



**Quality Assurance Unit**



**Tanta University  
Faculty of Medicine**

**Department of Medical Physiology**

**Course specifications**

**Medical Physiology for Orthopedic  
surgery Diploma & Master degrees  
First Part**

**2016/2017**

Medical Physiology for Orthopedic surgery Diploma & Master degrees Course specifications

**University: Tanta**

**Faculty: Medicine**

**Department: Medical Physiology**

### **A- Administrative Information**

- **Program title: Medical Physiology for Orthopedic surgery Diploma & Master degrees**
- **Department offering the program : Orthopedic surgery**
- **Departments responsible for the program: Medical Physiology& Orthopedic surgery**
- **Course Code: ORTHO 7002 & ORTHO 8002**
- **Academic year/ Level : 2016 /2017**
- **No. of Credit/taught hours: ½ theoretical credit hour(0.5 hour/wk for 15 weeks)**
- **Authorization date of course specification: / /**

### **B- Professional Information**

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

- Provide students with knowledge and some practical skills in basic science that help him to understand orthopedic trauma and diseases; regarding diagnosis and control , Enable the student to solve clinical problems and suggests logic coast benefit solutions

#### **2- Intended learning outcomes (ILOs):**

##### **a. knowledge and understanding:**

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

- a.1. Recognize the basic scientific knowledge related to human Medical Physiology including normal and pathoMedical Physiology aspects of orthopedic diseases.
- a.2. State Medical Physiology topic in bone growth.
- a.3. Demonstrate understanding of the effects of endocrine on bone .
- a.4. Identify the physiological response to stress

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

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

- b.1. Comment on, and interpret common investigation reports related to specialty.

##### **c. General transferable skills:**

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

- d.1-Communicate effectively with the patients and their relatives, transferring them information about illness in clear and suitable words
- d.2- Perfect basic computer using skills

d.3-Search specified topics on the library books, medical journals, and internet( eg assignments, journal club).

### 3- Course contents:

Course title	Topic	No. of credit hours	No of Credit points	Remarks
Medical Physiology	Orthopedic surgery	2 $\frac{1}{3}$ hs (1/2for Medical Physiology)	7 points (1.5for Medical Physiology)	Prerequisite with biochemistry & pharmacology

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

##### General topics

Week No.	topic
1-	1- Hemostasis, anticoagulants and hemorrhagic disorders.
2-	2- pain, pain analgesia system 3- Homeostasis and Ca++ homeostasis
3-	4- Arterial Blood Pressure and pathophysiological basis of hypertension.
4-	5- chemical transmitters of ANS.
5-	6- Hemorrhage and shock.
6-	7- Heart rate and its regulation
7-	8- Control of diameter of arterioles
8-	9- Supra- renal cortical hormones and disorders 10- Hormones regulating glucose metabolism.(Diabetes mellitus: PathoMedical Physiology and its complications
9-	11- ABO system, Rh factor, Blood transfusion and its incompatibility. 12- Regulation of body water and electrolytes.
10-	13- Acid – Base balance and disorders 14- Hypoxia and cyanosis
11-	15- Erythropoiesis , Anemia and Polycythemia. 16- Cardiac reserve
12-	17- Thermoregulation & Clinical aspects of thermoregulation 18- Cardiac Output
13-	19- Cellular mechanism of hormonal actions 20- Edema

##### Related specialty systems:

1. Medical Physiology of bone.
2. Endocrine disturbance & bone.
3. Motor part of CNS.
4. Neuromuscular Medical Physiology.

5. Blood.

6. Shock

**Related specialty topics.**

1. PathoMedical Physiology of parathyroid, vitamin D & bone disease.
2. Principle of musculoskeletal biomechanics related to the concept of orthopedic.
3. Function of osteoblast, osteoclast in bone remodeling & factors regulating their activities.
4. Causes and consequences of over & under secretion of some endocrine affecting bones.
5. Physiological mechanisms controlling injury, inflammation & pain.

**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 2<sup>nd</sup> part in problem solving question the 3<sup>rd</sup> part is MCQ to assess (a.1, a.2, a.3, a.4).

5.2. Oral to assess (a.1, a.2, a.3, a.4 & b.1, d.1,2,3)

**6- Assessment schedule:**

<b>6.1. End Semester Final 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:**

<b>Grade</b>	<b>%</b>	<b>Code</b>	<b>CGPA points</b>
<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**

<b>Final exam</b>	<b>Final written</b>	<b>Final practical</b>	<b>Final oral</b>	<b>Total</b>
Final comprehensive exam of Medical Physiology, biochemistry & pharmacology	30	10	10	50

- Final written examination consists of one paper, 3 hour s. With the co-requisite biochemistry and Pharmacology
- There is no Medical Physiology practical exam
- Oral examination by two examiners

**8- List of references:**

**8.1. Essential books (Textbooks):**

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

**8.2. Recommended books:**

- Applied Medical Physiology in intensive care by M.R. Pinsky (Editor), J. Mancebo (Editor), L. Brochard (Editor), Gran Hedenstierna 2009.
- An introduction to human disease: pathology & pathoMedical Physiology correlations by Leonard Crowley. Hardcover August 2009.
- Critical pathways in cardiovascular medicine: Second Edition Lippincott Williams & Wilkins.
- Applied Medical 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/humanMedicalPhysiologylinks.html><http://bio-alive.com/animations/MedicalPhysiology.htm>.
- Human Medical 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.....