

Bachelor of Medicine & Bachelor of Surgery (MBBS) Curriculum

Approved in the thirteenth meeting of the Curriculum Internationalization Committee for
International Students
dated January 10, 2022

The Bachelor of Medicine & Bachelor of Surgery (MBBS) curriculum was approved in the 13th meeting of the Curriculum Internationalization Committee for International Students held on January 10, 2022, and is thereby effective from the date of approval.

Endorsed by
Dr. Marzieh Nojomi
Secretary of the Council for
Undergraduate Medical Education



Endorsed by
Dr. Gholamreza Hassanzadeh
Secretary of the Supreme Council of
Educational Planning for Medical Sciences

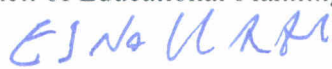


Endorsed by
Dr. Abolfazl Bagherifard
Deputy for Education and Secretary of the Council for Graduate Medical Education



The Bachelor of Medicine & Bachelor of Surgery (MBBS) Curriculum, approved in the 13th meeting of the Curriculum Internationalization Committee for International Students held on January 10, 2022, is hereby approved and shall be imparted for implementation.

Dr. Bahram Einollahi
Minister of Health and Medical Education, I.R. Iran
and Head of the Supreme Council of Educational Planning for Medical Sciences



In the Name of God

Islamic Republic of Iran
Ministry of Health and Medical Education
Deputy for Education

Bachelor of Medicine & Bachelor of Surgery (MBBS)

Curriculum

Total Course Credits

- General Courses: 24
- Basic Core Courses: 68.5
- Specialized Core Courses: 111
- Non-Core Courses: 16.5
- Thesis: 6
- Total: 226

Program Description

Introduction

With regard to the changes in the health care system, including the development of family physician programs within the health system, aging population and burden of diseases, increasing use of diagnostic and therapeutic technologies in the routine care and high cost of the medical care, further active international engagements in the health care, as well as the development of evidence-based practice and innovative applied concepts and technologies in medicine, a standard curriculum for developing the expected competencies of general practitioners seems inevitable.

The present curriculum has been developed considering changes in the requirements of the health system, the context and conditions of medical schools, developments in medicine and medical education in the country and in the world, and the experience accumulated and the measures taken thus far for further improvement. In developing his curriculum, which can essentially be considered as a younger sister of the current national Doctor of Medicine (M.D.) curriculum, effort was made to avoid a fundamental shift from the older sibling such that the qualified and accredited schools which run the M.D. program can implement



the MBBS program with the suggested educational strategies while observing its original goals to ensure its smooth implementation in the medical schools.

Similar to its older sister, among the significant features of this MBBS curriculum are its emphasis on the expected competencies of a general practitioner, flexibility in implementation, narrowing the courses to only the compulsory ones and relegating others to elective courses which can be decided by schools, and providing different implementation strategies depending on the circumstances and conditions of schools. Like the M.D. program, in this MBBS curriculum, credit courses on such important concepts and skills as professionalism, evidence-based medicine (EBM), traditional and complementary medicine, family medicine, as well as practical examinations and assessment of skills, are among the prerequisites for the completion of the program. It is expected that the proper implementation of the curriculum in the defined settings especially clinical and community-oriented ones (in accordance with the standards set forth in this curriculum), result in a highly accountable education.

Program Definition and Description:

Medicine is a branch of applied sciences, which involves diagnosing, treating and preventing diseases with the aim of maintaining and promoting health. Rabi 'ibn Ahmad Akhaveini, in *Hedayat Al Motealemin* (Guidance of Scholars), the oldest Persian text on medicine (4th century A.H.), defined medicine as a profession that, scientifically and practically, retains people's health and retrieves it if gone. Today, with all the well-established specialized medical disciplines and sub-disciplines, general medicine is still the basis of all specialized medical disciplines, so the knowledge learned and the skills developed in this program, are essential not only for professional good practice for medical practitioners, but also for success in their future education in various medical specialties and subspecialties.

MBBS graduates will gain the knowledge, art, and skills of diagnosing, treating, and preventing diseases through the acquisition of the fundamentals of basic medical sciences and various branches of clinical sciences as well as the implementation of a plethora of practice in different and various situations. In addition to acquiring knowledge and skills, social and professional development, through guided, purposeful, and thoughtful participation in and critical reflection on the professional interactions during the period of study, is also necessary and of paramount significance for the students in their path to becoming competent practitioners. In order to achieve these goals, carefully implementing the program standards specified in this curriculum is essential.

History

From a historical perspective, medicine and medical sciences have progressed along with human civilization, and the scientific authority thereupon has moved across civilizations analogous to their effective influence as well as global effects and communication. The Flexner Report, at the beginning of the twentieth century, may well be the first milestone in the modern formal medical education. The impact of this report and the dynamism of medical education throughout the present era have had clear implications for medical schools, including the expounding of various strategies and methods of education and assessment, systematization of educational processes, as well as acknowledging medicine and its education as a particular branch of scientific knowledge and recognizing it as a scientific discipline which endeavors to document evidence concerning the relevant processes and organizations thereof. In addition to such advances in the academic medical education, dramatic changes in the content and context of medicine, both



as a scientific inquiry and in the form of the service provided, accelerated by general scientific paradigm shifts, have strongly influenced the teaching and learning of general medicine, especially in the third millennium.

Medicine and medical education in Iran dates back to before the advent of Islam. In the sixth century A.D., the great and well-known institute of higher education, *Jundishapur* (AKA *Academy of Gondishapur*), and its affiliate clinical center (what can best be termed a hospital in the modern nomenclature), was what can be considered a center of education for medicine and philosophy, which, in addition to the hospital, comprised dormitories as well. As the most important educational and research center of its time, it had many scientists and physicians who were teaching, studying, and practicing medicine. In this center, in addition to teaching the books written by Iranian scholars, many references translated from Greek and Hindi into Pahlavi (Middle Persian language) were also taught.

By studying *Jundishapur*, the history of formal education of medicine in Iran can be recognized. Also, the invention of hospital treatment method can, to a large extent, be attributed to Iranians. The renowned hospitals of the Islamic period were built and took after the *Jundishapur* hospital. The eminent hospitals of Azodoldoleh (AKA Adud al-Dawla) in Shiraz and Baghdad, and the ones built later in Damascus, followed the example of *Jundishapur*. The first Islamic pharmaceutical product was also made in this center. *Jundishapur* was the most important medical center of the world during the Arab conquests. It was indeed one of the most famous centers of higher education across the world for centuries.

Later as the Islamic civilization was flourishing, Iranian physicians were still the forerunners of teaching academic medicine as well as writing the reference books. As one of the oldest medical academies globally, the Avicenna School (in Isfahan, Iran) which is designated as one of the Iranian national heritage sites is the place where the book *The Canon of Medicine*, a valuable source of medical education for centuries, was published.

Far from its glorious days, medical education and the teaching of modern medicine in Iran did not follow a systematic educational approach well until the foundation of *Dar al-Fonoun*. In 1851, Amir Kabir (Iranian Chancellor) founded *Dar-al-Fonoun*, the first modern center of medical training in Iran. In 1873, Nasser-al-Din Shah Qajar (the Persian King from 1848 to 1896 C.E.) ordered the establishment of a hospital and the first hospital (in the modern sense of the word), called *Sina*, was opened in 1881. *Dar al-Fonoun* was expanding, and now it had several Schools.

In 1930, the School of Medicine was separated from *Dar al-Fonoun* and later constituted School of Medicine at the then forthcoming *Tehran University* (which was established in 1934). In 1890, medical education was divided into the basic and clinical sciences. In 1934, the establishment of *Tehran University* (which in 1986, branched off into *University of Tehran* and *Tehran University of Medical Sciences*) with various Schools including School of Medicine was approved by the Parliament. And today, there are more than 60 medical schools in the country training and educating domestic as well as international general practitioners. In 2020, students from more than 30 countries study medicine at Iranian universities.

Philosophy (Values and Beliefs):

A general practitioner serves in the first line of providing health care services to the community. So, as a person who is constantly subject to judgment and appraisal, she or he should have the appropriate professional qualities skills while conforming to the established social norms of the society where they practice. Humans are multi-dimensional creatures with diverse physical, mental, spiritual, as well as cultural



concerns and needs. A medical practitioner cannot solely deal with the patients' physiques and bodies and their illnesses. A physician is among the few persons who, as a professional, have the right to enter the intimate space of the people in need of health care, and at times, he or she is cognizant of a patient's secret that even their close friend or relatives are not aware of. Therefore, educating doctors committed to ethical conduct and professionalism should be the most important value and key element in health-related programs.

Medical sciences are constantly changing, so physicians should be committed to lifelong learning and continuous professional development to ensure the appropriacy and accuracy of their clinical decision-making to provide proper services based on and consistent with solid evidence. Thus, developing critical thinking and self-directed learning skills are mandatory in this program which should be taken into account regarding the implementation strategies.

According to the principles of education, proper instructional design and content organization of learning are absolutely essential in this MBBS program. More direct interaction between the professors and students, early and purposeful contacts of the students with the clinical environment, as well as taking advantage of the opportunities to practice and develop practical skills and judiciously assigning more responsibilities to students in accordance with the educational phases, coupled with methods of ensuring patient safety while observing patients' rights are emphasized in this program.

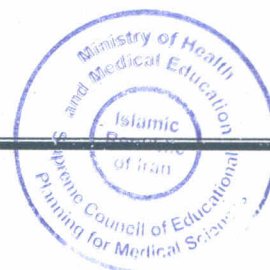
Vision:

The present MBBS curriculum, while enjoying the advantage of being implementable by almost all medical schools of the country, incorporates the internationally accepted standards using the latest findings in medical education. The ultimate vision is to educate students and prepare capable, competent, knowledgeable, adept, ethically committed, and socially accountable graduates dedicated to humanity and passionate about their career.

Mission:

The mission of this MBBS curriculum is to explain and elucidate the goals, learning opportunities, and principles the fulfillment of which will result in the expected competencies of the program graduates. The curriculum, while addressing the concerns of all the stakeholders, defines educational goals with a pragmatic and flexible approach so that all the medical schools of the country, capitalizing on and effectively employing their resources and educational advantages, can train and educate their students in as much accordance as possible with the national and international standards. We believe that the graduates of this program will have sufficient knowledge and skills to serve as the gatekeepers of the health care system. They will be able to fulfill their professional role either through providing optimum (and up-to-date) services to the patients directly or through coordinating their services with other providers with regard to the needs and resources, through which they can contribute to the fulfillment of the integrated delivery system.

The care provided by the graduates should be as continuous and comprehensive as possible, regardless of and unrestricted by the patients' age, gender, race, as well as their cultural or social status, while taking their cultural, social, economic, and psychological background into account. In order to promote the health of the community, they should also identify community problems that go beyond those of the people who



seek health services. By understanding health-related behaviors of the community, they will play a more effective role in sustaining and promoting health in the society.

We believe graduates of this discipline should be responsible, compassionate, altruist and self capacity developers, who work hard with commitment in promoting the health of the community. Considering human dignity as the ultimate goal of medical education, the medical schools, as the institutions responsible to execute this curriculum, are committed to adhere to the international academic and educational standards and to observe the values and principles of the country and create the proper conditions for the students to live up to the standards of human excellence based on the inexhaustible culture of this country and its people. Providing the basis for evaluating the implementation and execution of the program along with determining the extent to which all the required educational objectives are achieved and providing an appropriate mechanism for assessing graduates' ability and competencies are among the most significant missions of the program.

Program Goals:

The ultimate goal of this program is that by acquiring the expected competencies, graduates will be able to provide optimum health care and treatment to patients according to the established standards of service and in compliance with the standards of professional ethics, to acquire the required competencies for information management and life-long learning, and to serve in the front line of health services delivery.

Admission Requirements

Students seeking admission to MBBS must follow the admission procedures for international students and comply with the admission requirements specified by the universities offering this program.

Expected Key Competencies and Skills:

1. Clinical skills
2. Communication skills
3. Research skills
4. Patient care (diagnosis, treatment, rehabilitation)
5. Health Promotion and prevention
6. Personal and professional development, as well as continuous learning
7. Professional commitment, medical ethics and law
8. Decision-making, argumentation, and problem-solving

Educational Strategies:

Drawing on the systematic planning approach and adopting a competency-oriented framework, this program is designed in a way so as to enable any given university offering it to implement different parts of this curriculum through one or a combination of the following strategies:

- A concurrent student- and professor-centered education
- Community-oriented education



- Subject-based education
- Outpatient-based education
- Hospital-based education
- Problem-based education
- Task based education
- Systematic learning
- TBL (Team Based Learning)
- CBL (Competency Based Learning)
- CBL (Case Based Learning)
- GBL (Game Based Learning)
- EBL (Evidence Based Learning)
- Disciplinary learning with some integration as required

Educational Methods and Techniques

This program will enjoy the different educational methods and techniques according to the learning goals of each course, as well as the facilities and conditions of the schools offering it. The main focus is on the correspondence and harmony between methods and techniques and the learning goals and objectives, and therefore, no certain methods or techniques are not restrictively prescribed in this curriculum. However, in selecting and employing educational methods and techniques, it is suggested to take into account the educational outcomes of each method and technique, readiness of students and professors for their effective execution, and their economic and executive issues of application. At times, suggestions are made and recommendations are provided on the selection of methods and techniques in the course description of some courses.

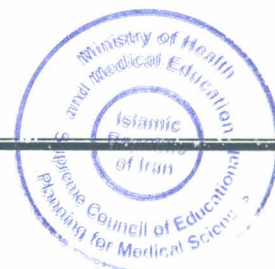
Some Suggested Methods and Techniques

- A variety of departmental and interdepartmental, hospital-based, inter-university, and international conferences
- Small group discussions, educational workshops, journal clubs and book reading sessions, and case presentations
- Morning reports, and educational rounds
- Individual and group practice in skill labs
- Blended Learning, and using simulation techniques contingent on the available facilities
- Laboratory practice
- Self-study
- Other educational methods and techniques such as TBL, CBL, GBL and PBL

Student Assessment (Methods and Types)

a) Methods of Assessment

The assessment methods will be decided by the lesson planning committee of the school running this program based on the learning objectives and the specific conditions of each school. The methods of assessment should be selected judiciously and employed effectively in such a way that, while their validity



and reliability are ensured, students get encouraged and motivated to learn deeply and continuously. The suggested assessment methods for this program can include:

- For theoretical courses: written assessments, assignments (such as written reports and lectures), oral assessments, computer interactive examinations
- For practical and clinical courses: observation of students' clinical performance throughout the program, objective structured examinations such as OSCE (objective structured clinical examination), OSPE (objective structured practical examination), OSFE (objective structured field examination), DOPS (directly observed procedural skills), 360 degree evaluations, and portfolio assessment (including logbooks).

With regard to the objectives of the program concerning students' professional behavior and conduct, it is necessary to assess their behavior and conduct summatively and continuously throughout the course of study.

b) The Number and Time of Assessments

The schedule for the internal (university-administered) formative (continuous) assessments of students will be arranged by lesson planning committees of schools of medicine.

Comprehensive examinations of MBBS program will be:

- The Comprehensive Examination of Basic Sciences (CEBS) at the end of the Basic Sciences stage
- The Comprehensive Theoretical and Practical Final Examination at the end of the program (Formal Exit Assessment; FEA)

Passing CEBS with success will be a requisite for going to the next stage; passing the Formal Exit Assessment will be required for graduation.

Ethical Considerations

It is expected that learners:

- in their provision of care for patients, observe patients' rights and strictly adhere to Patient Rights Charter;
- observe the regulations of patient safety and security (which will be prepared by the related educational department and presented to the students);
- observe carefully the ethical codes relating to mother, embryo, and infants (presented to students by the corresponding educational department);
- observe the regulations relating to the safety and security of drugs including chemical and non-chemical compounds (which will be prepared by the related educational department and presented to the students);
- observe the professional dress code;
- observe the regulations of working with animals in the laboratory;
- be committed to their professional medical oath;
- protect the resources and equipment that they work with under any condition;
- respect professors, personnel and staff, and their peers (other students), and contribute towards creating and promoting a respectful and amiable atmosphere in the workplace;
- observe considerations of social and professional ethics in their criticisms;
- observe research ethics when conducting research.

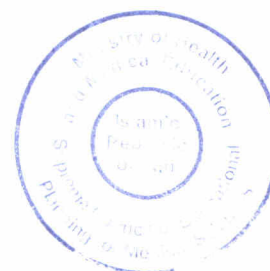


Tables of Courses

Table 1. General Courses

Code	Course Name	Number of Credits	Hours			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
1-4	Two courses from the Islamic Theories	4	68	-	68	-
5-8	One course from the Islamic Ethics courses*	2	34	-	34	-
9-11	One course from the Islamic Revolution of Iran courses*	2	34	-	34	-
12-13	One course from the Islamic History and Civilization courses*	2	34	-	34	-
14-15	One course from An Introduction to the Islamic Resources courses*	2	34	-	34	-
16	Persian Language and Literature	3	51	-	51	-
17	General English Language	3	51	-	51	-
18	Physical Education 1	1	-	34	34	-
19	Physical Education 2	1	-	34	34	Physical Education 1
20	Family and Population Planning	2	34	-	34	-
21	Islamic and Iranian Culture and Civilization	2	34	-	34	-
Total		24	374	68	442	

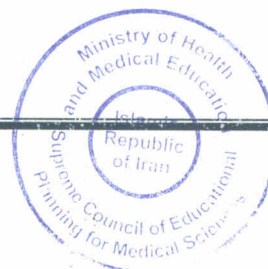
*Note: Completing these courses is according to the titles of Islamic Education General Courses (the following table), ratified on meeting 542 of the Supreme Council of the Cultural Revolution dated 2004/07/13.



Course Category	Course Code	Course	Credits	Hours (Credits)			Prerequisite
				Theo.	Prac.	Total	
1- Theoretic Fundamentals of Islam	011	Islamic Thought 1	2	34	-	34	
	012	Islamic Thought 2	2	34	-	34	
	013	Human in Islam	2	34	-	34	
	014	Social and Political Rights in Islam	2	34	-	34	
2- Islamic Ethics	021	Philosophy of Ethics	2	34	-	34	
	022	Islamic Ethics	2	34	-	34	
	023	Ethics of Living	2	34	-	34	
	024	Practical Theosophy of Islam	2	34	-	34	
3- Islamic Revolution	032	Constitutional Laws of Islamic Republic of Iran	2	34	-	34	
	033	Political Thoughts of Imam Khomeini	2	34	-	34	
4- Islamic History and Civilization	041	History of Islamic Culture and Civilization	2	34	-	34	
	042	Analytical History of Early Islam	2	34	-	34	
	043	History of Imamah	2	34	-	34	
5- Introduction to Islamic Resources	051	Quran's Thematic Exegesis	2	34	-	34	
	052	Nahj al-Balagha Thematic Exegesis	2	34	-	34	

Table 2. Core Courses

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
	Anatomical Sciences	196	118	314 (15)			
101	Introduction to the Anatomical Sciences	38	8	46		Basic Sciences	Basic
102	Musculoskeletal Anatomy	30	20	50		Basic Sciences	Basic
103	Anatomy of the Head & Neck	20	17	37		Basic Sciences	Basic
104	Anatomy of the Cardiovascular System	17	16	33		Basic Sciences	Basic
105	Anatomy of the Respiratory System	8	8	16		Basic Sciences	Basic
106	Anatomy of the Gastrointestinal System	26	17	43		Basic Sciences	Basic
107	Anatomy of the Endocrine System	4	6	10		Basic Sciences	Basic
108	Anatomy of the Nervous System	25	14	39		Basic Sciences	Basic
109	Anatomy of the Special Senses	14	4	18		Basic Sciences	Basic
110	Anatomy of the Genitourinary System	14	8	22		Basic Sciences	Basic



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
	Physiology	122	28	150 (8)			
111	Cell Physiology	14	-	14		Basic Sciences	
112	Physiology of the Heart	8	2	10		Basic Sciences	Basic
113	Physiology of the Respiratory System	10	4	14		Basic Sciences	Basic
114	Physiology of the Nervous System and Special Senses	24	4	28		Basic Sciences	Basic
115	Physiology of the Circulatory System	19	4	23		Basic Sciences	Basic
116	Physiology of the Gastrointestinal System	10	4	14		Basic Sciences	Basic
117	Physiology of Blood	5	2	7		Basic Sciences	Basic
118	Physiology of the Endocrine System and Reproduction	20	4	24		Basic Sciences	Basic
119	Physiology of the Kidney	12	4	16		Basic Sciences	

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
	Medical Biochemistry	70	30	100 (5)			
120	Cell and Molecular Biochemistry	32	15	47		Basic Sciences	Basic
121	Discipline Biochemistry	22	15	37		Basic Sciences	Basic
122	Biochemistry of Hormones	12	-	12		Basic Sciences	Basic
123	Biochemistry of the Kidney	4	-	4		Basic Sciences	Basic

124	Medical Genetics	34	-	34 (2)		Basic/Introduction to Clinical Sciences	Basic
-----	-------------------------	-----------	----------	---------------	--	---	-------

125	General Principles of Nutrition	34	-	34 (2)		Basic Sciences /Introduction to Clinical Sciences	Basic
-----	--	-----------	----------	---------------	--	---	-------

126	Medical Physics	30	8	38 (2)		Basic Sciences /Introduction to Clinical Sciences	Basic
-----	------------------------	-----------	----------	---------------	--	---	-------



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
Microbiology & Parasitology		101	36	137 (7)			
127	Medical Bacteriology	41	20	61		Basic Sciences	Basic
128	Parasitology	28	12	40		Basic Sciences	Basic
129	Medical Mycology	15	4	19		Basic Sciences	Basic
130	Medical Virology	17	-	17		Basic Sciences	Basic

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
Immunology		47	8	55 (3)			
131	Medical Immunology	30	8	38		Basic/Introduction to Clinical Sciences	Basic
132	Clinical Immunology	17	-	17		Basic/Introduction to Clinical Sciences	Basic



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
Community Medicine & Health Sciences		152	19	171 (9.5)			
133	Principles of the Health Services	26	-	26		Basic Sciences	Basic
134	Principles of Epidemiology	34	-	34		Basic Sciences	Basic
135	Medical Statistics	17		17		Introduction to Clinical Sciences	Basic
136	Research Methodology & Evidence-Based Medicine	7	19	26		Introduction to Clinical Sciences/Clerkship	Basic
137	Epidemiology of Common Communicable Diseases of the Country	17	-	17		Introduction to Clinical Sciences/Clerkship	Basic
138	Epidemiology of Common Non-Communicable Diseases of the Country	17	-	17		Introduction to Clinical Sciences/Clerkship	Basic
139	Principles of Demography and Family Health	34	-	34		Clerkship	Specialized
140	Health Psychology	34	-	34 (2)		Introduction to Clinical Sciences/Clerkship	Basic

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
Medical Etiquette & Professional Conduct		68		68 (2)			
141	Professional Etiquette and Conduct 1	-	17	17		Basic Sciences	Basic
142	Professional Etiquette and Conduct 2	-	17	17		Basic Sciences	Basic
143	Professional Etiquette and Conduct 3	-	17	17		Basic Sciences	Basic
144	Professional Etiquette and Conduct 4	-	17	17		Basic Sciences	Basic



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
English for Specific Purposes		102	-	102 (6)			
145	English for Medical Purposes 1	51	-	51		Basic Sciences	Basic
146	English for Medical Purposes 2	51	-	51		Basic Sciences	Basic

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
General Pathology		51	-	51 (3)			
147	Principles of General Pathology and Cell Pathology	-	9	9		Basic/Introduction to Clinical Sciences	Basic
148	Pathology of Inflammation, Tissue Healing, and Hemodynamic Disorders	-	10	10		Basic/Introduction to Clinical Sciences	Basic
149	Pathology of Human Immunologic Disorders	-	8	8		Basic/Introduction to Clinical Sciences	Basic
150	Pathology of Neoplasia	-	10	10		Basic/Introduction to Clinical Sciences	Basic
151	Pathology of Genetic Disorders and Childhood Diseases	-	8	8		Basic/Introduction to Clinical Sciences	Basic
152	Pathology of Environmental, Nutritional, and Infectious	-	6	6		Basic/Introduction to Clinical Sciences	Basic
153	Practical Pathology	-	34	34 (1)		Basic/Introduction to Clinical Sciences	Basic
154	Clinical Pathology	16	2	18 (1)		Introduction to Clinical Sciences/Clerkship	Specialized



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
Specific Pathology							
155	Pathology of Cardiovascular System	6	2	8		Introduction to Clinical Sciences	Specialized
156	Pathology of Respiratory System	6	2	8		Introduction to Clinical Sciences	Specialized
157	Pathology of the Kidney and Upper Urinary Tract	6	2	8		Introduction to Clinical Sciences	Specialized
158	Pathology of Gastrointestinal System	8	4	12		Introduction to Clinical Sciences	Specialized
159	Pathology of Liver and Biliary Duct	6	2	8		Introduction to Clinical Sciences	Specialized
160	Pathology of Genitals, Lower Urinary Tract and Breasts	10	4	14		Introduction to Clinical Sciences	Specialized
161	Pathology of Hematopoietic and Endocrine Systems	10	2	12		Introduction to Clinical Sciences	Specialized

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
Medical Pharmacology		68		68 (4)			
164	Basic Principles of Medical Pharmacology	17	-	17		Basic/Introduction to Clinical Sciences	Basic
165	Pharmacology of Drugs for Cardiovascular and Pulmonary Diseases	10	-	10		Basic/Introduction to Clinical Sciences	Basic
166	Pharmacology of Antimicrobial Drugs	10	-	10		Basic/Introduction to Clinical Sciences	Basic
167	Pharmacology of Drugs for Gastrointestinal, Hematologic, and	10	-	10		Basic/Introduction to Clinical Sciences	Basic
168	Pharmacology of Drugs for Endocrinologic Diseases	9	-	9		Basic/Introduction to Clinical Sciences	Basic
169	Pharmacology of Neurologic and Psychiatric Diseases	12	-	12		Basic/Introduction to Clinical Sciences	Basic



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
	History Taking and Physical Examination	34		34 (1)	162		
170	History Taking and Physical Examination 1	17	-	17 (1)		Introduction to Clinical Sciences	Specialized
171	History Taking and Physical Examination 1 Clerkship			51 (1)	51	Introduction to Clinical Sciences	Specialized
172	History Taking and Physical Examination 2	17	-	17 (1)		Introduction to Clinical Sciences	Specialized
173	History Taking and Physical Examination 2 Clerkship		-	51 (1)	51	Introduction to Clinical Sciences	Specialized



Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
	Introduction to Clinical Practice	29	32	322 (18)			
174	Clinical Reasoning in Approaching Common Signs and Symptoms	8	4	8 (0.5)		Introduction to Clinical Sciences	Specialized
175	Introduction to Cardiovascular Diseases	32	4	36 (2)		Introduction to Clinical Sciences	Specialized
176	Introduction to Respiratory Diseases	32	4	36 (2)		Introduction to Clinical Sciences	Specialized
177	Introduction to Hematologic Diseases	32	4	36 (2)		Introduction to Clinical Sciences	Specialized
178	Introduction to Gastrointestinal and Liver Diseases	36	4	40 (2.1)		Introduction to Clinical Sciences	Specialized
179	Introduction to Endocrine and Metabolic Diseases	32	4	36 (2)		Introduction to Clinical Sciences	Specialized
180	Introduction to Kidney Diseases	26	4	30 (1.6)		Introduction to Clinical Sciences	Specialized
181	Introduction to Rheumatologic	26	-	30 (1.6)		Introduction to Clinical Sciences	Specialized
182	Introduction to Pediatric Diseases	17	4	17 (1)		Introduction to Clinical Sciences	Specialized
183	Introduction to Surgical Diseases	15	-	19 (1)		Introduction to Clinical Sciences	Specialized
184	Introduction to Neurologic Diseases	9	-	9 (0.5)		Introduction to Clinical Sciences	Specialized
185	Introduction to Psychiatric Diseases	8	-	8 (0.5)		Introduction to Clinical Sciences	Specialized
186	Introduction to Infectious Diseases	17	-	17 (1)		Introduction to Clinical Sciences	Specialized

Code	Course Name	Hours (Credits)				Phase (Basic or Clinical Sciences)	Type of Courses (Basic or Specialized)
		Theo.	Prac.	Total	Clerkship		
	Clinical Courses						
187	Traditional Medicine	34		34 (2)		Clerkship	Specialized
188	Internal Medicine Clerkship		153 (9)	153 (9)	3 months (12 weeks)	Clerkship	Specialized
190	Cardiovascular Diseases Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
192	Pediatric Diseases Clerkship		153 (9)	153 (9)	3 months (12 weeks)	Clerkship	Specialized
194	Pediatric Diseases (1)	68		68 (4)		Clerkship	Specialized



195	Pediatric Diseases (2)	17		17 (1)		Clerkship	Specialized
196	General Surgery Clerkship		102 (6)	102 (6)	2 months (8 weeks)	Clerkship	Specialized
198	Surgical Diseases	85 (5)		85 (5)		Clerkship	Specialized
199	Orthopedics Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
201	Orthopedic Diseases		51 (3)	51 (3)	2 weeks	Clerkship	Specialized
202	Urology Clerkship		25 (1.5)	25 (1.5)		Clerkship	Specialized
204	Genitourinary Diseases (Urology)	17		17 (1)	2 weeks	Clerkship	Specialized
205	Anesthesia Clerkship		25 (1.5)	25 (1.5)		Clerkship	Specialized
206	Obstetrics & Gynecology Clerkship		102 (6)	102 (6)	2 months (8 weeks)	Clerkship	Specialized
208	Obstetrics & Gynecology Diseases	68		68 (4)		Clerkship	Specialized
209	Community Medicine Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
211	Psychiatry Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
213	Psychiatric Diseases	26		25 (1.5)		Clerkship	Specialized
214	Emergency Medicine Clerkship		25 (1.5)	25 (1.5)	2 weeks	Clerkship	Specialized
216	Radiology Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
217	Infectious Diseases Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
219	Infectious Diseases	34		34 (2)		Clerkship	Specialized
220	Neurologic Diseases Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
222	Neurologic Diseases	25		25 (1.5)		Clerkship	Specialized
223	Dermatology Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
225	Ophthalmology Clerkship		25 (1.5)	25 (1.5)	2 weeks	Clerkship	Specialized
227	Ear, Nose, and Throat (ENT) Diseases Clerkship		51 (3)	51 (3)	1 months (4 weeks)	Clerkship	Specialized
229	Medical Ethics	34		34 (2)		Clerkship	Specialized
230	Forensic Medicine and Intoxications	34		34 (2)		Clerkship	Specialized
	Thesis			6 Credits			

Note: Courses labeled as 'Specialized' are the clinical core courses and do not end up to any specific specialty degree.



Table 3. Some Non-Core Courses

No.	The Course Category	Course Name	Hours (Credits)				
			Theo.	Prac./ Workshop	Total	Clerkship	Type of the course
1	Anatomical Sciences	Surgical Anatomy	17		17 (1)		Specialized
2	Physiology	Exercise Physiology	17		17 (1)		Specialized
3	Biochemistry	Clinical Biochemistry	17		17 (1)		Specialized
4	Community Medicine	Health Management in Emergencies and Disasters	34		34 (2)		Specialized
5	Genetics	Clinical Genetics	7	10	32 (1)	15	Specialized
6	Nutrition	Nutrition in Diseases	28	12	40 (2)		Specialized
7	Immunology	Applied Immunology	34		34 (2)		Specialized
8	Pharmacology	Therapeutics for Common Diseases	34	-	34 (2)		Specialized
9	Pharmacology	Prescription and Reasonable Administration of Medications		34	34 (1)		Specialized
10	Clinical Departments	Principles of Medical Physics and Rehabilitation	14	10	(1.5)	20	Specialized
11	Clinical Departments	Patient Safety	34		34 (2)		Specialized

Note: Courses labeled as 'Specialized' are the clinical non-core courses and do not end up to any specific specialty degree

*The maximum number of selected credits for each student during the course will be 4.

** Departments at different universities can develop selected courses for students during the program according to their requirements and their students' needs. The arrangement as well as the theoretical and practical/workshop hours are the responsibility of lesson planning committees of medical schools depending on the subject, objectives, and content of the course.

The courses in Table 3 are examples of elective courses, and universities can add other courses to the list according to their needs and the discretion of lesson planning committee of medical schools, in which case obtaining the approval of the Secretariat of the General Medical Education Council of the Ministry is required.

