



**Quality Assurance Unit**



**Tanta University  
Faculty of Medicine**

**Department of physiology**

**Course specifications**

**physiology for Internal medicine  
Diploma & Master degrees First  
Part**

**2016/2017**

Physiology for Internal medicine Diploma & Master degrees Course specifications

**University: Tanta**

**Faculty: Medicine**

**Department: physiology**

### **A- Administrative Information**

- **Program title: physiology for Internal medicine Diploma & Master degrees**
- **Department offering the program : Internal medicine**
- **Departments responsible for the program: physiology & : Internal medicine disease**
- **Course Code: MED 7002 & MED 8002**
- **Academic year/ Level : 2106 /2107**
- **No. of Credit/taught hours: 3½ theoretical credit hour(3 ½hours/week for 15 weeks)**
- **Authorization date of course specification: / /**

### **B- Professional Information**

#### **1- Overall Course aims:**

2- Our course aim -to provide a core of scientific knowledge concerning the normal functions of the human body at the level of organs relevant to Physiological topics.

And to provide the candidate with professional knowledge, for analyzing routine diagnostic laboratory services in Medical and Clinical Physiology and perform medical research

#### **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.

##### **b. Intellectual skills:**

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

- b.1. Analyze ,interpret, and integrate collected diagnostic data to solve clinical problems based on current evidence

##### **d. General transferable skills:**

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

- d.1- Apply self evaluation and specify his medical educational needs.
- d.2-Use different learning resources to get knowledge and information.
- d.3-Manage time and practice team working through collaboration with other specialties

d.4- Use the basic computer skills which serve his career development

**3- Course contents:**

Course title	topic	No. of credit hours	No of Credit points	Remarks
Physiology	Internal medicine	7hs (3½for physiology)	21 points (10½for physiology)	Prerequisite with biochemistry

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

**General topics**

Week No.	topic
1-	1- Haemostasis and blood coagulation, anticoagulant, Hemorrhagic disorders.
2-	2- Pain sensation & pain analgesia system.
	3- Arterial blood pressure, types and pathophysiological basis of hypertension
3-	4- Homeostasis.
	5- Ca <sup>++</sup> homeostasis.
	6- Glucose homeostasis and disturbances.
4-	7- Mode of action of autonomic nervous system.
	8- Chemical transmitter of autonomic nervous system
5-	9- Heart rate and its regulation.
6-	10- Hemorrhage & shock.
	11- Body water.
7-	12- Control diameters of arterioles.
8-	13- Cellular mechanism of actions of hormones.
	14- Endocrine functions of suprarenal cortex and its disorders.
9-	15- Regulation of gastrointestinal secretion.
	16- Normal and abnormal motility of gastrointestinal tract.
10-	17- Blood volume, factors affecting and its regulation
11-	18- Coding of sensory information.
	19- Functions of the thalamus and thalamic syndrome.
12-	20- Hypoxia and cyanosis.
	21- Pulmonary function tests.
13-	22- Regulation of food intake and obesity.
14-	23- Mechanisms of transcellular and transcapillary exchange.
	24- Thyroid functions and its disorders.
15-	25- Acid base balance and its functions tests.
	26- Erythropoiesis and anemia.
	27- ABO system & Rh factor, blood transfusion and incompatible blood transfusion .

**Related specialty systems:**

1. Endocrinology.
2. Digestive system.
3. Cardiovascular system.
4. Blood.
5. Respiratory system.

**Related specialty topics:**

1. Major hormones secreted from endocrine pancreas, role of neuronal input & gastrointestinal hormones on endocrine pancreas disease state caused by over or under-secretion of these hormones.
2. Edema, mechanism causes pathophysiological changes.
3. Regional differences in alveolar ventilation in health & disease.
4. Reflexes influences breathing.
5. Endocrine, paracrine, autocrine hormone secretion.
6. Pulsatile diurnal secretion.
7. Circulatory hormones affecting vascular system.
8. Pathophysiology of endothelium.
9. Pathophysiology of hypertension.
10. Physiology of cardiovascular system with aging.

**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:**

End semester final examination consists of:

- 5.1. Final written consists of one paper, 3 hours. With the co-requisite subjects The written is divided into 3 parts part1 short questions in the form (state, mention ,explain compare define etc). the 2nd part in problem solving question the 3rd part is MCQ questions to assess (a.1, a.2, a.3, ).
- 5.2. Oral to assess (a.1, a.2, a.3, & b.1,d.1,2,3,4)

**6- Assessment schedule:**

<b>6.1. End Semester Final one written qualifying examination</b>	At the end of the semester (60% of the total mark)
<b>6.2. oral qualifying examination</b>	After the written (40% of the total mark)

**7- Weighing of assessments:**

**Grading system for End Semester written Exam:**

Grade	%	Code	CGPA points
<b>Excelent</b>	95% or more	A	4.000
	90% to less than 95%	A-	3.666
<b>Very Good</b>	85% to less than 90%	B+	3.333
	80% to less than 85%	B	3.000
<b>Good</b>	75% to less than 80%	B-	2.666
	70% to less than 75%	C+	2.333
<b>Satisfactory</b>	65% to less than 70%	C	2.000
	60% to less than 65%	C-	1,666
<b>Failed</b>	55% to less than 60%	D+	1.333
	30% to less than 55%	D	1.000
	Less than 30%	F	0.000

**Final comprehensive exam**

Final exam	Final written	Final oral	Total
Final comprehensive exam of physiology, & biochemistry	45 (60%)	30 (40%)	75

- Final written examination consists of one paper, 3 hour s. With the co-requisite biochemistry
- Oral examination by two examiners

**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 Frederich Augustus Rhodes.

**8.3. Periodicals, Web:**

- [www.tebawy.5u.com](http://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.**

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.....