);

4.3. Carrying out basic life-sustaining and cardiopulmonary resuscitation measures in accordance with the guidelines;

4.4. Carrying out extended life-saving measures in accordance with the guidelines;

4.5. Carrying out emergency assistance measures during injuries.

Learning Outcome 5 (Competence S4): Medication Selection and Prescription

Program Graduate:

5.1. Selects drugs and doses by taking into accoungt the clinical context

5.2. Prescribes medications clearly and accurately

5.3. Analyzes the relationship between drug benefit and potential side effects risk for the patient

5.4. Considers the interaction and compatibility of different medications when prescribing treatment to a particular patient

5.5. Performs treatment of pain and distress.

Learning Outcome 6 (Competence S5): Implementation of practical procedures

Program Graduate:

Demonstrates practical diagnostic and treatment procedures:

6.1. Identification of vital signs: pulse, respiration, temperature;

6.2. Pressure Measurement;

6.3. Determination of saturation;

6.4. Hand washing and wearing gloves;

6.5. Peripheral venipuncture;

6.6. Catheter insertion into a peripheral vein;

6.7. Intravenous administration of drugs and use of an infusion device;

6.8. Injecting subcutaneously and intramuscularly;

6.9. Oxygen supply;

6.10. Transporting and treating patients;

6.11. Suturing

6.12. Wound healing and bandaging;

6.13. Bladder catheterization;

6.14. Perform urine tests;

6.15. Taking an electrocardiogram;

6.16. Electrocardiogram interpretation;

6.17. Conducting functional tests of the respiratory system;

6.18. Use of inhalation medications.

Learning Outcome 7 (Competence S6): Implementing effective communication in a medical context

Program Graduate:

7.1. Conducts effective verbal or written communication with the patient, relatives, colleagues, and others (regardless of their social, cultural, religious, or ethnic background), in the context and scope of comprehensive medical care, physician duties, and applicable regulations;

7.2. Able to communicate with relatives (and / or caregivers) - to provide explanation / clarification of the diagnosis and / or to provide explanations / advice / recommendations for care / treatment / prevention (including finding using information technology).

7.3. Able to communicate with people with disabilities and / or assistants;

7.4. Provides written communication (including medical records and electronic medical histories) with healthcare, law enforcement and the media;

7.5. Able to communicate bad news messages properly and / or communicate in the event of a conflict.

Learning Outcome 8 (Competence S7): Application of ethical and legal principles in medical practice.

Program Graduate:

8.1. Expresses respect for the dignity and rights of the patient, including the right to participate in decision-making about medical care.

8.2. Receives valid informed consent from the patient in accordance with the law when providing medical services and makes an appropriate entry in the documentation;

8.3. Expresses support for the patient and respect for his / her rights; Adheres to moral and ethical norms in relation to the patient;

8.4. Maintains confidentiality about the patient's condition;

8.5. If necessary, requests an autopsy and / or issues a death certificate (in cases provided by the legislation of Georgia).

8.6. Uses Georgian and international legislation in the treatment of the patient;

8.7. Manages medical activities in a multicultural society.

Learning Outcome 9 (Competence S8): Consideration, identification and evaluation of the psychological and social aspects of the patient's illness.

Program Graduate:

9.1. Assess the patient's psycho-emotional status and the psychological and social factors of disease manifestation and impact on the patient.

9.2. Identifies disease-related stress;

9.3. Determines the patient's possible dependence on alcohol, drug addiction, other possible forms of addiction (gambling, Internet addiction).

Learning Outcome 10 (Competence S9): Applying Evidence-Based Principles, Skills, and Knowledge

Program Graduate:

10.1. Able to identify a problem, ask relevant questions about the issue, and effectively find answers to questions in the scientific literature.

10.2. Carries out a critical analysis of the medical literature, evaluates the quality of the evidence presented in the articles, and makes proper use of convincing data in decision-making in practice - for maximum benefit to the patient;

10.3. Discusses the evidence used in clinical decision making with colleagues and other health professionals, thereby promoting the dissemination of evidence-based principles, knowledge and skills and their widespread introduction into the medical community.

Learning Outcome 11: (Competence S10) Effective use of information and information technology in a medical context

Program Graduate:

11.1. Effectively uses modern information technologies in practical activities;

11.2. Properly keeps and maintains complete clinical records;

11.3. Carries out specific information resources, retains them and then uses them in practical activities

11.4. Maintains personal records (portfolio) of learning, practical skills and professional activities.

Learning Outcome # 12 (Competence S11). Application of scientific principles, methods and knowledge of biomedicine in medical practice and research.

Program Graduate:

12.1. Demonstrates knowledge of scientific research methodology, scientific code and ethical principles.

12.2. Demonstrates the ability to select research design, detailed planning, process results, and formulate conclusions.

12.3. Finds and uses in recent practice the latest advances in evidence-based biomedical research.

12.4. Prepares an abstract / review based on the critical analysis of the field scientific literature.

12.5. Presents the results of its research, arguments and conclusions to both the academic and professional community, in the form of a proper presentation, adhering to the principles of academic good faith.

Learning Outcome # 13 (Competence S12). Implement health promotion measures, engage in public health issues, work effectively in the health care system.

Program Graduate:

13.1. Actively engages in the discussion of public health issues and in the process of improving the health of the community and the population.

13.2. Advocates for increasing the efficiency of the health care system by taking disease prevention measures.

13.3. Participates in health promotion activities at both individual and population level.

13.4. Understands the importance of preventing the spread of infections and advocates for these measures to enhance public health safety

13.5. Understands and evaluates one's own health condition and possible problems, including those related to professional duties.

13.6. Plans and implements measures to improve their own health - through the introduction of a healthy lifestyle and the elimination of harmful habits, and by introducing role models – and thereby enhances public awareness.

Learning Outcome # 14 (Competence RA13). Values and professionalism

Program Graduate:

14.1. Self-assesses his/her own level of knowledge and selects priorities, makes changes to the individual curriculum and uses adapted learning resources to move to the next level of study

14.2. Confirms the high standard of personal values and professionalism necessary for a doctor through personal qualities and activities: impartiality, honesty, fairness, creativity, sociability, collegiality, initiative, altruism, empathy (compassion).

14.3. Able to display expert qualities - in terms of analysis, synthesis, continuous learning, application of scientific research knowledge in practice, mentoring.

14.4. Demonstrates the ability to plan and organize time, prioritize, meet deadlines, and perform agreed-upon work at a high level.

14.5. Demonstrates the following skills necessary for teamwork: responsibility, critical and self-critical attitude, finding a way out of an uncertain situation, adapting to a new situation, creativity, working independently, understanding one's own capabilities and asking for help in a timely manner.

14.6. Able to develop and effectively demonstrate the following qualities of a team leader: Adequate assessment of team members' capabilities, distribution of functions, work planning, activity coordination, feedback, prevention / management of conflict and force majeure situations.

14.7. Expresses the skills characteristic of multiculturalism: knowledge of a second language, respect for different cultures, willingness to work in an international environment, extra-professional knowledge.

Areas of Employment: The graduate of the programme is eligible to:

1. continue education at the third cycle of higher education – doctoral studies at higher educational universities of Georgia as well as at the universities of foreign countries or take professional development at the training programme of residency (or equivalent training programme abroad approved by the legislation of the country in concern) and after successfully passing the unified state certification exam be awarded the right of independent professional activity.
2. be involved in research or medical-educational process in theoretical fields of medicine or in the field of healthcare, which does not involve independent medical activities.

a) Take a course of postgraduate professional development and after successfully passing the state certification exam be awarded the right of independent professional activity.
b) Work as a junior physician.

The programme graduate will be able to deal with the research and teaching activities in theoretical fields of medicine or other fields of health care that don't involve indepenent medical practice. The first batch of graduates is expected in 2026.