

Course Specification

University: Al-Azhar

Faculty: Medicine

Department: Medical Physiology

1- Data of the course:

Code of the course: 103-phys	Title of the course: medical physiology for 1 st year of MBBCh program	Year: 1st year of the MBBCh program Duration: 32 weeks
Specialty: medical physiology	Number of teaching units:	Lectures:100 hrs Total:190 hrs Practical: 90 hrs

2- Objectives o the course:	<ol style="list-style-type: none"> 1.To acquire an appropriate functional background of cells , tissues& systems. 2. To integrate physiological data & mechanisms with the ongoing basic sciences: anatomy , histology & biochemistry and clinical applications. 3. To follow the rapidly changing and inflating details about molecular biology & genetics. 4. To explore in detail the functions of the autonomic , the neuromuscular , the respiratory and cardiovascular systems as well as their integration to achieve homeostasis. 5. To develop the basic scientific research skills as well as effective communication and team work attitudes.
------------------------------------	---

3- ILOs

A- Knowledge and understanding:	<p><i>By the end of the course, students should be able to:</i></p> <ol style="list-style-type: none"> 1- Describe the cellular functions at the organelle and molecular level. 2- Classify the functional organization of sympathetic and parasympathetic nervous systems. 3- Point out the basis of excitability (membrane potentials) in all living cells especially in nerve and muscle cells. 4- Explain the functions of the nerve cell and muscle fiber grossly and at the molecular level. 5- point out and explain the functions of different components of blood. 6- describe the structure , properties and functions of cardiac muscle grossly and at the molecular level. 7- point out the dynamics of blood and lymph flow and describe physiology of circulation through special organs. 8- describe the physiology of pulmonary ventilation, exchange of gases in the lung , and blood gas transport.
--	--

	<p>9- point out the physiology of regulation of respiration in health and disease states .</p> <p>10 - Point out the functional anatomy of the kidney , physiology of glomerular filtration , renal tubular function and micturition.</p> <p>11 - Discuss regulation of extracellular fluid composition and volume.</p> <p>12 - Describe some biophysical laws and their relation to human physiology.</p>
B- Intellectual Skills:	<p><i>By the end of the course, students should be able to:</i></p> <p>1- Interpret the most important physiological laboratory results (blood , Respiratory , neuromuscular), to distinguish a physiological from a pathological condition.</p> <p>2- Comment , on some clinical parameters such as : ABP, ECG, nerve conduction velocity & pulmonary functions for a normal individual.</p> <p>3- Integrate physiology with other basic and clinical sciences.</p>
C- Professional Skills:	<p><i>By the end of the course, students should be able to:</i></p> <p>1- Perform hematological tests : estimation of blood Hb, bleeding & clotting times , determination of the hematocrite value , the bleeding & clotting times and blood groups.</p> <p>2- Perform the most important respiratory function tests.</p> <p>3- Perform the measurement of the arterial blood pressure.</p> <p>4- Manipulate a stethoscope hearing heart and respiratory sounds.</p> <p>5- Record and read an electrocardiogram.</p> <p>6- Perform the most important renal function tests.</p> <p>7- Present physiological scientific data in a graphical form.</p>
D- General and transferable Skills:	<p><i>By the end of the course, students should be able to:</i></p> <p>1- Work separately or in a team to research and prepare a scientific topic.</p> <p>2- Present clearly and effectively a scientific topic in a tutorial , a staff meeting or the yearly scientific day.</p> <p>3- Present physiological data in a graphical form.</p> <p>Communication skills</p> <p><i>By the end of the course, students should be able to:</i></p> <p>4-Work effectively in a group in lab .</p> <p>5- Respects the role of staff and co-staff members regardless of degree or occupation.</p> <p>Professional attitude and behavioral skills</p> <p><i>By the end of the course, students should be able to:</i></p> <p>6-Respect and follow the institutional code of conduct.</p> <p>7- Fellow the core attitudes for ethics in AL Azhar medical curriculum include principles of ethics that govern medical practice in general and following the Islamic code of medical ethics in particular.</p>

4- Course Content:	<p>The contents are distributed as follows:</p> <p>1- Introduction to physiology and biophysics: 15 hours</p> <p>2- Autonomic nervous system: 15 hours and 2 practical.</p> <p>3- Nerve and muscle: 20 hours and 18 practical.</p> <p>4- Cardiovascular system: 45 hours and 22 practical.</p> <p>5- Blood: 19 hours and 8 practical.</p> <p>6- Respiration: 25 hours and 6 practical.</p> <p>7- Renal system: 15 hours and 2 practical</p>
--------------------	--

5- Methods of teaching:	<ul style="list-style-type: none"> - Lectures - Practical sessions - Tutorial classes
6- Methods of teaching of handicaps	Not present

7- Students evaluation and assessment:

A- Method of assessment:	<p>The assessment is composed of:</p> <p>* Written examination which includes:</p> <ul style="list-style-type: none"> - Long and short essay question. - Ultra short essay question (fill in the space and matches). - Problem solving. <p>* Multiple-choice questions (MCQ) which include:</p> <ul style="list-style-type: none"> - True and false questions. - Choosing the most appropriate answer. <p>* Practical examinations.</p> <p>* Oral examinations.</p>										
B- Time of assessment	<ul style="list-style-type: none"> - Continuous assessment during the academic year - Mid-year in January - End-year in June or in september 										
C- Allocated marks/Distribution	<p>The mark of Physiology (250 marks) is distributed among the different exams as follows:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">1. Quiz exams</td> <td style="text-align: right;">50 marks.</td> </tr> <tr> <td>2. Written exam</td> <td style="text-align: right;">80 marks.</td> </tr> <tr> <td>3. MCQ</td> <td style="text-align: right;">60 marks.</td> </tr> <tr> <td>4. Oral exam</td> <td style="text-align: right;">30 marks.</td> </tr> <tr> <td>5. Practical exam (OSPE)</td> <td style="text-align: right;">30 marks.</td> </tr> </table> <ul style="list-style-type: none"> - Mid year examination: 20% of total marks. - Final examination: 80% of total marks. 	1. Quiz exams	50 marks.	2. Written exam	80 marks.	3. MCQ	60 marks.	4. Oral exam	30 marks.	5. Practical exam (OSPE)	30 marks.
1. Quiz exams	50 marks.										
2. Written exam	80 marks.										
3. MCQ	60 marks.										
4. Oral exam	30 marks.										
5. Practical exam (OSPE)	30 marks.										

8- Teaching books, notebooks, and references:

<p>- Books/Notebooks:</p> <p>- References:</p>	<ul style="list-style-type: none">✍ Textbook of Medical Physiology (A.C. Guyton and J.E. Hall), W.B. Saunders Company, Philadelphia, London, New York, St. Louis, Sydney and Toronto.✍ Review of Medical Physiology (W.F. Ganong), Lange Medical Books/Mc Graw Hill, San Francisco.✍ Principles of Human Physiology (Cindy L. Stanfield), Benjamin Cummings.✍ Local Books by Staff Members of the Department.✍ Physio-Ex version 8.✍ Computerized data acquisition.✍ Lab work is involved at physiology laboratory 2 hours every week. Safety precautions and other instructions for use are mentioned in the lab guide book (prepared by the instructors).
---	---

Head of the department

Course Coordinator: