Quality Assurance Unit

Tanta University
Faculty of Medicine

Integrated based curriculum

Department of Medical Physiology

Course Specifications

Semester 1 [Principles of Physiology]
Code: PHYS 1103

2018-2019

Semester 1 [Principles of Physiology] Code: PHYS 1103

University: Tanta **Faculty: Medicine** **Department: Medical Physiology**

1- Administrative Information

1. **Program title: Bachelor of Medicine and Surgery with Accredited Points (M.B. B.Ch (Credit point)**
2. **Course title: principle of Physiology**
3. **Course code: PHYS 1103**
4. **Course coordinator: Assist.Prof. Dr/ Mervat Elsaka and Dr/Ramez Barhoma**
5. **Department(s) offering the course : physiology department**
6. **Academic year: 2018/2019**
7. **Level: Level one – Semester one**
8. **. Date of approval by:**
   - **The Board of Program:**
   - **The Internal Quality Assurance & Accreditation Center:**
   - **Council of the Faculty of Medicine, Tanta University:**
9. **No. of hours:**

Credit points			Lectures	Practical/clinical	Media	PBL	Seminar	Assign.	Exam	Taught hrs.
5	z	70%	56	28	7					140
	Self-learning hours	30%				6	21	18	4	

2- Professional Information

Academic standards adopted in this course is designed according to NARS 2017 which adopted by the faculty council in 24/3/ 2018

3 – Course Description

Physiology is the study of the functions of different body systems.

4 - Overall Course Aim/Objective

Aim:

- **To develop basic understanding of the key functions of human body in preparation for subsequent semesters.**
- **To develop the basic scientific effective communication, increased capacity for self-learning, and team work attitudes within the framework of professional ethics**

- **To help students to Integrate physiological data & mechanisms with the ongoing basic sciences : anatomy, histology & biochemistry and clinical applications (Problem Solving)**

Objectives:

1- **Provide students with basic medical information of the physiology.**
2- **Prepare students to apply medical information and use it to solve clinical problems of patients.**
3- **Integrate different branches of medicine to prepare an efficient Physician.**
4- **Urge students to continue medical education.**
5- **Provide the basic rules of ethics.**

5 - Intended learning outcomes (ILOs)

By the end of this course the student will be able to:

Competency Area I: The graduate as a health care provider

1.8 Apply knowledge of the clinical and biomedical sciences relevant to the Bio Medical problem at hand.

1.9 Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a Bio Medical problem

Competency Area III: The graduate as a professional

3.1 Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect.

Competency Area IV: The graduate as a scholar and scientist

4.1 Describe the normal function of different body organ systems.

4.2 Explain the cellular mechanisms that are important in maintaining the body's homeostasis.

4.8 Demonstrate basic sciences, specific practical skills and procedures relevant to future practice and recognizing their scientific basis.

Competency Area V: The graduate as a member of the health team and system

5.3 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports collaborative work.

Competency Area VI: The graduate as a lifelong learner and researcher

6.3 Identify opportunities and use various resources for learning.

Course	Interactive Lecture	TBL	Web based L	Patient L	Tutorial	Workshop			Small group teaching		Bedside T	Skill L.	Portfolio
						Media	Lab	Computer	CBL	PBL			
Principle of physiology	√		√			√	√			√			√

6.6 Effectively manage learning time and resources and set priorities.

6 – Course/ Course Contents

topics	No of hours							ILOs covered
	Lectures	Lab.	media	PBL	Seminar	Assig	Exam	
Introduction & terminology	2h	----	----					1.8, 1.9
Transport across the cell membrane	2h	----	1h					1.8, 1.9, 6.3, 6.6
Homeostasis	2h	----	----					1.8, 1.9, 3.1, 4.1, 4.2 , 5.3, 6.3, 6.6
Body fluid & Blood volume	2h	2h	1h					1.8, 1.9, 3.1, 4.1, 4.8, 6.3, 6.6
Nerve physiology	12h	10h	2h					1.8, 1.9,3.1, 4.1, 4.8 , 5.3, 6.3, 6.6
Reflex action & Reflex arc	2h	----	1h					1.8, 1.9,3.1, 4.1,
Autonomic ganglia	2h							1.8, 1.9,3.1, 4.1, 6.3, 6.6
Mode of autonomic action	2h							1.8, 1.9,3.1, 4.1, 6.3, 6.6
Sympathetic	6h							1.8, 1.9, 3.1, 4.1, 6.3, 6.6

topics	No of hours							ILOs covered
	Lectures	Lab.	media	PBL	Seminar	Assig	Exam	
Parasympathetic	4h							1.8, 1.9, 3.1, 4.1, 6.3, 6.6
Physiology of sweat glands	2h	----	----					1.8, 1.9, 3.1, 4.1, 6.3, 6.6
Smooth muscle physiology	2h	----	1h					1.8, 1.9, 3.1, 4.1, 5.3, 6.3, 6.6
Energy balance & Respiratory quotient	2h	2h						1.8, 1.9, 3.1, 4.1, 4.8, 6.3, 6.6
Basal metabolic rate	2h	2h	1h					1.8, 1.9, 3.1, 4.1, 4.8, 6.3, 6.6
Specific dynamic action	2h	2h						1.8, 1.9, 3.1, 4.1, 4.8, 6.3, 6.6
Effect of muscular exercise on general metabolism	2h	----	----					1.8, 1.9, 3.1, 4.1, 4.8, 5.3, 6.3, 6.6
Oxygen debt & steady state	2h	2h						1.8, 1.9, 3.1, 4.1, 4.8, 6.3, 6.6
Body temperature and its regulation	6h	6h						1.8, 1.9, 3.1, 4.1, 4.8, 5.3, 6.3, 6.6
Total	56	28	7	6	21	18	4	

7 - Teaching and learning methods

Item	Time schedule	Teaching hours/week
Lectures	2 times /week	4
Practical	1 times /week	2
Multi-media	1 times /2week	1/2
Small groups		6h/semester
Assignment	3 hours /week for 7 week	21

8 - Student evaluation

8-1 COURSE POLICIES

8.1.1. Attendance:

Attendance is mandatory to all sessions. Due to the course emphasis in developing skills and not only knowledge, the students' participation in all course activities is critical. Students who expect to be late for a mandatory class, lab, or small group session for any reason must contact the course director before the start of class. Unexcused absences demonstrate unprofessional behavior by the student.

8-1-2 Remediation of Unsatisfactory Performance in Course

A student who performs below the satisfactory level will be notified to Course Director for the purpose of developing a formal remediation plan which will established by the course director and the student.

8-1-3 Missing tests

- **Students with sufficient reason for missing a test will have no grade for the missed test and their mean grade for tests will be based only on those that they completed.**
- **Students missing a test without sufficient reason will have a zero as grade for the missed tests, which will be incorporated to obtain the mean grade for their tests and the final grade for the course.**

8-2 Course assessment:

Formative and summative assessment: they include:

1. Assignments, Quizzes, logbook,

2. Written exams: MCQs in addition to ultra-short essay and case studies.

3. Clinical and practical skills assessment: Objective Structured Practical Exams (OSPE).

8-3 course assessment schedule and grading:

Grades are obtained based on the following complementary assessments:

Assessment Method	Date	Description	ILOs/Competencies assessed	Marks	% of Total
1.Continuous assessments (Portfolio)	Through semester	• Quizzes • Log book • Assignments	1.8, 1.9. 3.1, 4.1, 4.2, 5.3, 6.3 & 6.6	25	25%
	Week 7	Seminar(presentation and Report		5	5%
2.Mid-term written exam	Midterm Week 8	ultrashort	1.8 & 1.9	10	10%
3- Practical exam	End semester Week15	OSPE	3.1 & 4.8	30	30%
4-Final written exam	End semester Week 16	MCQ	1.8, 1.9, 4.1 & 4.2	30	30%
Total				100	100

9. Facilities required

- **Lecture rooms with data show and computer facilities**
- **A u-shaped teaching halls with internet connection (hosting 24 students)**
- **Computer lab equipped with internet connection**
- **Flip chart and colored pen**
- **A wall board**

10 - List of references

Mandatory Textbook

- **Kaplan Medical Staff ."Kaplan medical USMLE step 1 Physiology Lecture Notes".**
- **Guyton C., Hall E. " Human Physiology and Mechanisms of Disease" ..**

Recommended reference textbooks:

- **Kim E. Barrett, Susan M. Barman " Gagnong's review of Medical physiology ".**
- **Sembulingam K, and Sembulingam Prema (2012): Essentials of Medical Physiology, Jaypee Brothers Medical Publishers**

Course notes

- **Department book; written by the staff members.**

periodicals and web sites

- **www.Medscap.com**
- **www.pubmed.org.**

Course coordinator: **Ass.Prof. Dr/ Mervat Elsaka and Dr/Ramez Barhoma**

A) Summary of topics matched with competencies' domains ILOs in the course

The name of course: Principles of Physiology					University: Tanta /Academy
Code of course : PHYS 1103					Faculty: Medicine
Topics of the course	**Health care provider**	**Professionalism**	**Scholar and scientist**	**Health team &system**	**LLL & researcher**
Lectures:					
Introduction & terminology	√				
Transport across the cell membrane	√				√
Homeostasis	√	√	√	√	√
Body fluid & body water	√	√	√		√
Blood volume & its regulation	√	√	√		√
Nerve physiology	√	√	√	√	√
Reflex action & Reflex arc	√	√	√		
Autonomic ganglia	√	√	√		√
Mode of autonomic action	√	√	√		√
Sympathetic	√	√	√		√
Parasympathetic	√	√	√		√
Physiology of sweat glands	√	√	√		√
Smooth muscle physiology	√	√	√	√	√
Energy balance & Respiratory quotient	√	√	√		√
Basal metabolic rate	√	√	√		√

Topics of the course	Health care provider	Professionalism	Scholar and scientist	Health team &system	LLL & researcher
Specific dynamic action	√	√	√		√
Effect of muscular exercise on general metabolism	√	√	√	√	√
Oxygen debt & steady state	√	√	√		√
Body temperature and its regulation	√	√	√	√	√
Practical					
Body fluid & body water	√	√	√		√
Blood volume & its regulation	√	√	√		√
Nerve physiology	√	√	√	√	√
Energy balance & Respiratory quotient	√	√	√		√
Basal metabolic rate	√	√	√		√
Specific dynamic action	√	√	√		√
Oxygen debt & steady state	√	√	√		√
Body temperature and its regulation	√	√	√	√	√
Multi-media					
Transport across the cell membrane	√				√
Blood volume & its regulation	√	√	√		√
Nerve physiology	√	√	√	√	√
Smooth muscle physiology	√	√	√	√	√

Topics of the course	Health care provider	Professionalism	Scholar and scientist	Health team &system	LLL & researcher
Reflex action & Reflex arc	√	√	√		
Basal metabolic rate	√	√	√		√
Small group teaching (case scenario)					
	√	√		√	√
Seminars					
	√	√		√	√

Course coordinator: **Ass.Prof. Dr/ Mervat Elsaka and Dr/Ramez Barhoma**

C) Course – program ILOs Matrix

Course ILOs / Program ILOs		Health care provider		professionalism	Scholar and scientist			Health team & system	LLL & researcher	
		1.8	1.9	3.1	4.1	4.2	4.8	5.3	6.3	6.6
Competency 1	1.1									
	1.2									
	1.3.									
	1.4.									
	1.5.									
	1.6.									
	1.7.									
	1.8	*								
	1.9		*							
	1.10									
	1.11									
	1.12									
	1.13									
	1.14									
	1.15									
	1.16									
	1.17									
Competency 3	3.1.			*						
	3.2.									
	3.3.									
	3.4.									
	3.5.									
	3.6.									
	3.7.									
	3.8									
	3.9									
Competency 4	4.1.				*					
	4.2.					*				
	4.3.									
	4.4.									
	4.5									
	4.6									

Course ILOs / Program ILOs		Health care provider		professionalism	Scholar and scientist			Health team & system	LLL & researcher	
		1.8	1.9	3.1	4.1	4.2	4.8	5.3	6.3	6.6
	4.7									
	4.8						*			
	4.9									
Competency 5	5.1									
	5.2									
	5.3							*		
	5.4									
	5.5									
	5.6									
	5.7									
	5.8									
	5.9									
	5.10									
	5.11									
	5.12									
Competency 6	6.1									
	6.2									
	6.3								*	
	6.4									
	6.5									
	6.6									*
	6.7									
	6.8									
	6.9									
	6.10									