



Quality Assurance Unit



Tanta University
Faculty of Medicine

Department of Physiology

Course Specifications

Physiology Second Year

2011-2012

Physiology First Second Course specifications

University: Tanta

Faculty: Medicine

Department: Physiology

1- Administrative Information

- **Course title: Physiology**
- **Code: TMED.02:003**
- **Department offering the course: Department of Physiology**
- **Program (s) on which this course is given: Bachelor of Medicine and Surgery (M.B.B.Ch).**
- **Departments offering the program: All departments of the faculty of Medicine**
- **Academic year/ Level : second year of M.B.B.Ch**
- **Semester in which the course is given: one academic year**
- **Date of approval by department/faculty council: 21/9/2011**
The Board of Department of Physiology on:.....
The Internal Quality Assurance & Accreditation Center on:.....
Council of the Faculty of Medicine, Tanta University on:.....
- **Taught hours:**
 - **Lectures : 5 hours/w (150 hours)**
 - **Tutorial : 2 hours /**
 - **Practical : 2w practical and tutorial alternating (60**
 - **Total : 2 hours/2 hours)**
w
210 hours

2 - Overall Course Aims

This course aims to enable students to:

- Continue upgrading the physiological basis taken in his first year.
- Explore in details the functions of the endocrinal, the reproductive, the nervous, the renal & the digestive systems as well as their integration to achieve homeostasis.
- Integrate physiological data & mechanisms with the ongoing basic sciences: and their clinical applications..
- Develop the basic skills as well as effective communication and team work attitude.

3- Intended learning outcomes (ILOs):

a. knowledge and understanding:

- a1. Describe the functions of the nervous, endocrine, reproductive, renal and the digestive systems at the organ and at the molecular levels.
- a2. Describe the metabolism from the physiology point of view.

b. Intellectual skills:

- b1 Distinguish between physiological and pathological performance of different body systems.
- b2 Suggest the basic physiological measurements used to test different body functions.
- b3 Integrate physiology with other sciences.

c. Professional & practical skills:

- c1 Perform a systematic examination of the nervous system: types of sensations, motor system, tendons jerks and muscle tone.
- c2 Perform the most important visual tests: corneal, light & accommodation reflexes, visual acuity, color vision and visual field defects.
- c3 Perform a preliminary examination of common endocrinal conditions: acromegaly, dwarfism and a thyroid disease (hypo or hyper).
- c4 Integrate physiology with other basic and clinical sciences.

d. General transferable skills:

- d1 Identify the essential ethical issues involved in scientific research.
- d2 Work separately or in groups to research and prepare a scientific topic.
- d3 Use available presentation aids (e.g. Overhead Projectors or Data Show) to present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.

4- Topics (Contents of the course)

Theoretical topic	No. of hrs.		
	*Lectures	Practical**/ Small groups	Total
<u>1. Central Nervous System</u>	43	25	68
<u>2. Endocrine and Reproduction</u>	30	6	36
<u>3. Metabolism</u>	12	7	19
<u>4. Renal and acid base balance</u>	20	8	28
<u>5. Special Senses</u>	25	8	33
<u>6. Digestion</u>	20	6	26
<u>Total</u>	150	60	210

*** Details of teaching hours of lectures:**

1. Central Nervous System (43 hours)

Sensory (18 hours)

- Introduction & Receptors(3)
- Somatic sensations (Mechano. & thermo).....(3)
- Pain(2)
- Somatic sensations from the head(1)
- Pain analgesia system(2)
- Thalamus (2)
- Somatic sensory areas.....(2)
- Abnormal sensations.....(3)

Motor (25 hours)

- Motor cortex & descending tracts(2)
- Basal ganglia(2)
- Cerebellum(2)
- Synaptic transmission & Reflex action(3)
- Stretch reflex(3)
- Motor lesions(4)
- Equilibrium.....(4)
- Hypothalamus & intellectual function(5)

2. Endocrine and Reproduction (30 hours)

- Introduction(2)
- Thyroid gland(4)
- Calcium homeostasis(3)
- Suprarenal gland(4)

- Pancreas(2)
- Pituitary gland & pineal gland(3)
- Male reproduction(3)
- Female reproduction(4)
- Pregnancy & lactation(3)
- Abnormal gonads(2)

3. Metabolism (12 hours)

- Introduction, R.Q, B.M.R & S.D.A(3)
- Metabolism during muscular exercise(2)
- Regulation of body temperature(4)
- Nutrition & Starvation(3)

4. Renal System (20 hours)

- Function of kidneys & R.B.F.(4)
- G.F.R. & plasma clearance(4)
- Renal tubules(5)
- Diuretics & renal function tests(4)
- Urinary bladder & Micturition.....(3)

5. Special Senses (25 hours)

- Introduction & Ocular appendages(1)
- Aqueous & Glaucoma(1)
- Cornea(1)
- Lens(2)
- Accommodation(2)
- Middle layer(2)
- Retine(3)
- Color vision(2)
- Visual pathway & binocular vision(2)
- Hearing sensation(6)
- Taste sensation(2)
- Smell sensation(1)

6. Digestion (20 hours)

- Salivary secretion & Deglutition(3)
- Gastric secretion(4)
- Pancreatic secretion(4)
- Bile secretion, jaundice & liver(4)
- Small & large intestine(3)
- Absorption(2)

**** Details of teaching hours of Practical Course (60hours):**

1. Central Nervous System (25 hours):

Examination of; sensory, motor systems, muscle tone, tendon jerk and other reflexes, examination of the cranial nerves and demonstration to some clinical disorders of C.N.S.

2. Endocrine and Reproduction (6 hours):

Demonstration of some clinical disorders of endocrine.

3. Metabolism (7 hours):

Measurement of metabolic rate.

4. Renal and acid base balance (8 hours):

Kidney function tests.

5. Special Senses (8 hours):

Tests of hearing, Examination of Visual acuity, Visual field and Fundus examination

6. Digestion (6 hours):

Intestinal motility and factors affecting it.

5-Teaching and learning methods

a. Teaching methods:

5-1. Lectures (5 hours / week):

- All the students attend in one big lecture hall.

5-2. Tutorial (2hours / every 2weeks):

- Half of the students attend in a small lecture hall.
- Tutorial class is scheduled and previously announced, the subjects that conventionally directed are lagging by few weeks to the related branches and systems given at that time in the lecture. Special topics from the curriculum are discussed in the tutorial.

5-3. Laboratory demonstration, practical training and problem-based learning, half of the students are divided into small subgroups, 2 hours / every 2 weeks alternating with the tutorial:

- A year scientific day for the students in the form of small groups' presentation. The title of the subjects is determined during several meetings with the staff members. Each teaching method is designed to serve different educational goal, and together they provide an appropriately stimulating atmosphere for learning.

5-4. Methods for disabled students:

- No special arrangements are available

b. Teaching plan:

Item	Time schedule	Teaching hours
Lectures	5 hours/w	150 hours*
Practical and tutorial classes	Alternating groups 2hours/w	60 hours**
Total		210 hours

*** Details of teaching hours of lectures:**

No.	Date	C.N.S	Endo.	Spec.S.	Kidney	Digest.	Metab.
1.	2/10/2011	2	2	1	XX	XX	XX
2.	9/10/2011	2	2	1	XX	XX	XX
3.	16/10/2011	2	2	1	XX	XX	XX
4.	23/10/2011	2	2	1	XX	XX	XX
5.	30/10/2011	2	2	1	XX	XX	XX
6.	13/11/2011	2	2	1	XX	XX	XX
7.	20/11/2011	2	2	1	XX	XX	XX
8.	27/11/2011	2	2	1	XX	XX	XX
9.	4/12/2011	2	2	1	XX	XX	XX
10.	11/12/2011	2	2	1	XX	XX	XX
11.	18/12/2011	2	2	1	XX	XX	XX
12.	25/12/2011	2	2	1	XX	XX	XX
13.	1/1/2012	2	2	1	XX	XX	XX
14.	8/1/2012	2	2	1	XX	XX	XX
15.	15/1/2012	2	2	1	XX	XX	XX
16.	22/1/2012	2	XX	1	2	XX	XX
17.	12/2/2012	2	XX	1	2	XX	XX
18.	4/3/2012	2	XX	1	2	XX	XX
19.	11/3/2012	2	XX	1	2	XX	XX
20.	18/3/2012	2	XX	1	2	XX	XX
21.	25/3/2012	2	XX	1	2	XX	XX
22.	1/4/2012	1	XX	1	2	1	XX
23.	8/4/2012	XX	XX	1	2	2	XX
24.	15/4/2012	XX	XX	1	2	2	XX
25.	22/4/2012	XX	XX	1	2	2	XX
26.	29/4/2012	XX	XX	XX	XX	3	2
27.	6/5/2012	XX	XX	XX	XX	3	2
28.	13/5/2012	XX	XX	XX	XX	3	2
29.	20/5/2012	XX	XX	XX	XX	3	2
30.	27/5/2012	XX	XX	XX	XX	1	4

**** Details of teaching hours of Practical classes:**

No.	Experiment	date
1.	Introduction & Crude touch	16/10/2011
2.	Fine touch	23/10/2011
3.	Vibration Sense	30/10/2011
4.	Pain	13 & 20/11/2011
5.	Revision	27/11/2011
6.	Olfactory nerve	4/12/2011
7.	Optic nerve	11 & 18/12/2011
8.	3 rd , 4 th , 6 th cranial nerves	25/12/2011
9.	5 th cranial nerve	1/1/2012
10.	7 th cranial nerve	8/1/2012
11.	8 th cranial nerve	15 & 22/1/2012
12.	Revision	12/2/2012 & 4/3/2012
13.	Superficial reflexes	11/3/2012
14.	Stretch reflex	18/3/2012
15.	Tendon Jerk	25/3/2012 & 1/4/2012
16.	Final revision	8 & 15/4/2012

6-Student Assessment:

a. Methods used:

6-1. Final Written examination to assess (a1-2),(b1-3)

6-2. Final Oral examination to assess (a1-2),(b1-3) (c1-4)

6-3. Final Practical examination to assess a1- a2, b1-b3, c1-c2 & d1-d2.

One examination in May and the other in September, for the students who failed, to pass the course

b. Assessment schedule:

Assessment	Week
1. First assessment.	12 th week
2. Second assessment.	24 th week
3. Midyear examination.	18 th week
4. Final written examination.	31 th week
5. Final oral examination.	31 th week
6. Final practical examination.	28 st week

c. Weighing of assessments:

Exam	Marks	% of Total
Continous assessment (2 examination the higher grades will be taken)	12.5	5%
Midyear examination	37.5	15 %
written examination	125	50%
Oral examination.	50	20%
Practical examination.	25	10%
Total	250	100%

d. Attendance criteria:

- Practical attendance: The minimal attendance in practical and tutorial classes is 70%. 5 marks out of the practical will be allocated to the attendance.
- Practical books
- Grading System

Examination	Topic	Description	Marks
Periodical Examinations	Sheet examinations	MCQ, true and false questions	12.5 marks = 5%
Midyear exam	Sheet examination	MCQ, true and false and problem solving questions	37.5 marks = 15%
Final Examination	1.Written examination	Short note Questions in all studied systems;	
		CNS..... Endocrine..... Special sences Digestive system..... Renal Metabolism.....	35 marks = 14% 25 marks = 10% 20 marks = 8% 15 marks = 6% 15 marks = 6% 15 marks = 6% Total 125 marks 50%
	2.Practical examination.	2 hours examination.	20 marks for the exam. and 5 marks are deduced for attendance in practical courses

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			Total 25marks = 10%
	3.Oral examination	each student is evaluated by 2 examiners	25 marks for each examiner Total 50 marks = 20%
Total			250 Marks = 100 %

The minimum passing score is 150 marks (60% of the total marks) provided that, at least 37.5 marks (30% of written exam) are obtained in the final written examination.

Passing grades are:

- Excellent : 85%
- Very Good : $\geq 75\%$ - $< 85\%$
- Good : $\geq 65\%$ - $< 75\%$
- Pass : $\geq 60\%$ - $< 65\%$

Examination Description:

Summative assessments are the only used assessment methods at the end of the year (no formative assessment). They are matched with the ILOs and faculty by laws.

7- List of references

- 7-1. **Course notes**
Department book, written by the staff members.
- 7-2. **Text book**
 1. Guyton on textbook of Human Physiology and Mechanisms of Disease.
 2. Ganong's review of Medical physiology.
- 7-3. **Recommended books**
 1. Kaplan Lecture Notes: Physiology
 2. Elsevier's Integrated Physiology
 3. Physiology: Board Review series
- 7-4. **Periodicals and web sites**
 1. www.Medscap.com
 2. www.pubmed.org.

8-Facilities for learning and teaching resources

1. Lecture halls: One in the 2nd of the faculty building for the theoretical lectures supplied with writing board, overhead projector, slide projector and data show.
2. Two lecture halls in the department (capacity 70 students), supplied with writing

board, overhead projector, slide projector and data show.

3. Two small laboratories, capacity 75 students /lab, supplied with written board and data show.
4. One big lab, capacity 150 students, supplied with written board.

Course coordinator

Name/ Professor Doctor Salma Elwy Nassar


signature.....**Date**.....

Head of department

Name/ Professor Doctor Sahar Elsayy

signature.....**Date**.....

Intended learning outcomes of the course (A)

 The name of course	
Code of course	

Academy / University:.....
 Faculty::
 Department: :

Topics of the course	Week Study	Knowledge & Understanding	Intellectual Skills	Professional Skills	General transferable skills
	First week				

Course coordinator...

Head of the department:.....