

# **MBBS curriculum -First year**

**Programs**

**Number of Credits**

**Hours**

**Syllabus of the Courses**

**First semester courses and credits for MBBS - First year**

<b>Total Credits</b>	<b>Practical Credits</b>	<b>Theoretical Credits</b>	<b>Title of the lesson</b>	<b>No</b>
2.5	2.2	2.3	Introduction to Anatomical sciences	1
2.3	0.4	1.9	Cell and Molecular Biochemistry	2
0.8	0	0.8	Cell Physiology	3
2.4	0.6	1.8	Anatomy of Musculoskeletal system	4
2	2	0	Preliminary English 3	5
2	0	2	Lifestyle	6
0.5	0.5	0	Professional Etiquette and conduct 1	7
1	1	0	Physical Education1	8
3	3	0	Preliminary Persian 1	9
2	0	2	Family and Population Study	10
18.5		Total Recommended Credits		

**Second semester courses and credits for MBBS - First year**

Total Credits	Practical Credits	Theoretical Credits	Course Name	No
1.5	0.5	1	Anatomy of the Cardiovascular System	1
0.6	0.1	0.5	Physiology of the Heart	2
0.4	0.1	0.3	Blood Physiology	3
1.2	0.1	1.1	Physiology of the Circulatory System	4
0.7	0.1	0.6	Physiology of the Respiratory System	5
0.7	0.2	0.5	Anatomy of the Respiratory System	6
1.7	0.4	1.3	Biochemistry	7
1.7	0.5	1.2	Head and Neck Anatomy	8
1	0	1	Medical Virology	9
0.5	0.5	0	Professional Etiquette and conduct 1	10
1	0	1	Medical Genetics	11
3	3	0	Preliminary Persian 2	12
3	0	3	General English	13
0	1	0	Physical Education 2	14
1.5	0	1.5	Principles of Health Srvices	15
19.5	Total Recommended Credits			

First semester timetable				
2-4(P.M)	12-2(P.M)	10-12(A.M)	8-10(A.M)	
Preliminary English3 Dr.kargozar		Professional Etiquette and conduct 1 <u>lecturer</u> Dr. saghebi & Dr.sheibani	Lifestyle <u>Lecturer</u> Dr.Hassemi	Saturday
Anatomy of Musculoskeletal system <u>lecturer</u> Dr.Dortaj	Anatomy of Musculoskeletal system (Practical session) <u>Lecturer</u> Dr. Vafaei	Preliminary Persian 1 <u>Lecturer</u> Dr.Ghazalipour	Introduction to Anatomical sciences (Practical session) <u>lecturer</u> Dr.Tehrani	Sunday
Preliminary English3 Dr.kargozar		Family and Population Study <u>Lecturer</u> Dr.Naji	Introduction to Anatomical sciences <u>Lecturer</u> Dr.Ebrahimzadeh	Monday
Anatomy of Musculoskeletal system <u>lecturer</u> Dr.Dortaj	Cellular Physiology <u>Lecturer</u> Dr.Hosseini	Preliminary Persian 1 <u>Lecturer</u> Dr.Ghazalipour	Physical education (practical) Women <u>lecturer</u> Ms. Imaz ----- Physical education 1(practical) Men (Group2) <u>Lecturer</u> Dr.Sardar	Tuesday
	Cell and Molecular Biochemistry (Theoretical& Practical) lecturer: Dr. Mashkani Dr.Hosseini Dr.Ebrahimi	Cell and Molecular Biochemistry (Theoretical& Practical) lecturer: Dr. Mashkani Dr.Hosseini Dr.Ebrahimi	Introduction to Anatomical sciences <u>Lecturer</u> Dr.Ebrahimzadeh	Wednesday

<b>Second semester timetable</b>				
<b>2-4(P.M)</b>	<b>12-2(P.M)</b>	<b>10-12(A.M)</b>	<b>8-10(A.M)</b>	
<b>General English</b> lecturer Dr.kargozar	<b>Professional Etiquette and conduct 1</b> lecturer Dr.Jafari	<b>Biochemistry (Theoretical and Practical )</b> lecturer Dr. Soukhtanloo	<b>Biochemistry (Theoretical and Practical )</b> lecturer Dr. Meshkani	Saturday
	<b>Medical Genetics</b> lecturer Dr.Abbaszadegan, & Dr.Mojarrad & Dr .hamzehlouei	<b>Physiology of the heart blood.blood circulation system .respiratory system</b> lecturer Dr. Baskabadi, Dr. Mohammadabadi and Dr. Gholamnezad	<b>Anatomy of the head and neck (Theoretical and Practical )</b> lecturer: Dr Jalali	Sunday
<b>General English</b> Lecturer Dr.kargozar	<b>Biochemistry</b> lecturer: Dr. Hosseini Dr . Ebrahimi	<b>Anatomy of the cardiovascular system (Theoretical and Practical )</b> lecturer: Dr. Mohammadi Pour	<b>Preliminary Persian 2</b> <u>Lecturer</u> Dr.Ghazalipour	Monday
	<b>Physiology of the heart blood.blood circulation system .respiratory system</b> lecturer: Dr. Niazmand, Dr. Asgharzadeh	<b>Medical virology</b> lecturer:  Dr.Meshkat Dr. Yousefi	<b>Physical education 2(practical) Women</b> <u>lecturer</u> Ms. pouyannasab ----- <b>Physical education 2(practical) Men (Group2)</b> <u>Lecturer</u> Dr.Sardar	Tuesday
	<b>Principles of Health Svices</b> lecturer: Dr. Dadgar Moghaddam, Dr. Vakili	<b>Anatomy of the cardiovascular system, (Theoretical and Practical )</b> lecturer: Dr. Mohammadi Pour Anatomy of the Respiratory System (Theoretical &Practical) lecturer: Dr. Vafaei	<b>Preliminary Persian2</b> <u>Lecturer</u> Dr.Ghazalipour	Wednesday

<b>Course Name</b>	<b>Cell Physiology</b>	
<b>Course Level</b>	Semster 1	
<b>Credit Hours</b>	17 hours	
<b>Theoretical</b>	17 hours	
<b>Credits</b>	1	
<b>Prerequisite Course</b>	----	<b>Lecturer</b>
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. Definition of Physiology</li> <li>2. Homeostasis and regulating mechanisms of the body</li> <li>3. 2. Cell membrane and its components, transfer of materials from the membrane and its methods (diffusion, facilitated diffusion, active transfer, osmosis)</li> <li>4. 3 - Resting potential of the membrane and its physiological basis</li> <li>5. 4- Action potential and its stages, and how it occurs and diffuses</li> <li>6. 5- Physiological anatomy of skeletal muscles</li> <li>7. Muscle contraction and its mechanism</li> <li>8. 7- Motor credits and muscular tension, classification of motor unit types</li> <li>9. Nerve-muscle synapse</li> <li>10. The excitation-contraction coupling in skeletal muscles and its</li> <li>11. mechanism</li> <li>12. Smooth muscle and its types</li> <li>13. Mechanisms of contraction in smooth muscle and its comparison witt akeletal muscles</li> <li>14. Membrane and action potentials in smooth muscles and the effect of</li> <li>15. hormonal and local factors on them</li> </ol>	<b>Dr. Mahmoud Hosseini</b>

Course Name	Physiology of the Heart	
Course Level	Semester 2	
Credit Hours	10 hours	
Theoretical	8 hours	
Practical	2 hours	
Credits	0.6	
Prerequisite Course	Cell Physiology	Lecturer
Essential Course Content	1- Physiological anatomy of the heart muscle 2- Action potential in the heart muscle 3- The mechanism of contraction in the heart muscle and the role of cardiac ions 4- Cardiac cycle and its stages 5- The relationship the electrocardiogram and cardiac sounds have with the cardiac cycle 6- Cardiac output and its regulation, volume-pressure curve 7- The effect of ion changes on heart function 8- Cardiac excitatory-conductory system and cardiac signal transduction 9- Sinoatrial node rhythmicity and its mechanism 10- Rhythm control and conduction of the cardiac signal 11- Normal electrocardiogram and its waves 12- The relationship between the cardiac cycle and electrocardiogram 13- Cardiac derivations	<b>Dr. Mohammadabadi</b>

	<p>14- Principles of vector analysis of the electrocardiogram and heart axis</p> <p>15- Electrocardiogram in different stages of the cardiac cycle</p> <p>16- Determining the electric axis of the heart based on the electrocardiogram</p> <p>17- Deviation of the heart axis in some diseases</p> <p>18- Cardiac lesions and their effect on the electrocardiogram</p> <p>19- Abnormal changes in electrocardiogram waves and the underlying reasons</p>	
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<b>Course Name</b>	<b>Blood Physiology</b>	
<b>Course Level</b>	Semester 2	
<b>Credit Hours</b>	7 hours	
<b>Theoretical</b>	5 hours	
<b>Practical</b>	2 hours	
<b>Credits</b>	0.4	
<b>Prerequisite Course</b>	Cell Physiology	Lecturer

<p><b>Essential Course Content</b></p>	<p>1- Red blood cells and their production and maturation, the role erythropoietin, vitamin B12, and folic acid 2- Hemoglobin formation 3- Iron metabolism 4- Anemia, its types and effects on the circulatory system 5- Polycythemia and its effects on the circulatory system 6- White blood cells and its types 7- Reticuloendothelial system 8- Inflammation and the role of white blood cells 9- The function of basophils, eosinophils, and macrophages 10- Platelets and their role in blood coagulation 11- Mechanism of blood coagulation internal and external pathways 12- Blood coagulation test blood coagulation disorders</p>	<p><b>Dr. Mohammadabadi</b></p>
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Course Name	Physiology of the Circulatory system	
Course Level	Semester 2	
Credit Hours	23 hours	
Theoretical	19 hours	
Practical	4 hours	
Credits	1.2	
Prerequisite Course	Cell Physiology	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>Physical components of the circulatory system and their characteristics</li> <li>Hemodynamics</li> <li>Vascular resistance and factors influencing it</li> <li>Vasodilation of blood vessels in the arterial and venous systems and the volume-pressure curve</li> <li>Pulse pressure and its abnormal forms</li> <li>Blood pressure measurement</li> <li>Veins and their functions</li> <li>The structure and role of capillaries</li> <li>Capillary filtration and factors affecting it</li> <li>Lymph, lymphatic system and their physiological roles</li> <li>Acute and chronic control of tissue blood flow and its regulation</li> <li>Factors affecting the blood pressure</li> <li>Short and long-term regulation of blood pressure</li> <li>The role of kidneys in regulating blood pressure</li> <li>Primary and secondary hypertension</li> <li>Cardiac output and its regulation</li> <li>Cardiac output curve and factors affecting it</li> <li>Skeletal muscle blood flow and how to control it</li> <li>Coronary circulation and factors affecting it</li> </ol>	<b>Dr. Niazmand Dr.asghari</b>

	20. Definition of shock and its stages 21. Types of shocks and their characteristics	
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Course Name	<b>Physiology of the Respiratory System</b>	
Course Level	Semester 2	
Credit Hours	14 hours	
Theoretical	10 hours	
Practical	4 hours	
Credits	0.7	
<b>prerequisite Course</b>	Cell Physiology	Lecturer
<b>Essential Course Content</b>	1- Mechanics of lung ventilation 2- Pleura, pleural effusion, and its changes in respiration 3- Lung and chest compliance 4- Pulmonary volumes and capacities 5- Alveolar ventilation, the dead space 6- Respiratory tract and its functions 7- Cough reflex, sneezing, and speech 8- Pulmonary circulation and its characteristics 9- Lung edema and its mechanism 10- Emission of gases in the alveoli and body tissues and the influential factors 11- Ventilation to perfusion ratio and its changes 12- The concept of shunt and physiological space 13- Oxygen transfer in the blood and the role of hemoglobin in it 14- Oxy-hemoglobin Decomposition curve and the influential factors 15- Carbon dioxide transfer in the blood 16- Carbon dioxide decomposition curve 17- Respiratory control	<b>Dr. Boskabadi Dr. gholam neza</b>

Course Name	<b>Cell and Molecular Biochemistry</b>	
Course Level	Semester 1	
Credit Hours	47	
Theoretical	32	
Practical	15	
Credits	2.3	
<b>Prerequisite Course</b>	---	<b>Lecturer</b>
<b>Essential Course Content</b>	<p>1- Water and tampons: Water structure, hydrogen bonds, Henderson-Hasselbalch equation, acid and base, definition of tampons, important tampons of the body, definition of acidosis and alkalosis and their clinical significance</p> <p>2- Amino acids and proteins: Structure of amino acids, their physicochemical properties, classification of amino acids, essential and non-essential amino acids, amino acid titration, primary, secondary, tertiary and quaternary structures of proteins, folding and degeneration of proteins, structure and function of myoglobin, hemoglobin, and collagen and their clinical significance</p> <p>3- Carbohydrates: Definition, carbohydrates' structure, their physicochemical properties, monosaccharide derivatives, disaccharides, homo-polysaccharides, hetero-polysaccharides, glycoproteins, and their clinical significance</p> <p>4. Lipids and lipoproteins: Structure, types, and physicochemical properties of fatty acids; types of lipids (triacylglycerol, esterified and free cholesterol, phospholipids, sphingolipids); liposomes, micelles, and emulsions, specific proteins (Apo lipoproteins); types of lipoproteins, and their clinical significance</p>	<p><b>Dr. Mashkani</b> <b>Dr.Hosseini</b> <b>Dr.Ebrahimi</b></p>

	<p>5- Enzymes: Definition, classification, structure, naming, active sites, mechanism of action of enzymes, determination of enzymatic activity, factors affecting enzymatic function, Michaelis Menton equation, types of enzyme inhibitors, isoenzymes, types of regular and irregular enzymatic reactions, regulation of action in enzymes and their clinical significance</p> <p>6- Vitamins: Definition, classification, structure of vitamins, role of coenzymes, water-soluble vitamins, fat-soluble vitamins, vitamin deficiency disorders and their clinical significance</p> <p>7- Nucleic acids: Nucleic acid constituents (DNA, RNA), nucleosides, nucleotides, the structure of DNA and its variants, the structure of RNA and its variants</p> <p><b>Practical</b></p> <p>1,2 Spectrophotometry</p> <p>3,4 Urea and creatinine measurement</p> <p>5,6 Lipid and cholesterol measurement</p> <p>7,8 Practical, Urine analysis</p>	
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Course Name	Biochemistry	
Course Level	Semester 2	
Credit Hours	37 hours	
Theoretical	22 hours	
Practical	15 hours	
Credits	1.7	
prerequisite Course	Cell and Molecular Biochemistry	Lecturer
<b>Essential Course Content</b>	<p>1-Oxidative phosphorylation: Laws of thermodynamics, free energy changes, reduction potential, electron transfer chain, chemiosmosis Theoretical , and electron transfer chain inhibitors</p> <p>2- Carbohydrate metabolism: Digestion and absorption, the glycolysis pathway, pyruvate oxidation, Krebs cycle, gluconeogenesis, glycogenesis, glycogenolysis, fructose metabolism, and galactose metabolism</p> <p>3- Amino acids metabolism: Absorption and digestion, general catabolic reactions of amino acids, urea cycle, specific catabolic reactions of amino acids (aromatic, branched and sulfur amino acids), biosynthesis of non-essential amino acids, and biosynthesis of amino acid-derived compounds</p> <p>4- Clinical enzymology: Causes of increase and decrease in serum activity of intracellular enzymes, necessary criteria for clinical use of enzymes, clinical importance of enzymes (alkaline phosphatase, phosphatase acid, nucleutidase enzyme gamma-glutamyl trans-peptidase, aminotransferases, lactate dehydrogenase, creatine phosphokinase, cholinesterase, aldolase, amylase, lipase) 5.</p>	<p><b>Dr. Soukhtanloo</b>  <b>Dr. Meshkani</b>  <b>Dr. Hosseini</b>  <b>Dr . Ebrahimi</b></p>

	<p>5- Metabolism of lipid and lipoproteins: Digestion and absorption of fats, chylomicron metabolism, VLDL metabolism, LDL metabolism, HDL metabolism, diseases of lipoprotein metabolic pathways, biosynthesis pathway of fatty acids, beta-oxidation of amino acids, cholesterol bio-synthesis, and biosynthesis of ketone bodies</p> <p>6-Metabolism of nucleotides: De novo purine biosynthesis, purine biosynthesis salvage pathway, regulation of purine biosynthesis pathway, purine catabolism, purine metabolic pathway diseases, De novo pyrimidine pathway, pyrimidine biosynthesis salvage pathway, regulation of pyrimidine biosynthesis pathway, pyrimidine catabolism, and pyrimidine metabolic pathway diseases</p> <p>7- Metabolism of non-protein nitrogen compounds: Heme biosynthesis, diseases related to heme biosynthesis, porphyria, heme catabolism, and heme catabolism diseases.</p>	
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### **References**

- Harper's Illustrated. Biochemistry. Twenty-Eighth Edition. Robert K. Murray, MD, PhD. Professor (Emeritus) of
- Biochemistry



<b>Course Name</b>	<b>Introduction to Anatomical sciences</b>	
<b>Course Level</b>	Semester 1	
<b>Credit Hours</b>	46 hours	
<b>Theoretical</b>	38 hours	
<b>Practical</b>	8 hours	
<b>Credits</b>	2.5	
<b>prerequisite Course</b>	-----	<b>Lecturer</b>
<b>Essential Course Content</b>	<p>1- Introduction (history and pioneers), definitions, the basics of working with a cadaver, and ethics of medical Practical and working with a cadaver</p> <p>2- The anatomical position of the body, planes and axes, medical terminology, and body movements</p> <p>3- Basics of body systems, including bones, joints, muscular, and nervous systems.</p> <p>4- The normal anatomy of the body and variations</p> <p>5- Principles of radiological and clinical anatomy</p> <p>6- Basics of histology and methods of tissue examination</p> <p>7- Cells and cytology</p> <p>8- Epithelial tissues</p> <p>9- Connective and adipose tissues</p> <p>10- Blood and erythropoiesis</p> <p>11- Bones, cartilages, and joints</p>	<p><b>Dr. Ebrahimzadeh</b></p> <p><b>Dr. Tehrani</b></p>

	<p>12- Muscular tissues</p> <p>13- Nerve tissues</p> <p>14- Basics and definitions of gametogenesis, including oogenesis and spermatogenesis</p> <p>15- Ovulation, fertilization, and egg formation (first week)</p> <p>16- Implantation, formation of fetal sacs, and mother-fetus blood connection and circulation (second week).</p> <p>17- Disc formation of the three fetal layers, gastrulation, and development of body axes (third week).</p> <p>18- Derivatives of ectoderm, mesoderm, endoderm, and neural crest (third to eighth week).</p> <p>19- Fetal stage (weeks eight to thirty-eight), placenta, embryonic sacs and twins.</p> <p>20- Basics of teratology and innate malformations.</p> <p>21- Postnatal growth.</p>	
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Course Name	Anatomy of Musculoskeletal system	
Course Level	Semester 1	
Credit Hours	50 hours	
Theoretical	30 hours	
Practical	20 hours	
Credits	2.4	
prerequisite Course	Introduction to Anatomical sciences	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. The vertebrae</li> <li>2. Osteology of the upper limb</li> <li>3. Scapula, borders of the axilla and its content</li> <li>4. Anterior and posterior regions of the arm and the cubital fossa</li> <li>5. Anterior and posterior regions of the forearm</li> <li>6. The hand</li> <li>7. The surface, clinical, and radiological anatomy of joints</li> <li>8. Osteology of the lower limb</li> <li>9. Anterior and inner thigh</li> <li>10. Gluteal region and posterior thigh</li> <li>11. Popliteal fossa and posterior leg</li> <li>12. Legs and feet</li> <li>13. Development of the musculoskeletal system</li> </ol>	<p><b>Dr.Vafaei</b></p> <p><b>Dr.Dortaj</b></p>

Course Name	Anatomy of The Head and Neck	
Course Level	Semester 2	
Credit Hours	37 hours	
Theoretical	20 hours	
Practical	17 hours	
Credits	1.7	
Prerequisite Course	Introduction to Anatomical sciences	Lecturer
	<ul style="list-style-type: none"> <li>1- Examination of cranial bones</li> <li>2- Examination of facial bones</li> <li>3- Skull bones and growth and development neonatal skull</li> <li>4- Surface elements and neck fascia</li> <li>5- Posterior triangle of the neck</li> <li>6- Anterior triangle of the neck</li> <li>7- Facial and parotid region</li> <li>8- Temporal and infratemporal cavities</li> <li>9- Development of arches, and pharyngeal pouches and clefts</li> <li>10- Development of face, tongue, and teeth</li> <li>11- Clinical, functional and radiological anatomy of head and neck</li> </ul>	<b>Dr. Jalali</b>

<b>Course Name</b>	<b>Anatomy of the Respiratory System</b>	
<b>Course Level</b>	Semester 2	
<b>Credit Hours</b>	16 hours	
<b>Theoretical</b>	8 hours	
<b>Practical</b>	8 hours	
<b>Credits</b>	0.7	
<b>prerequisite Course</b>	Introduction to Anatomical sciences	<b>Lecturer</b>
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. Anatomic structures and relationships of nose, pharynx, larynx, and trachea</li> <li>2. Anatomical structure and relationships of the lung and pleura**</li> <li>3. Histology of the respiratory system [trachea, branching of the bronchial tree and lungs]</li> <li>4. Development of the respiratory system</li> <li>5. Practical and radiologic anatomy of respiratory system</li> </ol>	<b>Dr. Vafaei</b>

Course Name	Anatomy of the cardiovascular system	
Course Level	Semester 2	
Credit Hours	33 hours	
Theoretical	17 hours	
Practical	16 hours	
Credits	1.5	
prerequisite Course	Introduction to Anatomical sciences	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. Ribs and sternum</li> <li>2. Muscles, arteries, and nerves of the thoracic wall</li> <li>3. Superior mediastinum</li> <li>4. Middle mediastinum</li> <li>5. Posterior mediastinum</li> <li>6. Major vessels of the circulatory system</li> <li>7. Histology of the heart and blood vessels</li> <li>8. Histology of the lymphatic system</li> <li>9. Development of the heart-forming region, heart tubes, and the heart</li> <li>10. Development of arterial and venous systems</li> <li>11. Clinical, functional, and radiological anatomy of the cardiovascular system</li> </ol>	<b>Dr. Mohammadi pour</b>

Course Name	Medical virology	
Course Level	Semester 2	
Credit Hours	17 hours	
Theoretical	17 hours	
Credits	1	
prerequisite Course	---	Lecturer
<b>Essential Course Content</b>	<p>1 -Generalities of virology</p> <ul style="list-style-type: none"> <li>- Introduction and history</li> <li>- Structure and molecular biology of viruses</li> <li>- Properties of viruses</li> <li>- Replication of viruses</li> <li>- Virus and host cell interactions</li> <li>- Laboratory methods for diagnosing viral diseases</li> <li>- Bacteriophages</li> </ul> <p>2 -Systematic virology</p> <ul style="list-style-type: none"> <li>- Classification of viruses</li> <li>- Recognizing the characteristics and pathogenic role of DNA viruses in diseases</li> <li>- Recognizing the characteristics and pathogenic role of RNA viruses in diseases.</li> <li>- Common pathogenic viruses in body systems</li> <li>- The role of viruses in the formation of cancer</li> <li>- General mechanisms of the effects of drugs on viruses</li> </ul>	<p><b>Dr.Meshkat</b> <b>Dr. Yousefi</b></p>

Course Name	Medical Genetics	
Course Level	Semester 2	
Credit Hours	17 hours	
Theoretical	17 hours	
Credits	1	
prerequisite Course	<b>1. Cell and Molecular Biochemistry</b> <b>2. Cell Physiology</b>	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>History and Importance of Medical Genetics</li> <li>Clinical Cytogenetics and Chromosomal Abnormalities</li> <li>Gene Mutations and Their Importance in Disease Development</li> <li>Gene Expression and Its Regulation</li> <li>Principles of Genetic Counseling and Its Applications</li> <li>Single-Gene Disorders with Mendelian Inheritance</li> <li>Single-Gene Disorders with Holandric (Y-Linked) Inheritance</li> <li>Mitochondrial Inheritance and Associated Diseases</li> <li>Multifactorial Inheritance</li> <li>Molecular Diagnostics Before and After Birth</li> <li>Genetic Engineering and Its Applications in Medicine</li> <li>Epigenetics and Associated Diseases</li> <li>Gene Therapy</li> <li>Cancer Genetics</li> <li>Pharmacogenetics</li> </ol>	<b>Dr. Abbaszadegan &amp; Dr, Mojarad &amp; Dr .hamzehlouei</b>

Course Name	Principles of Health Services	
Course Level	Semester 2	
Credit Hours	26 hours	
Theoretical	26 hours	
Credits	1.5	
prerequisite Course	-----	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. Concepts of health and disease</li> <li>2. Principles and history of public health in Iran and the world. Evolution path including: Health for All (HFA), Millennium Development Goals (MDGs), Primary Health Care (PHC), Universal Health Coverage (UHC)</li> <li>3. Concepts of health and disease and levels of prevention</li> <li>4. Primary Health Care System (PHC1)</li> <li>5. Primary Health Care System 2-(PHCZ)</li> <li>6. levels of prevention</li> <li>7. National and transnational organizations related to health</li> <li>8. Social factors related to health</li> <li>9. Health and safety of the workplace</li> <li>10. Education and promotion of health and healthy lifestyle</li> <li>11. Overview and history of public health in Iran and the world</li> <li>12. The image of health and disease in the world and Iran based on indicators</li> <li>13. Environmental factors related to health (air, water...)</li> <li>14. Environmental factors related to health (waste)</li> </ol>	<p><b>Dr. Dadgarmoghaddam &amp;</b></p> <p><b>Dr.vakili</b></p>

	<ul style="list-style-type: none"> <li>15. Immunization principles and generalities</li> <li>16. The principles of health service management and the rights of health service recipients</li> <li>17. Health image in the world and Iran based on indicators.</li> <li>18. Local, national, and international health-related organizations</li> <li>19. Health-related environmental factors (air, water, solid waste and waste, food)</li> <li>20. Health-related social determinants"</li> <li>21. Health and safety of the workplace</li> <li>22. Principles and generalities of immunization</li> <li>23. Principles of health service management</li> <li>24. Health education and promotion</li> <li>25. Rights of recipients of healthcare services.</li> </ul>	
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<b>Course Name</b>	<b>Preliminary English 3</b>	
<b>Course Level</b>	Semester 1	
<b>Credit Hours</b>	34 hours	
<b>Practical</b>	34 hours	
<b>Credits</b>	2	
<b>prerequisite Course</b>	-----	<b>Lecturer</b>
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. The amazing human body</li> <li>2. Common Cold</li> <li>3. Breaking a bone</li> <li>4. Leaders and Followers</li> <li>5. Anxiety</li> <li>6. Differences between Men and Women</li> <li>7. Intelligence quotient</li> <li>8. The relationship between Mind and Brain</li> <li>9. Insomnia: Inability to Sleep</li> <li>10. The Brain Fog</li> </ol>	<b>Dr. kargozar</b>

Subskills	Introducing Yourself in Academic Situations	Different Parts of Academic Interview
	Grammatical Points	Tenses/ Conditionals/ Passive & Active Voice
	Working with Dictionary	Intonation, Stress, Word Definition

<b>Course Name</b>	<b>General English</b>	
<b>Course Level</b>	Semester 2	
<b>Credit Hours</b>	51 hours	
<b>Theoretical</b>	51 hours	
<b>Credits</b>	3	
<b>prerequisite Course</b>	<b>Preliminary English 3</b>	<b>Lecturer</b>
<b>Essential Course Content</b>	<p><b>English for Students of Medicine</b></p> <ol style="list-style-type: none"> <li>1. The Common Cold</li> <li>2. A Balanced Diet</li> <li>3. Influenza and Colds</li> <li>4. Defense Against Disease</li> <li>5. Defense and Immunity</li> <li>6. The Fight Against Wound Infections</li> <li>7. Germs, Infection and Disease</li> <li>8. The World of Microbes</li> <li>9. Bacteria</li> <li>10. The Search for Measles Vaccine</li> <li>11. Meningitis</li> <li>12. Measles</li> <li>13. Mental and Physical Needs of a Patient</li> <li>14. Sleeping pills</li> <li>15. Heat Exhaustion</li> <li>16. Health and Fitness</li> </ol>	<b>Dr. Kargozar</b>

	17. Nutrition 18. Food 19. Physical Fitness 20. Biological Aging 21. Regular Physical Activity	
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Subskills	Word Formation	Different Parts of Speech
	English Sentence Structure	Different parts of Sentences
	Word Etymology	Verb/ Noun/ Adjective Makers

<b>Eclectic Method in TESOL</b>	
A) Reading Activities	- Character studies
	- Imaginary conversation
	- Gap filling
	- Matching
	- Group work
B) Writing Activities	- Guided writing
	- Picture composition
	- Reordering
C) Speaking Activities	- Information gap activity

	- Question and answer
	- Conference
	- Group work
D) Listening Activities	- Question and answer
	- Short text
	- Lecture

<b>Subskills</b>	Word Formation	Different Parts of Speech
	English Sentence Structure	Different parts of Sentences
	Word Etymology	Verb/ Noun/ Adjective Makers

Course Name	Professional Etiquette and conduct 1	
Course Level	Semester 1	
Credit Hours	6 hours	
Practical	6 hours	
Credits	0.5	
prerequisite Course	-----	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. Introducing the competencies expected of a general practitioner <ul style="list-style-type: none"> <li>- Principles of professional behavior in medicine (1):</li> <li>- Explaining the importance of the student's role as a medical student, and reviewing the principles of professional behavior in medicine</li> </ul> </li> <li>2. Interpersonal communication skills (1): <ul style="list-style-type: none"> <li>- Communication components and barriers to communication</li> <li>- Principles of effective communication (active listening and self-representation techniques)</li> <li>- Using body language (application of nonverbal techniques in communication)</li> </ul> </li> <li>3. Basic principles of learning in medicine: <ul style="list-style-type: none"> <li>- Study skills</li> <li>- Time management skills</li> </ul> </li> <li>4- Principles of Teamwork and Empathy</li> <li>5- Components of Communication</li> <li>6- Conflict Resolution Techniques</li> </ol>	<b>Dr .Sheibani &amp; Dr.saghebi</b>

<b>Course Name</b>	<b>Professional Etiquette and conduct 2</b>	
<b>Course Level</b>	Semester 2	
<b>Credit Hours</b>	6 hours	
<b>Practical</b>	6 hours	
<b>Credits</b>	0.5	
<b>prerequisite Course</b>	Professional Etiquette and conduct 1	<b>Lecturer</b>
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>Interpersonal communication skills (2) <ul style="list-style-type: none"> <li>Principles of teamwork</li> <li>Conflict resolution techniques.</li> </ul> </li> <li>Basic principles of personal development (1): <ul style="list-style-type: none"> <li>Managing one's learning through planning Rethinking</li> <li>skills through reflecting on experiences</li> </ul> </li> <li>Basic skills of scientific thinking. <ul style="list-style-type: none"> <li>Components of thinking</li> <li>Various propositions of thinking</li> <li>Standards of thinking</li> </ul> </li> </ol>	<b>Dr.Jafari</b>

<b>Course Name</b>	<b>Life style</b>	
<b>Course Level</b>	Semester 1	
<b>Credit Hours</b>	34 hours	
<b>Theoretical</b>	34 hours	
<b>Credits</b>	2	
<b>prerequisite Course</b>	-----	<b>Lecturer</b>
<b>Essential Course Content</b>	<p>1- Introduction to Islamic Lifestyle - What is “lifestyle” in Islam? (Contrast with secular/modern lifestyles)</p> <p>2- Defining Taqwa: Fear, Love, and Awareness - Literal &amp; spiritual meanings of Taqwa</p> <p>3- Taqwa in Daily Routines - Taqwa in eating, earning, dressing, and digital life - The Prophet’s ﷺ lifestyle as a model of restraint</p> <p>4- Taqwa in Relationships - Taqwa with parents, spouse, children, neighbors - Avoiding backbiting, envy, and injustice</p> <p>5- Obstacles to Taqwa &amp; How to Overcome Them - Nafs (ego), Shaytan, societal pressure - Building resilience through discipline (fasting, night prayer)</p>	<b>Dr.Hashemi</b>

	<p>---</p> <p>6- Tawbah: Not Just Regret, But Transformation</p> <ul style="list-style-type: none"> <li>- Conditions of sincere repentance (Quran 66:8)</li> <li>- The difference between guilt and constructive remorse</li> </ul> <p>7- Tawbah as a Lifestyle, Not a One-Time Event</p> <ul style="list-style-type: none"> <li>- Daily micro-Tawbah (after mistakes)</li> <li>- Replacing bad habits with good ones (e.g., lying → truthfulness)</li> </ul> <p>8- Integration &amp; Final Review</p> <ul style="list-style-type: none"> <li>- How Taqwa, Dhikr, and Tawbah reinforce each other</li> <li>- Designing a</li> </ul>	
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Course Name	Family and Population Study	
Course Level	Semester 1	
Credit Hours	34 hours	
Theoretical	34 hours	
Credits	2	
prerequisite Course	----	Lecturer
<b>Essential Course Content</b>	<p><b>**Topic:**</b></p> <ul style="list-style-type: none"> <li>• The meaning of life</li> <li>• The concept of human and human life</li> <li>• Knowledge of human and the existential dimensions of human</li> <li>• Epistemology and knowledge of God</li> </ul> <p>The essential needs of human</p> <p>1 – Introduction and Course Overview</p> <ul style="list-style-type: none"> <li>- Introduction to the course, objectives, resources, and evaluation methods</li> <li>- The importance of family in civilization and human life</li> <li>- The relationship between family and existential/demographic concepts</li> </ul> <p>2- The meaning of life from philosophical and religious perspectives</p> <ul style="list-style-type: none"> <li>- What is life? What is death?</li> <li>- Existentialist, Islamic, and Buddhist viewpoints</li> <li>- The role of family in realizing the meaning of life</li> </ul> <p>3- Family as the foundation for realizing the meaning of life</p> <ul style="list-style-type: none"> <li>- Family: The first meaningful society</li> </ul>	<b>Dr. Naji</b>

	<ul style="list-style-type: none"> <li>- Love, commitment, reproduction, and meaning</li> <li>4- Modern threats to the meaning of family life <ul style="list-style-type: none"> <li>- Individualism, consumerism, technology</li> </ul> </li> <li>5- Philosophical and religious anthropology <ul style="list-style-type: none"> <li>- Human: A two-dimensional being (body and soul)</li> <li>- Differences between human and animal in terms of reason, will, and ethics</li> </ul> </li> <li>6- Family: The natural institution for human development <ul style="list-style-type: none"> <li>- The role of spousal, parental, and filial relationships in existential growth</li> <li>- Psychological theories (Maslow, Erikson) and their adaptation to the family</li> </ul> </li> <li>7- Identity crisis in modern families <ul style="list-style-type: none"> <li>- The role of media, education, and culture in weakening family identity</li> </ul> </li> <li>8- Existential dimensions of human (physical, psychological, social, spiritual) <ul style="list-style-type: none"> <li>- Maslow's hierarchy of needs and its critique from an Islamic perspective</li> </ul> </li> <li>9- Existential disorders in the family (divorce, addiction, depression) <ul style="list-style-type: none"> <li>- Causes and demographic consequences</li> </ul> </li> <li>11- Family therapy and reconstruction of existential dimensions <ul style="list-style-type: none"> <li>- Family counseling approaches</li> </ul> </li> </ul>	
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	<p>12- God from the perspectives of reason, heart, and lived experience</p> <ul style="list-style-type: none"> <li>- Argument from design, innate disposition (fitrah), signs in the universe and the self</li> </ul> <p>13- Family: A mirror for knowing God</p> <ul style="list-style-type: none"> <li>- Parental love → Divine love</li> <li>- Religious upbringing of children and the role of role models</li> </ul> <p>14- Secularization of the family and the loss of divine knowledge</p> <ul style="list-style-type: none"> <li>- Challenges of religious upbringing in the present era</li> </ul> <p>15- Biological, emotional, and social needs of human</p> <ul style="list-style-type: none"> <li>- Marriage, childbearing, housing, security</li> </ul> <p>16- Population policies and family support</p> <ul style="list-style-type: none"> <li>- Analysis of the Youthful Population Law (Iran 2021)</li> <li>- Comparison with anti-natalist policies in the West</li> </ul>	
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Course Name	Preliminary Persian 1	
Grade level	Semester 1	
Credit Hours	51hours	
practical	51hours	
Credits	3	
prerequisite Course	-----	Lecturer
	<ol style="list-style-type: none"> <li>1. Introduction: Names, occupations; Greetings and inquiring about well-being; Introducing individuals to each other; Talking about famous people; Grammar: Separate subject pronouns; Present tense of verb "to be"; Vocabulary: Nouns, numbers (1 to 10); Common occupations</li> <li>2. Introducing various objects in the class and stationery; Stating and reading phone numbers and emails; Nationality; Talking about classmates and professors; Grammar: Demonstrative pronouns (this/that); Present tense of verb "to have"; Pronominal adjectives; Vocabulary: Personal belongings and stationery; Names of countries and nationalities</li> <li>3. Talking about clothes, colors, and the location of objects; Possession; Describing family members;</li> </ol>	<b>Dr. Zahra Ghazalipour</b>

	<p>Grammar: Prepositions of place; Cardinal and ordinal numbers; Plural markers; Vocabulary: Clothing, colors, family members</p> <p>4. Discussing daily routines; Time; Seasons and months of the year; Date of birth; Grammar: Present continuous tense; Ordinal numbers; Vocabulary: Days of the week and daily activities; Seasons and months; Time</p> <p>5. Leisure time activities; Talking about vehicles; Prices and shopping; Weekend activities; Grammar: Adverbs of frequency; After/before/prepositions; Vocabulary: Hobbies; Vehicles</p>	
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Course Name	Preliminary Persian 2	
Grade level	Semester 2	
Credit Hours	51 hours	
practical	51 hours	
Credits	3	
Prerequisite Course	Preliminary Persian 1	Lecturer
<b>Essential Course Content</b>	<ol style="list-style-type: none"> <li>1. - Hobbies</li> <li>2. - Adverbs of frequency (always, usually, never, ... every other day, every two weeks, ...)</li> <li>3. - Asking for price, calculating</li> <li>4. - Means of transportation</li> <li>5. - After / before / ...</li> <li>6. - Parts and items of the house</li> <li>7. - Comparative and superlative adjectives</li> <li>8. - Expressing surprise</li> <li>9. - Household chores</li> <li>10. - Double conjunctions: both ... and / either ... or / neither ... nor</li> <li>11. - Jobs and urban locations</li> <li>12. - Question words</li> <li>13. - Expressing likes and dislikes</li> <li>14. - Imperative verbs</li> </ol>	<b>Dr. Zahra Ghazalipour</b>

	<p>15. - Food pyramid, ordering and taking food orders, types of food and meals</p> <p>16. - Simple prepositions and conjunctions</p> <p>17. - Weather</p> <p>18. - - Present continuous / ongoing / tangible (I'm going / ....)</p> <p>19. - Phone conversation</p> <p>20. - Movement verbs (jumping / opening / closing / ....)</p> <p>21. - Attached object pronouns</p>	
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<b>Course Name</b>	<b>Physical Education1</b>
<b>Grade level</b>	Semester 1
<b>Credit Hours</b>	17 hours
<b>practical</b>	17 hours
<b>Credits</b>	1
<b>Prerequisite Course</b>	-----
<b>Lecturer</b>	<b>Dr . sardar &amp; Dr. Imaz</b>

<b>Course Name</b>	<b>Physical Education2</b>
<b>Grade level</b>	Semester 2
<b>Credit Hours</b>	17 hours
<b>practical</b>	17 hours
<b>Credits</b>	1
<b>Prerequisite Course</b>	Physical Education1
<b>Lecturer</b>	Dr . sardar & Dr. Pouyannasb