Tbilisi State Medical University

American MD (USMD) Program

Content of an Educational Program
Program Title: American MD Program
Education Level: One – Step Educational Program
Qualification Degree: Medical Doctor
Study Duration: 6 Years
Program Volume: 360 ECTS credits (1 ECTS credit to 30 hours)
Learning language: English

Prerequisites for admitting on the educational program

Persons who have high school or equivalent education and have passed Unified National Admission Exams and own relating certificate are eligible for American MD Program. Also admission requirements include results from Unified National Admission Exams, in prioritized subjects and their appropriate coefficients predetermined by the university. Required grade for English language for Georgian citizens is 80% + 1%.

The right to study without passing Unified National Exams on the program is determined by the Law on Higher Education - Article 52. Paragraph 3. Specifically:
Due to supporting prospective students and students' mobility process, studying in educational institutions without passing Unified National Exams is governed by the regulation of the Ministry of Education and Science of Georgia in predetermined period. Students eligible for National Exam waiver must represent one of the following:

a) For foreign citizens and non-citizens who have received full high school or equivalent education abroad;
b) For Georgian citizens who have received full high school or equivalent education abroad and completed last 2 years in a foreign, English Speaking country;
c) For persons, who study/studied and have accumulated ECTS credits from foreign country's high educational institution recognized in accordance with the legislation of the country.

Enrolling in the program through the mobility process is permitted after the completion one academic year of study. Mobility is possible twice a year, in the periods established by the Ministry of Education and Science of Georgia, compulsory procedures approved by the

Act of the Director of National Centre for Educational Quality Enhancement and in accordance with the rules established by the University.

TSMU has established English language requirements for applicants who are enrolled in English programs without Unified National Admission Exams:

All applicants are obliged to pass the English Language Test at Tbilisi State Medical University.

Applicants will be exempted from this English Language Test, if the following criteria are met:

a) Applicant is a citizen of English - speaking country (USA, Canada, Australia, New Zealand, etc.) where he/she has graduated school / college / university in English.
b) Valid IELTS (> 6.5) or TOEFL (> 90) certificate;

Tuition Fee: For Georgian citizens - 8,000 GEL;
Foreign citizens – 13,500 USD.

Preamble

As a result of bilateral cooperation, American MD Program (Doctor of Medicine Degree Program) was established in 2013 at Tbilisi State Medical University. The program was elaborated and implemented, on the base of conjoint project between Tbilisi State Medical University, (TSMU), and Emory University (USA, Atlanta) School of Medicine (ESOM). The program was processed in details in accordance with the representatives of Emory School of Medicine. Among others especial commitment was devoted by Prof. Kenneth H. Walker (In 2000 he was rewarded as The Best Professor in Internal Medicine in USA), Prof. Gordon Churchward (One of the authors of current curriculum at Emory University), Bill-William Ellis (Dean of Emory School of Medicine), Archil Undilashvili (Educational Programs Director of Emory School of Medicine), and etc. Alongside the administrative staff and the faculty, invited teachers were actively involved in elaborating so called Humanity Block.

The idea of the program was to develop a new, innovative curriculum, which would be fully integrated and would consider modern requirements for developing a medical curriculum. The program was based on modernized curriculum of Emory University School of Medicine, which was adjusted on European and local requirements.

Nowadays, at medical schools in the United States, training programs, which allow students to be actively involved in clinical studies and carry out research activities from the early stage of medical education, are widely used.

We realize that, the highest standards of quality in modern medicine, firstly implies fundamental knowledge of biomedical science, combination of research and clinical skills – and their implementation in medical practice as the finalized product, the American MD Program is fully integrated and is based on harmonious merging of basic scientific and clinical disciplines. Nowadays becoming a doctor is impossible without fundamental scientific education; the last one is the foundation for proper understanding the processes occurring in healthy human, knowledge of general functions of diagnostic tools, correct determination of disease's pathogenesis mechanisms. In addition, basic education in so called humanitarian subjects, which allows clinicians establish and manage relationships with the patients, colleagues and other representatives of the society in medical field, takes significant place in the American MD Program curriculum. Also forming ethical values is the most important thing.

American MD Program offers a wide range of possibilities:

1. The program is delivered in English, which increases the degree of competitiveness of the graduates worldwide;
2. Considers the elements of general university education - the program includes a set of humanitarian subjects: In the medical field of Georgia, it is actually the only program which includes teaching disciplines such as the History of Civilizations, Anthropology, Fine Art History, Philosophy, World Literature, etc. All these disciplines are integrated taking into account so-called "Axis of Time".
3. The program is fully integrated - integration is achieved through the basic, preclinical and clinical disciplines by using both horizontal and vertical principles.
4. The program structure provides to pass two steps of the US Medical License Examination - the program structure allows students to be able to pass two steps to so-called United State Medical License Examination (USMLE). In addition to this, on the basis of the agreement between TSMU and Emory University, any student of the American MD Program, who will pass the first step of USML exams during the course, has a right to undergo some part of clinical rotations at Emory School of Medicine.
5. Research component - research component is presented in the program with considerable volume, which considers the involvement of a student in a basic or clinical medicine, health care organization and other areas connected to medicine.
6. One of the features of the program is structured system of student public education: Each student is associated with the society, that's why the program devotes much attention to this issue. Each group has a social advisor - a small group coordinator who helps the student during the full course of the program in the process of adaptation to the academic environment, university and general requirements of the society.
7. The extracurricular part of the program is projects "Summer at Emory" and "Winter at Emory", which was initiated by Emory University to encourage program students. This project is implemented twice a year and aims to introduce the American medical education and health care systems to TSMU students. The project is 4 weeks long and students have the opportunity to attend the current study process (lecture-seminars), as well as the daily clinical activities of American doctors.

The Goal of the Educational Program

The goal of American MD (USMD) program is to train internationally competitive and competent, highly qualified physicians (Doctors) who are ready for postgraduate education and the specific training courses, both in Georgia and abroad (including in the U.S.). The medical personnel are prepared according to the global standards of the public health care and in accordance of Emory (USA) School of Medicine requirements.

Program's Tasks

- Provide students with a modern, technologically advanced medical education with profound scientific knowledge matching worldwide recognized standards.
- Develop/Give Life-Long Learning (LLL) skills and self-motivation for future doctors.
- Ensure preparing highly qualified medical personnel via using modern medical, information technologies, and learning resources.
- Ensure that the medical education meets with the constantly developing requirements and standards of national and international healthcare systems.

Learning Outcomes

The learning outcomes are based on field specifications of the program and accreditation standards for educational programs at higher education institution.

Field competencies

Field knowledge

- Knowledge of basic natural sciences
- Knowledge of behavioral and social sciences
- Knowledge of clinical sciences
- Knowledge of medications and the principles of their appointment
- Knowledge of public health system and understanding the role of a doctor in this system
- Knowledge of ethical and legal principles

Field skills:

Graduates should be able to:

1. Patient counseling

- Gather anamnesis
- Conduct physical examination
- Clinical judgment and make decision
- Give explanation and advice
- Encourage patient and protect his/her rights
- Assessment of patients' psychological status

2. Clinical case evaluation, scheduling of examinations, conducting differential diagnosis, discussing disease management plan

- Understand and evaluate the complexity of clinical report
- Conduct the corresponding examinations and results interpretation
- Conduct differential diagnosis
- Discuss the plan of disease management with the patients and their caregivers
- Take care of patient in terminal condition and his/her family members
- Manage Chronic disease

3. Help in emergency medical care (Primary assistance and resuscitation measures)

- Recognize and assess emergency medical condition
- Treat emergency medical condition
- Provide basic first aid
- Conduct the basic life-saving and cardiopulmonary resuscitation measures in accordance with the guidelines
- Provide extended life-saving measures in accordance with the guidelines
- Treat traumas in accordance with the guidelines.

4. Subscription of medicines

- Subscribe medication in a readable and accurate way
- Connect the medication and other treatment measures to the clinical context
- Consider the accordance between the medication and other treatment and evaluate the potential benefits and risks for the patient
- Treat pain and distress
- Consider medication compliance when applying the treatment

5. Conducting practical procedures

- Pressure measurement
- Venipuncture
- Lumbar Puncture
- Putting a catheter in vein
- Injection medications into the vein and using the infusion device
- Make injection under the skin (subcutaneous) and into muscle
- Providing Oxygen
- Transportation and treatment of patients
- Shedding
- Blood transfusion
- Catheterization of the urinary bladder
- Make urine analyze
- Performing and interpreting ECG
- Conduct functional tests of respiratory system

6. Effective communication in medical context

- Communicate with the patient
- Communicate with colleagues
- Communicate in case of bad news
- Communicate with patient's relatives
- Communicate with persons with disabilities
- Communicate in order to receive informed consent
- Written communication (including medical records)
- Communicate in case of conflict
- Communicate by using caregiver
- Communicate with law enforcement agencies and mass media
- Effective communication with any person despite of their social, cultural, religious or ethnic background

7. Implementation of ethical and legal principles in medical practice

- Keep confidentiality
- Implement ethical principles and analyzing skills in treatment
- Receive informed consent and make appropriate records
- Issue death certificate
- Demand autopsy (in case of provided by a legislation of Georgia)
- Use Georgian and international legislation during treatment
- Direct a medical practice in multicultural society

8. Assessment of psychological and social aspects connected to the patient's disease

- Evaluate the psychological factors of disease detection and its impact on the patient
- Evaluate the social factors of disease detection and its impact on the patient
- Determine the stress related to the disease
- Reveal the alcohol and drug addiction

9. Use of evidence-based principles, skills and knowledge

- Use evidences in medical practice
- Define and conduct proper research of relevant literature
- Critical assessment of published literature, make conclusions and implement them in practical activities

10. Effective use of information and informative technologies in medical context

- Keep the clinical records orderly and completely
- Apply modern information technologies in practical activity
- Find specific information resources
- Keep information and use it afterwards.
- Keep private records (Portfolio)

11. Use of scientific principles, methods and knowledge of biomedicine in medical practice and research

- Knowledge of scientific research methodology. Ability to make research design, detailed planning, processing of obtained data and make conclusions
- Ability to use biomedical science achievements in practice
- Ability to write a summary / review based on critical analysis of scientific litearture in biomedicine
- Knowledge of ethical principles for conducting scientific research

12. Implementation of health promotion activities, involvement in public health issues, effective work in the health care system

- Conduct a treatment, that minimize the risk of damage to the patient
- Deliver the measures against the spread of infection
- Understand of own health problems and evaluate health condition in terms of professional duties
- Participate in health promotion as an individual and population level as well.

Therefore, medical doctor, in the frame of his/her competency, is able to use acquired knowledge and practical skills, in order to plan the job, maintain it on a proper level and provide increasing quality. Considering different perspectives, MD is able to evaluate the necessity of professional support and provide the patients' safety properly and precisely.

General Competences

Knowledge and Understanding – has a profound and systematic knowledge of the field that enables him/her to generate new original ideas. He/She realizes the ways to solve a particular problem; He/She can use the full range of study-research resources, can manage his/her study process. He/She realizes the necessity of constant renewal of knowledge; He/She has the ability to evaluate his/her knowledge and skills objectively.

Students Have Ability to Use Knowledge in Practice - He/She can act in a new, unforeseen and multidisciplinary environment; He/She can search for new and original ways to solve complex problems, including conducting research using the latest methods and approaches independently;

He/She can make critical assessment of difficult, incomplete and contradictory data, their independent analysis, reporting results in understandable manner, and then use them. He/She has a critical approach to new information, can analyze, summarize, integrate, conclude, via using different data and can produce supporting / or opposing arguments as a result of data analysis.

Concluding Skills – He/She can develop well-grounded conclusions based on critical analysis of complex and incomplete information (including recent researches); He/She can provide innovative synthesis of information based on the latest data; Medical doctor can identify the specific problem, can operatively find trustworthy, safe ways to solve this problem make an appropriate conclusion and act appropriately.

Communication Skills – He/She can communicate about his/her conclusions, arguments and research methods with academic and vocational societies in accordance with the academic honesty standards and considering latest achievements in information-communication technologies; He/She has observing, listening, questioning, and non-verbal communication skills. He/She can participate in meetings and convey his/her opinions in oral and written way. He/She can conduct negotiations in the professional context and participate in solving conflicts.

Study Skills – He/She can lead learning process independently, realize the peculiarities of the learning process and he/she has high level of strategic planning; He/She has ability to obtain information from various sources, to process huge quantity of information and assess it critically. He/She has ability to use gathered information while professional activities.

Values – He/She can assess the attitudes towards his/her and others values and contributes to the establishment of new values.

Methods for Achieving Learning Outcomes

US MD Program is fully integrated medical education program. The program consists of modules in which the horizontal and vertical integration is achieved. From the first days of teaching, the course " Becoming A Doctor" is oriented to the use of theoretical knowledge in practice. This course is integrated itself, because it maintains theoretical issues (ex. Issues from History of Medicine) and practical skills (ex. Gathering anamnesis, physical examination and etc.) and professional issues as well. On the other hand, the course helps (theory based modules) to enrich them with practical component. At the same time, from the first semester, the course intends to send students to the different medical organizations (hospitals) for observing clinical practice, (i.e. shadowing).

Therefore achieving the learning goals in the frame of American MD Program is reached by integration of theoretical and practical teaching, development of clinical and communication skills: in the beginning by using mouldings (manikins) and simulative patients and later in the clinical environment. While teaching applying modern technologies is number one priority.

Student oriented teaching approach assures students' active involvement in study process. Teaching methods include case-based teaching, problem-oriented teachings, discussions, empirical studies, seminars and projects. In order to assess knowledge and skills, oral and written exams are used, different kind of tests, objectively structured clinical exam (OSCE), presentations, theses etc.

Forms of teaching used in the teaching process:

- Interactive lectures, seminars, colloquium;
- Teaching in clinical environment;
- Use of simulated scenarios and equipment (manikins)
- Use of standardized patients;
- Role playing;
- Laboratory teaching;
- Presentation
- Taking part in a scientific research;
- Practice

Student's Knowledge Assessment System

University uses the European system of credit transfer and accumulation (ECTS), which is based on learning outcomes, transparency of study process and is oriented on student. The goal of this system is promoting planning learning units, implementation, assessment / recognition of study units, and also student mobility.

Credit reflects the amount of work (one credit is equal to 30 hours) needed to complete a specific learning component and achieve learning outcomes. Credits are distributed among all components of the educational program. Study course (subject) is for a one-semester. One academic year includes 60 ECTS. It is unacceptable that the student's annual load exceeds 75 credits. Student's assessment maintains interim assessment and final examination assessment; In total, 100 points. Student needs 11 points to be allowed on final exam. The final assessment for getting credit should not be less than 51. Student is rated at a maximum of 40 points on the final exam. The final exam will be considered passed, if the student will collect at least 24 points out of 40. Student Assessment System includes five types (A, B, C, D, E) of positive and two types (Fx and F) of negative assessments.

- A) Excellent - 91% and more of maximum assessment;
- B) Very good - 81-90% the maximum assessment;
- C) Good - 71-80% the maximum assessment;
- D) Satisfactory - 61-70% of maximum assessment;
- E) Enough - 51-60% of maximum assessment;
- FX) Did not pass - 41-50% of the maximum assessment; The student is allowed to an additional exam with an independent work.
- F) Failed - 40% and less of maximum assessment; The student should retake the subject again.

In case of negative assessment, the student is allowed to have an additional exam at least in 5 days after the final exam. During the knowledge and skills assessment process oral, test, combined exams, objective structured clinical exam (OSCE), presentations, coursework / thesis are used. Assessment of learning outcomes at the completion of basic medical education includes not only theoretical knowledge but also practical skills.

Structure of American MD Program

The program includes stages, modules and cycles. The program consists of two main stages:
Initial - Premedical Stage and Medical Stage.
Duration of initial - premedical stage is 1 year.

The basic goal of the premedical stage on one hand is to give the students fundamental education in the following sciences: Biology, Physics, Chemistry, and on another hand is to give them opportunity to maximally extend their educational horizon via learning humanitarian sciences such as: Fine Art History, History of Medicine, History of Civilizations, Psychology, Anthropology, Communication Skills, Philosophy, World literature and etc. It is worth to be mentioned, that listed humanitarian sciences have not been taught in Georgian higher medical schools until now. That's why the leading English speaking specialists of the following sciences are invited in the program for this purpose.

In addition to this, a discipline "Becoming a Doctor " is taught for 6 years, which provides general medical skills training and development clinical judgment ability from the very first day of the program.

Teaching process actively uses methods of Evidence Based Medicine, network of high-tech laboratories, simulators, incident demonstration in the immediate presence of the patient and active participation of so-called multidisciplinary team of physicians.

Medical stage (duration -5 years) is fully integrated and consists of 4 phases:

First phase: Foundations of Medicine (corresponds to the 18 month of teaching at Emory University school of medicine).

First phase is composed of two cycles:

A. Healthy Human

B. Human Disease

Cycle – Healthy Humans is organized in (that is why this program is universal) the way that repeats the natural cycles of the human development, all processes from the birth to the death (fecundate, birth, growth, sexual and physical activity, nutrition-metabolism, senility).

Cycle "Healthy Human" includes following modules: Prologue 1- Basics of Medicine, Human development: Embryology, Cell, Tissue, Aging and dying. Neuroscience, Exercise and movement, Nutrition and metabolism, Endocrine control, Genetics and evolution, Together

with the mentioned above, students clinical activity is conducted in parallel mode, which is mainly carried out within the course "Becoming a Doctor" in the clinical environment: clinics, outpatient departments and polyclinic type establishments. It is interesting to note that the individual theme of each module is discussed as a complex and delivered by a number of specialists from different field of medical sciences. For example the theme- "Obesity and related problems" is discussed by endocrinologist, biochemist, psychiatrist and surgeon all together.

The cycle "Healthy Human" continuous with the module Prologue 2- Basics of Pathology, within which the principles of pathology, immunology and pharmacology is discussed.
Practically Prologue 2 is a transitional module to the following cycle - "Human Disease".

The Cycle "Human Disease" uses the integration, based on the anatomical systems and combines the following modules: Skin and Muscle-skeletal System, Respiration System, Cardio-vascular System, Gastrointestinal System, Urogenital system, Endocrine and reproductive system, also modules: Hematology, Neuroscience-1 and Neuroscience -2. Every constituent theme of each module includes integrated learning of basic and clinical subjects.

Second phase - Application of Medical Sciences Phase

The second phase provides applying the students' basic medical knowledge in the clinical medicine. During the mentioned phase, students are involved in clinical activity – implements the function of so-called subsidiary medical staff (Core Clerkship) in the following areas of the clinical medicine: Internal Medicine (8 weeks), Surgery (8 weeks), Pediatrics (8 weeks), Obstetrics and Gynecology (6 weeks), Psychiatry (6 weeks), Primary Care (6 weeks), Elective module (6 weeks) which includes: Critical and urgent medicine, radiology (4 weeks) and so on.

Third Phase - Discovery phase
Discovery phase – involves structured time for students who conduct research in the different field of basic or clinical medicine, health care organization or other areas connected to medicine.

Fourth Phase - Translation of Medical Sciences Phase
During this phase students are formed as a medical practitioner. The phase forces clinical rotations such are: Critical medicine, Urgent medicine, Internal Medicine, Surgery, Pediatrics, Urology, Oncology and so on.

In this phase, student gathers experience of clinical work in intensive care unit and emergency therapy. The phase ends with Capstone Course.

System of Ensuring of Development of Medical Educational Quality

There is a united conception of quality development at Tbilisi State Medical University. There is a quality assurance service (system) that is composed by a University quality group and heads of schools' quality assurance service. Head of school's quality assurance service is accountable for implementation of quality development policy toward the Faculty Board. Head of faculty quality assurance service presents current reports, assessments and recommendations, also reports at the end of the each year. The university has the united conception of quality development. Based on it, head of school's quality assurance service is subordinated to head of University quality assurance department and works according to the faculty program. The scheme excludes different interpretation of the information, supports and shares the approaches of the mission of the university.

Quality assurance service of university and school fully shares cyclic paradigm of quality management/provision – known as a "Shewhart cycle" (PDCA):

- Plan=P
- Do=D
- Check=C
- Act=A

This model is most relevant to the context of continuous development of quality – of University: The end of one cycle is the start of the new one and so forth.

Quality assurance service actively cooperates to all parts of the university: Academic, administrative, supporting staff and students. Criteria developed by this service, is public and

is located on the TSMU website in the category of quality assurance service. Studies' results and assessments, conducted by the service of quality assurance are presented to the Academic Board and according to the content and necessity will be posted on website.

Evaluation of educational programs is conducted once in an academic year. In the evaluation process internal and external assessment forms are used. Conflict of interests is excluded in both cases.

Besides the general approach provided by the university, students are permanently surveyed during the study process and results are used to plan the modules, and to assess program's different components.

Administrative and academic personnel of Emory University School of Medicine are involved and actively take part in both, content and quality analyses of the program.

Possibility of employment for graduates of American MD Program

Possibility of independent medical practice for the graduates – Medical Doctors – is regulated by employer's country legislation.
Graduates of the program have a right for scientific and academic activity.
A person with a diploma of an academic degree of medical doctor has the right to continue his/her studies in doctoral degree, or take special course of professional training (residency).

Those students, who will have passed the both steps of American Medical Licensing Exams (USMLE) will have the right to participate in the competition for the residency in United States of America.

Program Founder:

H. Kenneth Walker
Professor of Emory University School of Medicine, Atlanta, USA

Heads of Program:

Archil Undilashvili
Educational Program Director of Emory University School of Medicine, Atlanta, USA

Rima Beriashvili
Professor, Deputy Rector of Tbilisi State Medical University, Tbilisi, Georgia