



COURSE SPECIFICATION

Faculty of Medicine- Mansoura University

(A) Administrative information

(1) Programme offering the course.	Clinical nephrology, dialysis and renal transplantation (MD) NEPH 610
(2) Department offering the programme.	Internal medicine Department: Nephrology unit
(3) Department responsible for teaching the course.	Internal medicine Department: Nephrology unit
(4) Part of the programme.	First part (Semester 1)
(5) Date of approval by the Department's council	5/11/2014
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title.	Applied physiology
(8) Course code.	NEPH 610AP
(9) Total teaching hours.	30 (2 credit hours)

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

- Provide in-depth knowledge of basic renal structure and develop updated concepts about physiology of body fluids
- Provide a sound understanding of different transport mechanisms along the nephron, renal regulation of acid-base balance, osmolality and electrolytes.
- Identification of different types of diuretics and how they act on the kidney .

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

- A 1 Recall the basic renal anatomy and physiology
- A 2 **Recall** sufficient knowledge of body fluids regulation
- A 3 Correlate between renal blood flow and GFR and their regulation
- A 4 Identify the mechanisms of transport along nephron
- A 5 Identify and recall principles of regulation of water and different electrolytes by the kidney
- A 6 **Recall** sufficient knowledge of acid-base regulation and physiology of diuretics action

B- Intellectual skills

- B1 **Analyze** strengths, deficiencies, and limits in one's knowledge and expertise and be able to be updated and face challenges.
- B2 Solve professional problems according to available data and set learning and improvement goals.
- B3 Analyze efficiently case scenarios and refer to the most appropriate diagnosis and possible differential diagnosis and interpret basic clinical tests and images as well as obscure findings.

C- Professional/practical skills

D- Communication & Transferable skills

(3) Course content: Compulsory

Lectures: 1 hour/week(15 weeks), Seminar: 1 hour/week(15 weeks)

Course title	Code	Lectures Hours/ week	Seminars Hours/ week	Total	Total Teaching Hours	Credit Hours
Applied Physiology Structure and function of the kidneys Renal microcirculation Physiology of body fluids Glomerular filtration and renal blood flow Renal transport mechanisms: NaCl and water reabsorption along the nephron Regulation of body fluid osmolality: regulation of water Balance Regulation of potassium balance Regulation of calcium and phosphate homeostasis Regulation of acid-base balance Physiology of diuretic action	NEPH610AP	1	1	2	30	2

(4) Teaching methods:

4.1:lectures with power point presentations and discussions

4.2: Seminars

4.3: Problem solving case scenarios

(5) Assessment methods:

5.1:written exam

5.2: online MCQ exam(20% of written exam degrees)

Course	Assessment	Marks
Applied physiology	Written exam (2 hours)	80
	MCQ	20

Assessment schedule:

First part examination, 6 months from admission to the program:

Assessment 1: Written exam

Assessment 2: Online MCQ exam

Other assessment without marks: logbook

(6) References of the course:

Textbooks

- Renal Physiology – Mosby Physiology Monograph Series
- Comprehensive clinical nephrology textbook

Periodicals

- Nephron physiology
- American journal of physiology–Renal physiology

Websites

- American society of cell biology
- American society of transplantation
- The Nephron Information Center

(7) Facilities and resources mandatory for course completion:

Lecture halls

Intranet with a vast learning material

Program specification and handbooks

Candidates logbook

A very rich library and computer laboratories

Course coordinator:

Prof. Mohammed Sobh (General supervisor)

Prof. Hussein Sheashaa (Academic guide)

Head of the department:

Prof. Salah El Gamal

Date: 5/11/2014