

Faculty of Medicine Ouality Assurance Unit



Assuit University Faculty of Medicine

Physiology 1 (Containing biophysics) Course Specifications

Code: AMED 07

First year of M.B.B.Ch. Program 2016-2017



Programme(s) on which the course is given: M.B.B.ch Program

Department offering the programme: Medical Physiology Department offering the course: Academic year / Level: 2016-2017(1st year) Course of M.B.B.ch Program Date of specification approval: (9/2016)

External evaluator: Prof. Dr. Saad Kamal Taha A-Basic information

1-Basic information: Course title: Physiology 1 Academic year / Level: 1st year Department offering the course: Me Date of specification approval: (9-2016) Lecture: 150 hours

Code: Amed07 Course of M.B.B.ch Program Medical Physiology

Tutorial/ Practical: 60 hours

Total :210 hours

B- Proffessional information

- 2-Overall aims
 - To provide the student with the knowledge about the normal structure and function of the body and major systems.
 - To provide the student with an appropriate background about of cells, tissues, organs & systems.
 - To enable the student to describe the integration of physiological functions, which characterize the performance of the human body as a whole in health.
 - To provide the student with the knowledge about the physiological principles underlying diseases states that aids in interpretation of symptoms.
 - > To enable the development of communication skills

3- Intended learning outcomes of the course (ILOs)

A. Knowledge and Understanding

By the end of the course, students should be able to:

- A1- Describe the cellular functions at the organelle and molecular levels.(A5)
- A2- Describe the structure and functions of the Autonomic nervous system, its higher centers, autonomic receptors and chemical transmitters (A5)
- A3- List the general components of blood and its functions, mechanism of blood coagulation and regulation of blood volume and state some of clinical conditions occurring due to deficiency of one or more of the blood components.

- A4- Identify the properties of the cardiac muscle and factors affecting them; describe the functional structure of the circulatory system.(A6,7)
- A5- Describe the functional structure of the respiratory system, respiratory cycle, its mechanism, regulation of normal respiration, respiratory functions of the blood and some conditions related to disorders of the respiratory system.
- A6- Explain the general mechanism of the gastrointestinal secretion, components of functions of different parts of the digestive system the mechanism of absorption, types of gastrointestinal movements and some clinical conditions, which result from disturbances of functions.(A5)
- A7- Describe the properties of excitability of living tissues , membrane potentials , and their relation to different phases of excitability , physiological anatomy of the skeletal muscle and mechanism of contraction and changes occurring during it.(A5, A7)

B. Intellectual Skills

By the end of the course, students should he able to:

- B1- Compare the most important physiological laboratory results to distinguish the physiological form from the pathological conditions.
- B2- Comprehend some clinical parameters (ABP, ECG, ESR, Blood fragility test, normal heart rate , factors affecting it, nerve conduction and velocity, normal pulmonary function tests) in a normal individual.
- B3- Correlate/ integrate physiology with other basic and clinical science through case study and problem based learning and scientific presentation.

C. Practical Skills

By the end of the course, students should be able to:

- C1- Perform hematological tests: estimation of blood Hemoglobin, bleeding and clotting times, blood groups and read the erythrocyte sedimentation rate.
- C2- Observes the most important respiratory functions tests
- C3- Perform the measurement the arterial blood pressure
- C4- Use the stethoscope to hear the heart sounds and respiratory sounds
- C5- observes and read the ECG.
- C6- observes the dissection of the frog and observes experiments of (simple muscle twitch, factors affecting it, properties of the cardiac muscle and factors affecting it).

D. General Skills

By the end of the course, students should be able to:

D1- Communicate with staff members and their colleagues, manage time efficiently by

preparing and displaying a scientific research topic.

- D2- Present information clearly with efficient time management
- D3- Display physiological data in a graphical form
- D4- Communicate using available presentation aids efficiently (Overhead projectors or Data show) to present clearly a scientific topic
- D5- Evaluate their and others' work and accept the limitation in his/her knowledge
- D6- Adopt the need to engage in lifelong learning

No. of Hours Topics Lecture **Tutorial/Practical** Introduction Cell physiology 10 10 -**Autonomic nervous** 14 14 system **Blood** 31 16 15 **CVS** 72 52 20 Respiration 31 26 5 **Muscle and nerve** 36 16 20 **Digestion** 16 16 -150 210 Total **60**

4- Course contents:

5- Teaching methods

- 1- Lectures for knowledge and intellectual skill outcomes using data shows, overhead, slide projector
- 2- Laboratories (Laboratory demonstration, practical training and problem-based learning),
- 3- Classes with active participation of students for communicational skills, and intellectual skills, (case study).
- 4- Tutorials in the class using data show
- 5- Students asked to do small research presentations or poster and discuss it with their classmates and with the lecturers. This helps them gain the general skills outcomes (D 1-D5).
- 6- E-Learning System interactive discussions.

Facilities required for teaching and learning

- 1- Lecture halls
- 2- Rooms for small groups teaching
- 3- Audio visual aids (data shows, overhead, slide projector....etc)

- 4- Computers and internet facilities (E-Learning System)
- 5- Faculty library
- 6- Central library of the Assiut University
- 7- Skills laboratory

6- Teaching and learning Methods for students with learning difficulties:

- 1- Lectures
- 2- Tutorials
- 3- Practical
- 4- Cases study
- 5. Special classes outside the teaching schedule

7- Student Assessment

A- Methods

- 1- Written exams (short essay and MCQs) to assess knowledge and intellectual skills (a
- 5, a 6, a7, b1-b3)
- 2- Oral exam to assess knowledge, general and intellectual skills (a1-a7, b1-b3)
- 3- Practical exam to assess intellectual, practical and general skills (c1-c6, d1-d2)

B-Assessment Schedule

- Assessment 1: Periodic assessment by the end of the 10th week
 Assessment 2: Periodic assessment by the end of the 15th week
 Assessment 3: Midterm assessment by the end of the 24th week
 Assessment 4: Final practical examination by the end of the 28th week
 Assessment 5: Final written examination by the end of the 30th week
- Assessment 6: Final oral examination by the end of the 30th week

C-Weighting of Assessments:

Periodic and midterm assessments	50 marks (20%)
Final written exam	125 marks (50 %)
Final oral exam	50 marks (20 %)
Final practical exam	25 marks (10 %)
Total	250 marks (100%)

8- List of References

1- Course Notes;

Notes on Physiology and practical book by staff members of Physiology department

- 2- Essential Book (Text Books):
- Guyton AC and Hall JE. Textbook of Medical Physiology, 12th Edition, Saunders Elsevier, 2012.

2- William F Ganong. Review of Medical Physiology, 23rd edition,Langa, Mc Graw-Hill, 2014.

3- Recommended books:

- Guyton AC and Hall JE. Textbook of Medical Physiology, 13th Edition, Saunders Elsevier, 2016.

- Lauralee Sherwood. Human Physiology: From Cells to Systems, Seventh Edition, 2014.

4- Periodicals, Web sites:

American Journal of Physiology, http://www.med-ed-online.org/

Course coordinator: Prof. Dr. Omyma Galal Ahmed Prof. Dr. Marwa Abd Elaziz Ahmed

Head of Department: Prof. Dr. Enas Ahmed Hamed

Date: 9-2016