Course Specification
(Master in
Urology/Physiology)

University/ Academy: Al-Azhar University
Faculty/ Institute: Faculty of Medicine
Department: physiology

Course Specification
(Master in Urology/Physiology)

1. Course Data		
Course Code 800 Uro-physio	**Course Title**: Physiology	**Academic Year / level** First part Master
Specialization: Urology	**No. of Instructional Units:** (hrs/w) **Lectures** 2 **Practical** -	

2. Course Aims	- Provides the post graduate student with the basic sciences needed to understand physiology of urinary tract. - Encourage postgraduates to pursue continued self learning.

3. Intended Learning Outcome (ILOs):	
a. Knowledge and Understanding:	***Postgraduate attaining first part of Master Degree in urology should have sufficient understanding and knowledge that enable him/her to:*** a1. Recognize the fundamental theories of urinary tract physiology, including understanding & comprehension of: a. The nephron b. Juxtaglomerular apparatus c. renal circulation & renal blood flow d. Mechanism of urine formation

	e. Glomerular function f. Tubular reabsorption g. Tubular excretion h. Water reabsorption& excretion i. Sodium & potassium reabsorption a2. Recognize renal circulation and real blood flow a3. Describe the primary functions of the kidney and vasculature. a4. Explain how the autonomic nerves and kidneys serve as a negative feedback system for the control of arterial blood pressure a5. Describe the mechanism of water & electrolyte balance and the acid base balance. a6. Explain bladder function and mechanism of micturation. a7. Recognize the mechanism of gas exchange & role of kidney in acid base balance
b. Intellectual Skills:	***Postgraduate attaining first part of Master Degree in urology should develop intellectual skills that enable him/her to:*** b1. Determine the physiological correlations of the different components urinary tract b2. Evaluate the implications of different physiologic facts on urinary tract related pathophysiology
c. Professional Skills:	***Postgraduate attaining first part of Master Degree in urology should develop practical skills that enable him/her to:*** . c1.Recognize the physiologic basis of renal circulation and Acid base balance.
d. General Skills:	***Postgraduate attaining first part of Master Degree in urology should develop general and transferrable skills that enable him/her to:*** d1.Be self-dependent during the learning process and seek for continuous learning. d2. Search through the different sources of information to acquire knowledge (e.g. text books, educational CDs

	and internet). d3.Practice self appraisal and determines his/her learning needs. d4. Improve his/her linguistic capabilities and use the information technology to improve his/her scientific level.

4. Course Content:	The nephron Juxtaglomerular apparatus renal circulation & renal blood flow Mechanism of urine formation Glomerular function Tubular reabsorption Tubular excretion Water reabsorption& excretion Sodium & potassium reabsorption Excretion of urea Excretion of nitrogenous compounds Renal regulation of acid base balance Renal regulation of extracellular fluid Regulation of arterial blood pressure Renal function tests Mechanism of micturation Hormones acting on kidney Endocrine function of kidney Hemorrhage & shock Pain sensation
5. Teaching and Learning Methods	1. Lectures: Conventional (didactic) method. 2. Interactive discussion.

6. Teaching and Learning Methods for Students with Special Needs	Not available.

7. Student Assessment:

a. Procedures used:	**I) Written examination** **II) Oral examination**
b. Schedule:	Twice per year (April and September). Only postgraduates who pass the written examination are allowed to apply for oral examination.
c. Weighing of Assessment:	**I) Written exam:** 50% (50 marks). **II) Oral examination:** 50% (50 marks).

8. List of Textbooks and References:	
a. Course Notes	Lecture Notes
b. Required Books (Textbooks)	
c. Recommended Books	Lecture Notes
d. Periodicals, Web Sites, …, etc.	

Course Instructor: Prof.

Head of Department: Prof. Dr. Hussein Galal

Date of Department Approval: //