



وحدة ضمان الجودة

الخطة الاستراتيجية ٢٠١٧/٢٠١٨



جامعة أسوان _ كلية الطب

Physiology 1 (containing biophysics) Course Specifications

Code: AMED 07

First year of M.B.B.Ch. Program

2017-2018

University: Aswan

Faculty : Medicine

Department : Medical physiology

1- Basic information

- **Title:** Physiology 1
- **Code:** Amed07
- **Academic year / Level:** First year of M.B.B.Ch
- **Department offering the course:** Department of Medical physiology
- **Lecture:** 150 hours
- **Tutorial/practical:** 60 hours
- **Total:** 210 hours

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

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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.
- A2- Describe the structure and functions of the Autonomic nervous system, its higher centers, autonomic receptors and chemical transmitters
- 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.
- 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.
- 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.

B. Intellectual Skills

By the end of the course, students should be 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

4- Course contents:

Topics	No. of Hours	Lecture	Tutorial/Practical
Introduction			
Cell physiology	10	10	-
Autonomic nervous system	14	14	-
Blood	31	16	15

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CVS	72	52	20
Respiration	31	26	5
Muscle and nerve	36	16	20
Digestion	16	16	-
Total	210	150	60

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).

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
- 5- Faculty library
- 6- Central library of the Assiut University
- 7- Skills laboratory

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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%)

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8- List of References

- 1- Course Notes; Notes on Physiology and practical book by staff members of Physiology department
- 2- Essential Book (Text Books): Textbook of Medical Physiology Arthur C. Guyton 10th edition, John E. Hall (editor).
- 3- Recommended books: Review of Medical Physiology William F. Ganong 22th edition

Course coordinators: prof. Dr. Mahmoud Rafat
Head of Department: Dr. Mona Sedeek

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