



Quality Assurance Unit



**Tanta University
Faculty of Medicine**

Department of physiology

Course specifications

Physiology for Anesthesiology, Surgical Intensive care Master Degree

2014

Physiology for Anesthesiology, Surgical intensive care Master degree specifications
University: Tanta Faculty: Medicine Department: physiology

A- Administrative Information

- **Program title: Master for Anesthesiology, Surgical intensive care Master degree**
- **Department offering the program : Anesthesiology, Surgical intensive care**
- **Departments responsible for the Course: physiology& Anesthesiology, Surgical intensive care**
- **Course Code: ANES 8001**
- **Academic year/ Level : 2014**
- **No. of Credit/taught hours:**
 - **credit hours:**
 - **Theoretical: 1 hours/week X 15 weeks =15 hours (1 credit hour)**
- **Authorization date of course specification:**

B- Professional Information

1- Overall Course aims:

The aim of this course is to:

- Help the postgraduate students to achieve adequate level of both basic and advanced essential knowledge about established and evolving topics concerned with Physiology related to their specialty.
- Acquire knowledge to address, demonstrate, and practice positive attitudes that will help them to achieve medical research on scientific bases

2- Intended learning outcomes (ILOs):

a. knowledge and understanding:

At the end of the course the graduate should be able to:

- a.1. Recognize basic theory and principle of Physiology that help them to understand human disease regarding etiology, diagnosis and control.
- a.2. Identify the function of the basic cellular, organs and higher level system.
- a.3. Identify basic defects in physiological control mechanisms that result in disease state.
- a.4. Express knowledge of human physiology in relation to him or her specialty.

b. Intellectual skills:

At the end of the course the graduate should be able to:

b.1. Analyze appropriate professional attitudes and behaviors in different practice situations.

b.2. Practice presentation skills, and evidence based scientific discussion

d. General transferable skills:

At the end of the course the candidate will be able to:

- d.1. Communicate effectively with his colleagues and scientific institutes.
- d.2. Use the basic computer skills which serve his career development
- d.3. Apply self evaluation and specify his medical educational needs.
- d.4. Use different learning resources to get knowledge and information.
- d.5. Manage time and practice team working through collaboration with other specialties
- d.6. Apply continuous medical education

3- Course contents:

Course title	Topic	No. of lectures/week	No of practical	No. of credit	Remarks
	anesthesia and ICU	15		1	Co-requisite with anatomy & pharmacology

Detailed contents of the course topics. (Syllabus contents):

General topics

- 1- Hemostasis and blood coagulation, anticoagulant, Hemorrhagic disorders.
- 2- Erythropoiesis and anemia.
- 3- ABO system & Rh factor, blood transfusion and incompatible blood transfusion.
- 4- Hypoxia and cyanosis.
- 5- Pulmonary function tests.
- 6- Homeostasis.
- 7- Regulation of gastrointestinal secretion.
- 8- Normal and abnormal motility of gastrointestinal tract.
- 9- Water balance, Blood volume, factors affecting and its regulation.
- 10- Regulation of food intake and obesity.
- 11- Endocrine functions of suprarenal cortex and its disorders.
- 12- Thyroid functions and its disorders.
- 13- Cellular mechanism of actions of hormones.
- 14- Pain sensation & pain analgesia system.
- 15- Glucose homeostasis and disturbances.
- 16- Arterial blood pressure, types and pathophysiological basis of hypertension
- 17- Heart rate and its regulation.

- 18- Acid base balance and its functions tests.
- 19- Ca^{++} homoeostasis.
- 20- Mechanisms of transcellular and transcapillary exchange.
- 21- Control diameters of arterioles.
- 22- Hemorrhage & shock.
- 23- Coding of sensory information.
- 24- Functions of the thalamus and thalamic syndrome.
- 25- Mode of action of autonomic nervous system.
- 26- Chemical transmitter of autonomic nervous system

Related specialty systems.

- 1. Respiratory system.
- 2. Cardiovascular system.
- 3. Blood.

Related specialty topics.

- 4. Neurotransmitters & neuromodulators in chemical synapses.
- 5. Cholinergic signaling in the brain.
- 6. Physiology of cerebrospinal fluid.
- 7. Alveolar ventilation in health & diseases.
- 8. Neuropeptides as regulators of airway functions

4-Teaching and learning methods:

- 4.1 Illustrated lectures.
- 4.2 Tutorial is scheduled and previously announced special topics from the curriculum are discussed in the tutorial.
- 4.3 Assignment to be prepared by the graduate in one of the special topic taught.
- 4.4 Seminars scheduled and previously announced to facilitate selection identification of their thesis.
- Each teaching method is designed to serve different educational goal, and together they provide an appropriate stimulating atmosphere for learning.

5-Student Assessment:

- 1. MCQ end semester examination at the 15th week of the first semester.
- 2. Final exam of the 1st part includes :-
 - Written examination. Written paper contains multiple long.(a1,2,3,4-b1,2)
 - Oral examination. One sitting (2 staff members including in this sitting).(a1,2,3,4-b1,2-d1,2,3,4,5,6)

6- Weighing of assessments -:

End semester exam	C+ required for attendance of final exam
Final term written examination	60% (15 degree)
Oral examination	40% (10 degree)
Total	100% (25 degree)

8- List of references:

8.1. Essential books (Textbooks):

- Guyton & Hall textbook of Human Physiology and Mechanisms of Disease.
- Gannon (review of medical physiology).
- Vander's human physiology.

8.2. Recommended books:

- Applied physiology in intensive care by M.R. Pinsky (Editor), J. Mancebo (Editor), L. Brochard (Editor), Gran Hedenstierna 2009.
- An introduction to human disease: pathology & pathophysiology correlations by Leonard Crowley. Hardcover August 2009.
- Critical pathways in cardiovascular medicine: Second Edition Lippincott Williams & Wilkins.
- Applied physiology: A manual showing functions of the various organs in disease by Frederick Augustus Rhodes.

8.3. Periodicals, Web:

- www.tebawy.5u.com.
- <http://bcs.whfreeman.com>.
- <http://www.bpcc.edu/sciencealliedhealth/humanphysiologylinks.html><http://bio-alive.com/animations/physiology.htm>.
- Human physiology from cell to system By: Lauralee Sherwood.

9- Other resources/ facilities required for teaching and learning to achieve the above ILOs:

- All facilities required for teaching are available.

10-We certify that all of the information required to deliver this course is contained in the above specifications and will be implemented.

***Course specifications: physiology for Anesthesiology, Surgical intensive care Master degree
2014***

We verify that the above course and the analysis of students and external evaluator opinions are accurate.

Course coordinator and head of department
name.....signature.....Date.....

Head of quality assurance unit:
name.....signature.....Date.....