MASTER (MSC) DEGREE PROGRAM AND COURSES SPECIFICATIONS FOR NEPHROLOGY

(According to currently applied credit points by laws)

Nephrology unit
Department of internal medicine
Faculty of medicine
Assiut University
2016-2017

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Assiut University
Faculty of Medicine
Quality Assurance Unit (QAU)

كلية الطب
وحدة ضمان الجودة

Master degree of Nephrology

A. Basic Information

- **Program Title:** Master degree of Nephrology
- **Nature of the program: Single.**
- **Responsible Department:** Nephrology Unit - Department of Internal Medicine, Faculty of Medicine- Assiut University, Egypt.
- **Program Academic Director (Head of the Department):** **Prof. Lobna Farag ElToony**.
- **Coordinator (s):**
  Principle coordinator: Prof. Effat Tony
  - **Assistant coordinator (s)**
    Prof. Dr. Mohamad A. Tohamy.
    Prof. Dr. Maher A. Abdel Gaber.
    Dr: Marwa Kamal
- **Internal evaluators:** Prof. Dr. Esam A.S. Elbeih.
- **External evaluator** :Prof. Aly Taha
- **Date of Approval by the Faculty of Medicine Council of Assiut University:** 23 / 9 / 2014
- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University:** 22 /10/ 2017
- **Total number of courses:** **7** courses + **1** Elective course

B. Professional Information

1- Program aims

1.1 To enable candidates to Acquire satisfactory level of clinical skills ,patient's care in nephrology by teaching high level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of nephrology in addition to various interventions and techniques related to it.

1.2. To provide candidates with fundamental knowledge of renal medicine as regards; dealing with critically ill patient with renal diseases, those on dialysis and pre and post renal transplantation patients.

1.3. To provide candidates with skills regarding techniques of dialysis, indications, contraindications, complications, care of dialyzed patients and preparation of patients for renal transplant.

1.4. To introduce candidates to the basics of scientific medical research.

1.5. Enable candidates to start professional careers as specialists in Egypt but recognized abroad.

1.6- To enable candidates to understand and get the best of published scientific research and do their own .

2- Intended learning outcomes (ILOs) *for the whole program*:

2/1Knowledge and understanding:

A. Explain the essential facts and principles of relevant basic sciences including, Anatomy, physiology , Biochemistry , Pharmacology, Genetic, Pathology, microbiology and immunology, Parasitology related to Nephrology.
B. Mention essential facts of clinically supportive sciences including – Basics of Internal Medicine, Infection control and addictions related to Nephrology.
C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Nephrology.
D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Nephrology.
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Nephrology.
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Nephrology.
G. Mention the ethical and scientific principles of medical research.
H. State the impact of common health problems in the field of Nephrology on the society and how good clinical practice improve these problems.

2/2 Intellectual outcomes

A. Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of Nephrology.
B. Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Nephrology.
C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field of Nephrology.
D. Formulate management plans and alternative decisions in different situations in the field of the Nephrology.

2/3 Skills

2/3/1 Practical skills (Patient Care)

A. Obtain proper history and examine patients in caring and respectful behaviors.
B. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Nephrology.
C. Carry out patient management plans for common conditions related to Nephrology.
D. Use information technology to support patient care decisions and patient education in common clinical situations related to Nephrology.
E. Perform competently non invasive and invasive procedures considered essential for Nephrology.
F. Provide health care services aimed at preventing health problems related to Nephrology.
G. Provide patient-focused care in common conditions related to Nephrology, while working with health care professionals, including those from other disciplines.

H. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).

2/3/2 General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based Practice

Practice-Based Learning and Improvement

A. Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).
B. Appraises evidence from scientific studies.
C. Conduct epidemiological Studies and surveys.
D. Perform data management including data entry and analysis using information technology to manage information, access on-line medical information; and support their own education.
E. Facilitate learning of students and other health care professionals including their evaluation and assessment.

Interpersonal and Communication Skills

F. Maintain therapeutic and ethically sound relationship with patients.

G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.

H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.

I. Work effectively with others as a member of a health care team or other professional group.

Professionalism

J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society

K. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices

L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

Systems-Based Practice

M. Work effectively in relevant health care delivery settings and systems including good administrative and time management.

N. Practice cost-effective health care and resource allocation that does not compromise quality of care.

O. Assist patients in dealing with system complexities.

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for master degree in Nephrology

Assiut Faculty of Medicine developed master degree programs' academic standards for different clinical specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program. These standards were approved by the Faculty Council on 17-6- 2009. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.

4- Program External References (Benchmarks)

1. ACGME (Accreditation Council for Graduate Medical Education).
http://www.acgme.org/acWebsite/navPages/nav_Public.asp

2. The Joint Committee on Higher Medical Training Nephrology curriculum approved by Postgraduate Medical Education and Training Board UK2007.
http://www.med.umich.edu/intmed/nephrology/edu/fellowinfo.htm)

Comparison between program and external reference		
Item	**Nephrology program**	**The Joint Committee on Higher Medical Training Nephrology curriculum approved by Postgraduate Medical Education and Training Board UK2007 fellowship program**
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	3-5 years	3 years
Requirement	different	different
Program structure	different	different

5. Program Structure and Contents

A. Duration of program: **3 – 5 years**

B. Structure of the program:

Total number of credit point:**180**(20 out of the for thesis)

Didactic 40 (22.2 %), **practical** 120 (66.7 %), thesis 20 (11.1%) **total 180**.

First part

Didactic 14 (35 %), practical 24 (60 %), elective course 2 CP (5%), total 40

Second part

Didactic 24, (20% %) practical 96 (80 %) total 120

According the currently applied credit points bylaws:

Total courses 160 credit point ``

Compulsory courses: 98.75%

Elective course : 2 credit point =1.25%

	Credit points	% from total
Basic science courses	24	13.3%
Humanity and social courses	2	1.1%
Speciality courses	134	74.5%
Others (Computer, …)		
Field training	120	66.7%
Thesis	20	11.1%

C. Program Time Table

A. Duration of program 3 years maximally 5 years divided into

- **Part 1: (One year)**
  Program-related basic science courses and ILOs
  Students are allowed to sit the exams of these courses after 12 months from applying to the MSc degree.
  One elective course can be set during either the 1st or 2nd parts.
- **Thesis**

For the M Sc thesis;

MSc thesis subject should be officially registered within 6 months from application to the MSc degree,

Discussion and acceptance of the thesis could be set after 12 months from registering the MSc subject;

It should be discussed and accepted before passing the second part of examination).

- **Part 2 (2 years)**

Program –related speciality courses and ILOs

Students are not allowed to sit the exams of these courses before 3 years from applying to the MSc degree.

The students pass if they get 50% from the written exams and 60% from oral and clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical/practical exams of each course

Total degrees 1900 marks.

700 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical /practical and oral exams 30% - 60%.

D-Courses of the program:

Courses and student work load list	Course Code	Core CREDIT POINTs		
		Lectures	Training	total
First Part				
Basic science courses				**3**
1. Course 1	REN218A#		-	
Unit 1 (Anatomy)		1	-	
Unit 2 (Physiology)		1	-	
Unit 3 (Biochemistry)		1		
				1
2.Course 2	REN218B#		-	
Unit 1 (Microbiology and Principles of Immunology)		0.5	-	
Unit 2(Parasitology)		0.5		
3.Course 3	REN218C#		-	**2**
Unit 1 (Pathology)		1	-	
Unit 2 (Clinical pathology)		1		
				2
4.Course 4	REN218D#		-	
Unit 1 (Pharmacology)		1	-	
Unit 3 (Genetics)		0.5		
Unit 2 (Radiology)		0.5		
General clinical compulsory courses (6 points)		**2**		**2**
Course 5: Infection control & Addiction	REN218E#			
Course 6: Basics of Internal medicine	REN218F	**4**		**4**
Elective courses*	2CP			
Clinical training and scientific activities:				
Clinical training in General Clinical compulsory courses (10 CP)				**10**
Course 5: Infection control	REN218E#			

& Addiction Course 6: Basics of Internal medicine	REN218F			
Clinical training and scientific activities in Speciality course (14 CP) Course 7 Nephrology	REN218G		14	14
Total of the first part		16	24	40
Second Part	Speciality courses 24 CP Speciality Clinical Work 96 CP			
Course 7 Nephrology	REN218G			
Total of the second part		**24**	**96**	**120**
Thesis	**20 CP**			
Total	**180**			

Nephrology course

Units' Titles' list	% from total Marks	**Level (Year)**	**Core Credit points**		
			Didactic	Training	Total
1) Unit (Module) 1 Clinical nephrology	50%	1, 2, 3	12	55	67
2) Unit (Module) 2 Dialysis	20%	1, 2, 3	4.8	22	26.8
3) Unit (Module) 3 Renal transplantation	10%	2, 3	2.4	11	13.4
4) Unit (Module) 4 Nutrition in kidney diseases	5%	2, 3	1.2	5.5	6.7
5) Unit (Module) 5 Renal emergencies	15%	1,2, 3	3.6	16.5	20.1
Total No. of Units (5 Modules):	100%		**24**	**110**	**134**

* Elective courses can be taken during either the 1st or 2nd parts.

Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Medical statistics.
- Evidence based medicine.
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- Quality assurance of medical education
- Quality assurance of clinical practice.
- Hospital management

One of the above mentioned courses are prerequisites for fulfillment of the degree.

Thesis:

20 CP are appointed to the completion and acceptance of the thesis.

6. Courses Contents (Annex 1)

The competency based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each course/ module

7-Admission requirements

- **Admission Requirements (prerequisites) if any :**

I. General Requirements:

a. MBBCh Degree from any Egyptian Faculties of Medicine.

b. Equivalent Degree from medical schools abroad approved by the Ministry of Higher Education.

II. Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working residents 2 week leave prior to first/ second part exams

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part could be set at 12 months from registering to the MSc degree.
- Examination of the second part cannot be set before 3 years from registering to the degree.
- Discussion of the MSc thesis could be set after 1 year from officially registering the MSc subject before setting the second part exams.
- The minimum duration of the program is 3 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and Speciality courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled CP and log book (minimum 80%).
3. Discussion and acceptance of the MSc thesis.

9- Program assessment methods and rules (Annex IV)

Method	ILOs measured
Written examinations: Structured essay questions Objective questions: MCQ Problem solving	K & I
Clinical: Long/short cases OSCE	K ,I, P &G skills
Structured oral	K ,I &G skills
Logbook assessment	All
Research assignment	I &G skills

Weighting of assessments:

Courses		Degrees			
First Part	**Course Code**	**Written Exam**	**Oral Exam**	**Practical / Clinical Exam**	**Total**
Basic science courses:					
1. Course 1	REN218A#				150
Unit 1 (Anatomy)		30	20	-	
Unit 2 (Physiology)		30	20	-	
Unit 3 (Biochemistry)		30	20	-	
2.Course 2	REN218B#				50
Unit 1 (Microbiology and Principles of Immunology)		15	10	-	
Unit 2(Parasitology)		15	10	-	
3.Course 3	REN218C#				
Unit 1 (Pathology)					100
Unit 2 (Clinical pathology)		30	20		
		30	20		
4.Course 4	REN218D#				100
Unit 1 (Pharmacology)		30	20	-	
Unit 3 (Genetics)		15	10	-	
Unit 2 (Radiology)		15	10	-	
Course 5: Infection control & Addiction	REN218E#	60 30+30	20 10+10	20 10+10	100 (50+50)
Course 6: Basics of Internal medicine	REN218F	120	30	50	200
Total of first part					700

Second Part	Speciality Courses: Speciality Clinical Work (Log book)				
Course 7 Nephrology Paper 1 Paper2 Paper 3 Paper 4	REN218G	 **125** **125** **125** **125**	**200**	**500**	
Total of Second part		**500**	**200**	**500**	**1200**
Total of the degree					1900
Elective course		50	50		100

- * 25% of the oral exam for assessment of logbook
- **700 marks for first part**
- **1200 for second part**
- **Written exam 41.7% (500 marks).**
- **Clinical /practical and oral exams 58.3% (700 marks)**
- **Examination system:**

➢ **First part:**

- Written exam 1 hour in Microbiology, Parasitology and immunity + Oral exam.
- Written exam 3 hours in Physiology , Biochemistry and anatomy+ Oral exam.
- Written exam 2 hours in Pathology and clinical pathology + Oral exam .
- Written exam 2 hours in pharmacology, Genetics and diagnostic radiology + Oral exam .
- Written exam 2 hours in infection control and addiction + Oral exam .
- Written exam 2 hours in Basics of internal Medicine

➢ **Second part:**

- Written exam 4 papers 3 hours each in nephrology+ Oral exam+ Clinical exam.

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10-Program evaluation

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits Questionnaires	#
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (Joined in the departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principle Coordinator:	**Dr: Effat Tony**		
Head of the Responsible Department (Program Academic Director):	**Prof. Lobna Farag ElToony**		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/

Course 1 Anatomy & Physiology &Biochemistry

Course 1 Unit 1 (Anatomy)

Name of department:

Internal Medicine, Nephrology unit

Faculty of medicine

Assiut University

2016-2017

1. Unit data

- **Unit Title: Anatomy**
- **Course code:** REN218A#
- **Speciality** :Nephrology
- **Number of credit point:** Didactic 1,.(100%) practical 0 (0 %)total 1
- **Department (s) delivering the course:** Anatomy in conjunction with Nephrology.

- **Coordinator (s):** Staff members of Anatomy Department in conjunction with Internal Medicine Department ,Nephrology unit as annually approved by both departments councils

- **Date last reviewed:** 19 /9/ 2017

- **General requirements (prerequisites) if any :**
  None
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Unit aims

The student should acquire the anatomic facts necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe anatomic details of • Structural anatomy of the kidneys • Innervations of the kidney • Blood supply of the kidney • Lymphatic drainage of the kidney	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book
B. Mention the applied anatomy of : • kidney, ureter • Its relation to other organs and other parts of urinary tract		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of anatomy with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	Didactic (lectures, seminars, tutorial)	Written and oral examination Log book

C- Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
• Structural anatomy of the kidneys	A	A	-	A-D
• Innervations of the kidney	A	A	-	A-D
• Blood supply of the kidney	A	A	-	A-D
• Lymphatic drainage of the kidney	A		-	A-D
• kidney, ureter	B	A	-	A-D
• Its relation to other organs and other parts of urinary tract	B	A	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Laboratory work
3. Observation and supervision
4. Written & oral communication
5. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)
2. Extra laboratory work

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

1. Gray's – text book of Anatomy 2008

iii. Recommended books

2. VANDE GRAAFF- text book of Human Anatomy 2008
3. 2. Brenner's text book of nephrology 2008
4. iv. Periodicals, Web sites, … etc American Journal of Anatomy

Course 1 Unit 2 (Physiology)

1. Unit data

- **Unit Title: Physiology**
- **Unit code:** REN218A#
- **Speciality is Nephrology**
- **Number of credit points: lecture 1 credit point (100 %), practical 0(0%), total 1,**
- **Department (s) delivering the course: Physiology in conjunction with Nephrology.**
- **Coordinator (s): Staff members of Physiology Department in conjunction with internal medicine Department, nephrology unit as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**

  None

2. Unit aims

The student should acquire the physiological background necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Mention *Physiologic* principles of: ➢ Cardiovascular system: • Innervation of the heart • Regulation of the heart rate. • Cardiac out put and its components. • Arterial blood pressure and its regulation. • Pulmonary and coronary circulation. • Haemorrhage and its compensatory reaction. • ECG and its clinical significant. ➢ Blood: • General components of blood and its functions. • Mechanism of blood coagulation. • Clinical conditions occurring due to abnormalities of one or more of the blood components.	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book
B. Describe *Physiologic details of* -Kidney and other parts of urinary tract System The functional structure of the kidney and other urinary tract system. 2- The mechanism of urine formation. 3- The regulatory functions of the kidney.		

4- Electrolytes disturbances. 5- Regulation of acid-base balance 6- Homeostasis -Acid base balance		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of physiology with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Nephrology		

C- Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Cardiovascular system:				
Innervation of the heart	A	A&B	-	A-D
Regulation of the heart rate.	A	A&B	-	A-D
Cardiac out put and its components.	A	A&B	-	A-D
Arterial blood pressure and its regulation.	A	A&B	-	A-D
Pulmonary and coronary circulation.	A	A&B	-	A-D
Haemorrhage and its compensatory reaction.	A	A&B	-	A-D
ECG and its clinical significant.	A	A&B	-	A-D
Blood:				
General components of blood and its functions.	A	A&B	-	A-D
Mechanism of blood coagulation.	A	A&B	-	A-D
Clinical conditions occurring due to abnormalities of one or more of the blood components.	A	A&B	-	A-D
Renal system				
Kidney and other parts of urinary tract System	B	A&B	-	A-D
-Acid base balance	B	A&B	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

-Guyton and HALL – text book of Physiology 2008

-Ganong -text book of Physiology 2008

iii. Recommended books

-Oxford - text book of Medicine 2010

- Brenner's text book of nephrology 2008

iv. Periodicals, Web sites, … etc

American Journal of Physiology

Annual Review of Physiology 1939-1963

v. others

ACTA Physiologic Scandinavia 1963-2001

None

Course 1 Unit 3 (Biochemistry)

1. Unit data

- **Unit Title: Biochemistry**
- **Unit code: REN218A#**
- **Speciality is nephrology**
- **Number of credit points :, lecture 1(100%), practical 0 (0%), total 1.**
- **Department (s) delivering the course: Biochemistry in conjunction with Nephrology.**
- **Coordinator (s): Staff members of Biochemistry Department in conjunction with internal medicine Department , nephrology as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**
  None

2. Unit aims

The student should acquire the facts of biochemistry necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Mention *principles of Biochemistry of:* -Protein metabolism -carbohydrate metabolism -Lipid metabolism - Uric acid synthesis and metabolism - Urine examination - Kidney function tests. - Tumor markers - Immunoglobulins - Cancer biochemistry - Molecular biology and genetics - Eicosanoids (prostaglandins and their biological functions) - Leukotrines	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of biochemistry with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills = 0

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Master the basic skills in the Biochemistry of Kidney.	-Laboratory work	-Assessment of practical skills -Log book
B. Use information technology to support decisions in common situations related to Biochemistry of the kidney.		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform data management including data entry and analysis.	-Observation and supervision -Written & oral communication	-Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	Observation and supervision Written & oral communication	-Log book
C. Write a report in the conditions mentioned in A.A &A.B		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation - Senior staff experience	-Log book

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Work effectively in relevant health care delivery settings and systems.	-Observation - Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Protein metabolism	A	A	-	A-E
carbohydrate metabolism	A	A	-	A-E
Lipid metabolism	A	A	-	A-E
Uric acid synthesis and metabolism	A	A	-	A-E
Urine examination	A	A	-	A-E
Kidney function tests.	A	A	-	A-E
Tumor markers	A	A	-	A-E
Immunoglobulins	A	A	-	A-E
Cancer biochemistry	A	A	-	A-E

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Deviln - text book of Biochemistry

iii. Recommended books

Tiuz clinical chemistry.

iv. Periodicals, Web sites, … etc

Annual Review of Biochemistry.

Advances in Enzymology1981-1987

Archives of Biochemistry

v. others

None

9. Signature

Course Coordinator	
Unit 1 Coordinator: Doria Abd Alhlla.	**Head of the Department: Prof. Lobna Farag ElToony**
Date1:	**Date:**
Unit 2 Coordinator: Prof. Enas Hamed	**Head of the Department: Prof. Lobna Farag ElToony**
Date:	**Date:**
Unit 3 Coordinator: Prof. Abd El Reheem	**Head of the Department: Prof. Lobna Farag ElToony**
Date:	**Date:**

Course 2 Microbiology & Principals of Immunology and Parasitology

Course 2 Unit 1 (Microbiology and Principals of Immunology)

1. Unit data

- **Unit Title: Microbiology and Principals of Immunology**
- **Unit code: REN218 B #**
- **Speciality is Nephrology**
- **Number of Credit points:, lectures (0.5 credit point) (100 %), practical 0 (0%), total 0.5.**
- **Department (s) delivering the course: Microbiology in conjunction with Renal Diseases**
- **Coordinator (s): Staff members of Microbiology Department in conjunction with Internal Medicine Department, Nephrology Unit as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**
  None

2. Unit aims

The student should acquire the facts of microbiology and immunology necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Mention Principles of Microbiology of: -General bacteriology • Bacterial structure, growth and metabolism • Bacterial genetics • Antimicrobial agents • Pathogenecity of microorganism • Diagnostic microbiology <u>- Immunology</u> • Basic immunology - Complement pathway - MHC system - Humeral immunity - Cellular immunity - Phagositic functions - Cytokines • Immunologic diagnostic test and serology • Hypersensitivity • Tumor immunology • Immunogenetics and transplantation immunology <u>- General virology</u> • Pathogenesis of viral diseases • Interferon and antiviral agents	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B. Describe *details of* Microbiology of microorganism encountered in • Pyelonephritis, glomerulonephritis. • Vascular access infection • Peritoneal catheter infection • Post renal transplantation infection		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of microbiology with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
General bacteriology				
Bacterial structure, growth and metabolism	A	A	-	A-D
Bacterial genetics	A	A	-	A-D
Antimicrobial agents	A	A	-	A-D
Pathogenecity of microorganism	A	A	-	A-D
Diagnostic microbiology	A	A	-	A-D
Immunology				
Basic immunology	A	A	-	A-D
- Complement pathway	A	A	-	A-D
- MHC system	A	A	-	A-D
- Humeral immunity	A	A	-	A-D
- Cellular immunity	A	A	-	A-D
- Phagositic functions	A	A	-	A-D
- Cytokines	A	A	-	A-D
Immunologic diagnostic test and serology	A	A	-	A-D
Hypersensitivity	A	A	-	A-D
Tumor immunology	A	A	-	A-D
Immunogenetics and transplantation immunology	A	A	-	A-D

General virology				
Pathogenesis of viral diseases	A	A	-	A-D
Antiviral agents and interferon	A	A	-	A-D
Microbiology of microorganism encountered in				
• Pyelonephritis, glomerulonephritis.	B	A	-	A-D
• Vascular access infection	B	A	-	A-D
• Peritoneal catheter infection	B	A	-	A-D
• Post renal transplantation infection	B	A	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Laboratory work
3. Observation and supervision
4. Written & oral communication
5. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)
2. Extra laboratory work

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 25

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Roland text book of Microbiology 2008

iii. Recommended books

Patrick of Clinical Microbiology 2008

iv. Periodicals, Web sites, … etc

ACTA Microbiologica Scand.

Annual Review of Microbiology.

v. others

None

Course 2 Unit 2 Parasitology

1. Unit data

- **Unit Title: Parasitology**
- **Unit code: REN218B#**
- **Speciality is Nephrology**
- **Number of Credit points: lecture 0.5 credit point (100%), practical 0 (0%), total 0.5 credit point,**
- **Department (s) delivering the course: Parasitology in conjunction with Nephrology**
- **Coordinator (s): Staff members of Parasitology Department in conjunction with Internal Medicine Department, Nephrology Unit as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**
  None

2. Unit Aims

-The student should acquire the principals of Parasitology necessary for Nephrology in clinical reasoning, diagnosis and management.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention Principles of parasitology including: -General Parasitology *Parasites, parasitism and host relation *lumen –dwelling protozoa. *blood and tissue –dwelling protozoa *life cycle of common parasites *arthropods and human diseases. *modes of transmission and infestation. *incubation period of common parasites * Prevention of common parasitic infestation •Parasitic infections in immunocompromized hosts.	-Lectures -	-Written and oral examination - Log book
B-Describe details of: Special parasites affecting the kidney: -Shistosomiasis -Malaria	-Lectures	-Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Parasitology with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills =0

E- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Mention principals of:				
Parasites, parasitism and host relation	A	A	-	A-D
*lumen –dwelling protozoa.	A	A	-	A-D
*blood and tissue –dwelling protozoa	A	A	-	A-D
*life cycle of common parasites	A	A	-	A-D
*arthropods and human diseases.	A	A	-	A-D
modes of transmition and infestation.	A	A	-	A-D
*incubation period of common parasites	A	A	-	A-D
* Prevention of common parasitic infestation	A	A	-	A-D
Parasitic infections in immunocompromized hosts	A	A	-	A-D
Special parasites affecting the kidney:				
-Shistosomiasis	B	A	-	A-E
-Malaria	B	A	-	A-E

5. Course Methods of teaching/learning:

1 Didactic (lectures, seminars, tutorial)
2 Laboratory work
3 Observation and supervision
4 Written & oral communication
5 Senior staff experience

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra Laboratory work according to their needs

7. Course assessment methods:

i. Assessment tools:

1- Written and oral examination
2- Log book

ii. Time schedule: At the end of the first part

iii. Marks: 25

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

(text books)

iii. Recommended books

Markell text book of medical parasitology 2008

iv. Periodicals, Web sites, … etc

- American Journal of Parasitology
- European Journal of Parasitology
- Annual Review of Parasitology

v. others : None

9. Signature

Course Coordinator	
Unit 1 Coordinator: **Prof Kaled Hasaneen**	**Head of the Department:** **Prof. Lobna Farag ElToony**
Date:	**Date:**
Unit 2 Coordinator: **Prof Ahmed Kamal**	**Head of the Department:** **Prof. Lobna Farag ElToony**
Date:	**Date:**

Course 3 Pathology & Clinical Pathology

Course 3 Unit 1 Pathology

1. Unit data

- **Unit Title: Pathology**
- **Unit code: REN218C#**
- **Speciality is Nephrology**
- **Number of credit points , lecture 1 credit point (100%), practical 0 (0%) total 1.**
- **Department (s) delivering the course: Pathology in conjunction with renal Diseases**
- **Coordinator (s): Staff members of Pathology Department in conjunction with Internal Medicine Department , nephrology Unit as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**
  None

2. Unit aims

The student should acquire the pathological facts necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention Principles of General Pathology of: -Inflammation -shock - Shistosomiasis - Tuberculosis. - Pathology of tumors	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book
B. *Describe* Pathologic Details of special pathology of kidney diseases: 1- Glomerulonephritis *primary glomerulonephrites *secondary glomerulonephrites i. acute post-streptococcal glomerulonephritis ii. Lupus nephritis iii. Renal involvement in vasculitis. i. Classification ii. Polyarteritis nodosa iii. Wegener's granulomatosis iv. Churg-strauss syndrome. v. Temporal arteritis vi. Takayasu's arteritis vii. Good pasture 'syndrome iii. ANCA and vacuities.		

iv. Progressive systemic sclerosis v. Henoch-schnlœin purpura. vi. Essential mixed cryoglobulinaemia. vii. Diabetic nephropathy viii. Hereditary glomerulopathy. ix. Schistosomal nephropathy x. Malarial nephropathy xi. Glomeriolopathy secondary to virus infections xii. Shunt nephritis xiii. Bacterial endocarditis 2-Acute and chronic renal failure 3- Tubular and Interstitial diseases Interstitial nephritis ii. Analgesic nephropathy iii Reflux nephropathy iv. Pyelonephritis v. Urinary tuberculosis. 4- Renal cystic diseases. i. Classification of renal cystic diseases ii. Autosomal dominant polycystic kidney diseases iii. Autosomal recessive polycystic kidney diseases		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of pathology with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills =0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
General Pathology				
Inflammation	A	A	-	A-D
-shock	A	A	-	A-D
- Shistosomiasis	A	A	-	A-D
- Tuberculosis.	A	A	-	A-D
- Pathology of tumors	A	A	-	A-D
Special pathology				
Glomerulonephritis	B	A	-	A-D
primary glomerulonephritis	B	A	-	A-D
Secondary glomerulonephrites	B	A	-	A-D
acute post-streptococcal glomerulonephritis	B	A	-	A-D
Lupus nephritis	B	A	-	A-D
Renal involvement in vasculitis.				
Classification	B	A	-	A-D
Polyarteritis nodosa	B	A	-	A-D
Wegener's granulomatosis	B	A	-	A-D
Churg-strauss syndrome.	B	A	-	A-D
Temporal arteritis	B	A	-	A-D
Takayasu's arteritis	B	A	-	A-D
Good pasture 'syndrome	B	A	-	A-D

ANCA and vacuities.	B	A	-	A-D
Progressive systemic sclerosis	B	A	-	A-D
Henoch-schnlőein purpura.	B	A	-	A-D
Essential mixed cryoglobulinaemia.	B	A	-	A-D
Diabetic nephropathy	B	A	-	A-D
Hereditary glomerulopathy.	B	A	-	A-D
Schistosomal nephropathy	B	A	-	A-D
Malarial nephropathy	B	A	-	A-D
Glomeriolopathy secondary to virus infections	B	A	-	A-D
Shunt nephritis	B	A	-	A-D
Bacterial endocarditis	B	A	-	A-D
2-Acute and chronic renal failure	B	A	-	A-D
3- Tubular and Interstitial disease				
Interstitial nephritis	B	A	-	A-D
Analgesic nephropathy	B	A	-	A-D
Reflux nephropathy	B	A	-	A-D
Pyelonephritis	B	A	-	A-D
Urinary tuberculosis.	B	A	-	A-D
4- Renal cystic diseases.				
Classification of renal cystic diseases	B	A	-	A-D
Autosomal dominant polycystic kidney diseases	B	A	-	A-D
Autosomal recessive polycystic kidney diseases	B	A	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Laboratory work
3. Observation and supervision
4. Written & oral communication
5. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)
2. Extra laboratory work

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Assessment of practical skills
3. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 25

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Robbines of Pathology 2008

iii. Recommended books

Oxford of Pathology 2008

iv. Perodicals, Web sites, … etc

●American Journal of Pathology

Course 3 Unit 2 Clinical Pathology

1. Unit data

- **Unit Title: Clinical Pathology**
- **Unit code: REN218C#**
- **Speciality is Nephrology**
- **Number of credit point, 1 (100%), practical 0 (0%), total: 1.**
- **Department (s) delivering the course: Clinical Pathology in conjunction with Nephrology**
- **Coordinator (s): Staff members of Clinical Pathology Department in conjunction with Internal Medicine Department , nephrology Unit as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**
  None.

2. Unit aims

The student should acquire the Clinical pathology facts necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention Principles of Clinical Pathology of: - **a** -Urine examination *physical examination: -volume per 24 hrs - colour - transparency -froth -specific gravity - Urine ph *chemical examination -protein - glucose - acetone -bile pigments. -hemoglobin - Nitrites * Microbiological examination of urine - direct smear - culture and sensitivity tests *Microscopic examination -casts -crystals -bilharzial ova b- Renal function tests #Tests for glomerular function # Urea , creatinine and creatinine clearance # Tests for tubular function	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

Concentration test , Dilution test , Acidification test ,UrinaryB2- Microglobulin , Urinary enzymes, Urinary excretion of sodium (UNa) Urinary excretion of calcium (UCa) c- Immunological tests: - Complement -immunoglobulins -circulating immune -complexes.(C.I.C) -Autoantibodies d-Complete liver function tests e-Hepatitis markers f- Serological tests for AIDS		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Clinical pathology with clinical reasoning, diagnosis and management of common diseases related to Nephrology.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Master of basic skills in the Clinical Pathology of renal disease.	-Laboratory work	-Assessment of practical skills -Log book
B. Use information technology to support decisions in common situations related to Clinical Pathology of renal disease.		
C. Examine slides of common renal diseases		

A- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
a-Urine examination	A	A	-	A-D
b- Renal function tests	A	A	-	A-D
c- Immunological tests:	A	A	-	A-D
d-Complete liver function tests	A	A	-	A-D
e-Hepatitis markers	A	A	-	A-D
f- Serological tests for AIDS	A	A	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Laboratory work
3. Observation and supervision
4. Written & oral communication
5. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)
2. Extra laboratory work

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Walker text book of clinical methods 2008

iii. Recommended books

Tiuz text book of clinical chemistry 2008

iv. Periodicals, Web sites, … etc

- American Journal of clinical Pathology
- Archieves of pathology and laboratory medicine.

v. others : None

9. Signature

Course Coordinator	
Unit 1 Coordinator: **Prof. Sanaa Sotohe**	**Head of the Department** **Prof. Lobna Farag ElToony**
Date:	**Date:**
Unit 2 Coordinator: **Prof Enas Abd El Megeed**	**Head of the Department:** **Prof. Lobna Farag ElToony**

Course 4 Pharmacology & Genetics & Diagnostic Radiology

Course 4 Unit 1 (Pharmacology)

1. Unit data

- **Unit Title: Pharmacology**
- **Unit code:** REN218D#
- **Speciality is Nephrology**
- **Number of credit point: lecture 1 (100%), practical 0 (0%), total 1.**
- **Department (s) delivering the course: Pharmacology in conjunction with Nephrology**

- **Coordinator (s): Staff members of Pharmacology Department in conjunction with Internal Medicine Department , Nephrology Unit as annually approved by both departments councils**

- **Date last reviewed:** 19 /9/ 2017

- **Requirements (prerequisites) if any :**

  None

2. Unit aims

The student should acquire the facts of Pharmacology necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
- A. Mention *principles of* pharmacology *of* - General pharmacology - Chemotherapy - TB chemotherapy - Cancer chemotherapy - Anticoagulants - Antiarrythmic drugs - Hypoglycemic drugs - Antihypertensive drugs. - Inotropics - Corticosteroids - Immunosuppressive drugs - Antimycotics - Antiviral Diuretics - Digitalis - Renal handling of drugs.	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of pharmacology with clinical reasoning, diagnosis and management of common diseases related to Nephrology .	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- General pharmacology	A	A	-	A-E
- Chemotherapy	A	A	-	A-E
- TB chemotherapy	A	A	-	A-E
- Cancer chemotherapy	A	A	-	A-E
- Anticoagulants	A	A	-	A-E
- Antiarrythmic drugs	A	A	-	A-E
- Hypoglycemic drugs	A	A	-	A-E
- Antihypertensive drugs.	A	A	-	A-E
- Inotropics	A	A	-	A-E
- Corticosteroids	A	A	-	A-E
- Immunosuppressive drugs	A	A	-	A-E
- Antimycotics	A	A	-	A-E
- Antiviral	A	A	-	A-E
Diuretics	A	A	-	A-E
- Digitalis	A	A	-	A-E
- Renal handling of drugs.	A	A	-	A-E

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Katzung for Basic of clinical pharmacology 2008

iii. Recommended books

Goodman pharmacology for basis of therapeutics 2010

iv. Periodicals, Web sites, … etc

Annual Review of Pharmacology.

British Journal of clinical Pharmacology

Archives of Pharmacology

v. others : None

Course 4 Unit 2 (Genetics)

1. Unit data

- **Unit Title: Genetic**
- **Unit code: REN218D#**
- **Speciality is Nephrology**
- **Number of credit points:, lecture 1 credit point (100%), practical 0 (0%), total 1.**

Department (s) delivering the course: Internal Medicine

- **Coordinator (s): Staff members of internal medicine**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**
  None

2. Unit aims

The student should acquire the genetic facts necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
- A. Mention *principles :* -Basic genetics *chromosomal structure *genes *modes of inheritance *MHC system -Methods of transmission of genetic diseases. -Genetic disorders related to the kidney : -Tubular disorders -cystic diseases of the kidneys -Gene therapy -Renal stem cell therapy	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Genetics with clinical reasoning, diagnosis and management of common diseases related to Nephrology .	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills = 0

D. General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual** B	**Practical skill** C	**General Skills** D
-Basic genetics				
*chromosomal structure	A	A	-	A-D
*genes	A	A	-	A-D
*modes of inheritance	A	A	-	A-D
*MHC system	A	A	-	A-D
-Methods of transmission of genetic diseases.	A	A	-	A-D
-Genetic disorders related to the kidney :				
-Tubular disorders	A	A	-	A-D
-cystic diseases of the kidneys	A	A	-	A-D
-Gene therapy	A	A	-	A-D
-Renal stem cell therapy	A	A	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 25

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Freidman text book of Genetics 2008

iii. Recommended books

Jorde text book of medical Genetics 2008

iv. Periodicals, Web sites, … etc

- American Journal of human genetics
- Egyptian Journal of Genetics & Cytology.

Course 4 Unit 3 Diagnostic Radiology

1. Unit data

- **Unit Title: Diagnostic Radiology**
- **Unit code: REN218D#**
- **Speciality is Nephrology**
- **Number of Credit points: lecture 0.5 credit point (100%), practical 0 (0%) , 0.5.**
- **Department (s) delivering the course: Diagnostic Radiology in conjunction with Nephrology**
- **Coordinator (s): Staff members of Radiology Department in conjunction with Internal Medicine Department , Nephrology Unit as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**

  None

2. Unit aims

The student should acquire Reno -radiology facts necessary for Nephrology.

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. **Demonstrate** - Abdominal ultrasound -Plain abdominal X-ray -Intravenous urography (IVU) -Renal Angiography -Computerized tomography of the abdomen. -Radionuclide imaging of the kidneys - Magnetic resonance imaging of the abdomen	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Reno -radiology with clinical reasoning, diagnosis and management of common diseases related to Nephrology .	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book

C- Practical skills = 0

D. General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-Log book

4. Unit contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Abdominal ultrasound	A	A	-	A-D
-Plain abdominal X-ray	A	A	-	A-D
-Intravenous urography (IVU)	A	A	-	A-D
-Renal Angiography	A	A	-	A-D
-Computerized tomography of the abdomen.	A	A	-	A-D
Radionuclide imaging of the kidneys			-	A-D
- Magnetic resonance imaging of the abdomen	A	A	-	A-D

5. Unit Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

i. Assessment tools:

1. Written and oral examination
2. Log book

ii. Time schedule: At the end of the first part

iii. Marks: 25

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Sutton text book of Radiology and Imaging 2008.

III-. Periodicals, Web sites, … etc

- British Journal of Radiology
- ACTA Radiological

9. Signature

Course Coordinator	
Unit 1 Coordinator: ……	**Head of the Department:** ……
Date:	**Date:**
Unit 2 Coordinator: ……	**Head of the Department:** ……
Date:	**Date:**
Unit 3 Coordinator: ……	**Head of the Department:** ……
Date:	**Date:**

Course 5 Addiction and infection control

Course 5 (Unit 1) Addiction

- **Unit Title: Addiction**
- **Unit code:** REN218E#
- **Speciality is Nephrology**
- **Number of credit point : lecture 1 (50%), practical 1 (50%) total 2 credit point.**
- **Department (s) delivering the unit: *Forensic medicine and clinical toxicology***
- **Coordinator (s): Staff members of *Forensic medicine and clinical toxicology* in conjunction with Internal medicine department**
- **Department as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**

  None

2. Unit Aims

The student should learn how to deal ethically with a case of addiction and how to make a diagnosis and management of suspected case.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: -Definition of addiction, abuse, tolerance and chemical dependence -Signs and symptoms of drug dependence in different drugs -Causes of abuse and addiction -Diagnosis of different drug abuse		
B. State update and evidence based Knowledge of: -Ethics in substance abuse treatment -Social, political, economy and cultural context in substance abuse and risk factors of individuals and groups	-Lectures	-Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of addiction with clinical reasoning, diagnosis and management of common disorders related to internal medicine	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Observation and supervision	-Assessment of practical skills -Logbook
B- Master the basic skills in Addiction related to internal medicine. 1-How to write a report about the case of addiction or toxicity of different abused drugs 2-How to identify shape, name characters of different drugs ,plants, chemicals lead to addiction 3-Case report about signs ,symptoms of addiction and withdrawal symptoms help in diagnosis of the case. 4-How to deal ethically with a case of addiction.	-Observation and supervision	-Assessment of practical skills -Logbook

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
-Definition of addiction, abuse, tolerance and chemical dependence	A,C	A	A -B	A-D
Signs and symptoms of drug dependence in different drugs	A	A	A -B	A-D
-Causes of abuse and addiction	A	A	A -B	A-D
-Diagnosis of different drug abuse	B	A	A -B	A-D
Addiction, Abuse, Tolerance, Chemical dependence etc…….	B	A	A -B	A-D
why addiction is a disease.	B	A	A -B	A-D

5. Course Methods of teaching/learning:

1 Senior staff experience
2 Didactic (lectures, seminars, tutorial)
3 Observation and supervision
4 Written & oral communication

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs

7. Course assessment methods:

i. Assessment tools:

1- Written and oral examination
1- Log book

ii. Time schedule: At the end of the first part

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

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iii. Recommended books

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iv. Periodicals, Web sites, … etc

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v. others : None

Course 5 (Unit 2) Infection Control

- **Unit Title: Infection Control**
- **Unit code:** REN218E#
- **Speciality is Nephrology**
- **Number of credit point : lecture 1 (50%), practical 1 (50%) total 2 credit point.**

Department (s) delivering the course: Microbiology and immunology

Coordinator (s): Staff members of Microbiology in conjunction with Internal medicine department

- **Department as annually approved by both departments councils**
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**

  None

2. Unit Aims

The student should acquire the facts of Infection control necessary for Nephrology.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of : ➢ Common viral, bacterial and parasitic infection ➢ Prevention of infectious diseases ➢ Vaccination ➢ AIDS ➢ Sterilization of instruments ➢ Hospital acquired infection ➢ Resistance of antimicrobial ➢ Infection control in dialysis unit ➢ Infection control in water treatment system	-Lectures	-Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of infection control with clinical reasoning, diagnosis and management of common diseases related to internal medicine	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Master the basic skills in infection control related to Nephrology -Disinfection and sterilization -Evaluation of efficiency of sterilization -Methods of vaccinations -Recent advances in diagnosis of TB and viral hepatitis -Hospital acquired infections	-Observation and supervision	-Assessment of practical skills -Logbook

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A.	-Observation and supervision -Written and oral communication	Log book

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	-Observation -Senior staff experience	Oral Exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Common viral ,bacterial and parasitic infection	A	A	A	A-D
Prevention of infectious diseases	A	A	A	A-D
Vaccination	A	A	A	A-D
AIDS	A	A	A	A-D
Sterilization of instruments	A	A	A	A-D
Hospital acquired infection	A	A	A	A-D
Endoscope associated infection	A	A	A	A-D
Resistance of antimicrobial	A	A	A	A-D
-Disinfection and sterilization	A	A	A	A-D
Evaluation of efficiency of sterilization	A	A	A	A-D
Methods of vaccinations	A	A	A	A-D
-Recent advances in diagnosis of TB and viral hepatitis	A	A	A	A-D
Hospital acquired infections	A	A	A	A-D

5. Course Methods of teaching/learning:

1 Senior staff experience
2 Didactic (lectures, seminars, tutorial)
3 Observation and supervision
4 Written & oral communication

6. Course Methods of teaching/learning: for students with poor achievements

1-Extra Didactic (lectures, seminars, tutorial) according to their needs .

7. Course assessment methods:

i. Assessment tools:

2- Written and oral examination
3- Log book

ii. Time schedule: At the end of the first part
iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

Crocker: The science of laboratory diagnosis

Harr: clinical laboratory Science Review

iii. Recommended books

Tietz textbook of clinical chemistry and molecular diagnosis

iv. Periodicals, Web sites, … etc

www.biomedcentral.com

v. others : None

9. Signature

Course Coordinator	
Unit 1 Coordinator: ……	**Head of the Department:** ……
Date:	**Date:**
Unit 2 Coordinator: ……	**Head of the Department:** ……
Date:	**Date:**

Course 6 Basics of internal Medicine

- **Course Title: Basics of internal Medicine**
- **Course code:** REN218F
- **Speciality is Nephrology**
- **Number of credit point : lecture 4 (33.3%), practical 8 (66.7%) total 12 credit point.**
- **Department (s) delivering the Course : *Internal Medicine***
- **Coordinator (s): Staff members of *Internal Medicine***
- **Date last reviewed:** 19 /9/ 2017
- **Requirements (prerequisites) if any :**

  None

2. Course aims

1. To enable candidates to Acquire satisfactory level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in Basics of internal Medicine Internal medicine and enabling the candidates of making appropriate referrals to a sub-specialist.
2. Provide candidates with fundamental knowledge and skills of dealing with critically ill patients, with Internal medicine diseases.

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: - Aging (Functional anatomy, physiology and investigations of aging) -Kidney and urinary tract diseases in elderly: Urinary infection Incontinence Acute renal failure Renal replacement therapy Obstructive uropathy -Hyponatremia and hypernatremia in elderly -Thermoregulation in elderly - Over weight • Metabolic syndrome and other • related problems • Etiology of obesity and clinical • Assessment	Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - MCQ examination at the second year -Oral and written exam

• Body fat distribution • Complications of obesity • Management of obesity		
B. Mention the principles of : -Fluid therapy • Crystalloid fluids • Dextrose solutions • Colloid fluids • Hypertonic resuscitation • Body fluids and blood loss • Basics of volume resuscitation • Indications and contraindications of fluid therapy • Complications of fluid therapy • Parenteral nutrition • Energy balance • Energy yielding nutrients; • macronutrients and micronutrients -Acid base balance		
C. State update and evidence based Knowledge of -Poisoning -General clinical features of poisoning -General management of poisoned patient Poisoning by chemicals and pesticides: Carbon monoxide Organophosphate insecticides		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Basics of internal Medicine		
E. Mention the basic ethical and medicolegal		

principles that should be applied in practice and are relevant to Basics of internal Medicine		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Basics of internal Medicine		
G. Mention the ethical and scientific principles of med research methodology.		
H. State the impact of common health problems in the Basics of internal Medicine on the society and how go clinical practice improve these problems.		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases related to Basics of internal Medicine	Clinical rounds Senior staff experience	Procedure/case presentation Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Basics of internal Medicine		
C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field Basics of internal Medicine		
D-Formulate management plans and alternative decisions in different situations in the field of the Basics of internal Medicine		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations (service teaching)	OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year
B. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. -Blood gases -CVP -Venous blood sampling - Urine analysis by dipsticks -Airway suctioning -Nasogastric tube insertion -Intravenous line insertion	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation - Log book - Chick list
C. Prescribe the following non invasive/invasive therapeutic procedures : -Prescribe proper treatment for conditions in A.A	Clinical round with senior staff	- Procedure presentation - Log book - Chick list
D. Carry out patient management plans for common	Clinical	

conditions related to Basics of internal Medicine .	round with senior staff	
E. Use information technology to support patient care decisions and patient education in common clinical situations related to Basics of internal Medicine .		
F. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology (share in audit and risk management activities and use logbook).	-Case log -Observation and supervision -Written & oral communication	Procedure/case presentation -Log book and Portfolios
B. Appraises evidence from scientific studies(journal club)	-Journal clubs - Discussions in seminars and clinical rounds	
C. Conduct epidemiological Studies and surveys.		
D. Perform data management including data entry and analysis using information technology to manage information, access on-line medical information; and support their own education.		
E. Facilitate learning of junior students and other health care professionals including their evaluation and assessment.	Clinical rounds Senior staff experience	

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain therapeutic and ethically sound relationship with patients.	Simulations Clinical round Seminars Lectures Case presentation Hand on workshops	Global rating Procedure/case presentation Log book Portfolios Chick list and
G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		
H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
I. Work effectively with others as a member of a health care team or other professional group.		
J. Present a case in common problems related to Basics of Internal Medicine	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report -Death report	Senior staff experience	Chick list
L. Council patients and families about: suspected cases with poisoning	Clinical round with senior staff	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	1. Objective structured clinical examination 2. Patient survey
N. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		1. 360o global rating
O. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		1. Objective structured clinical examination 2. 360o global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
P. Work effectively in relevant health care delivery settings and systems including good administrative and time management.	Observation Senior staff experience	1. 360o global rating
Q. Practice cost-effective health care and resource allocation that does not compromise quality of care.		1. Check list evaluation of live or recorded performance
R. Assist patients in dealing with system complexities.		1. 360o global rating 2. Patient survey

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Aging	A,D-H	A-D	A -F	A-R
-Kidney and urinary tract diseases in elderly:	A,D-H	A-D	A -F	A-R
Hyponatremia and hypernatremia in elderly	A,D-H	A-D	A -F	A-R
-Thermoregulation in elderly				
-Poisoning	C,D-H	A-D	A -F	A-R
-Over weight	B,D-H	A-D	A -F	A-R
Fluid therapy	B,D-H	A-D	A -F	A-R
Acid base balance	A,D-H	A-D	A -F	A-R

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Case presentation
5. Direct observation
6. journal club
7. Critically appraised topic.
8. Educational prescription
9. Clinical rounds
10. Clinical rotation
11. Senior staff experience
12. Postgraduate teaching

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra training according to their needs

7. Course assessment methods:

i. Assessment tools:

1. Oral examination
2. Clinical examination
3. Written examination
4. Objective structure clinical examination (OSCE)
5. Procedure/case Log book and Portfolios
6. Simulation
7. Record review (report)
8. Patient survey
9. 360o global rating
10. Check list evaluation of live or recorded performance
11. MCQ Exam

ii. Time schedule: At the end of First part

iii. Marks: 200

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

1- Cecil – text book of Medicine, 22edition.
2- Oxford - text book of Medicine,
3- Davidson20 edition.
4- Current Medical Diagnosis & treatment, 2003.
5- Hutchison's clinical methods

iii. Recommended books

1. Harrisons - text book of Medicine ,15 edition

iv. Periodicals, Web sites, … etc

- American Journal of internal Medicine
- New England Journal of Medicine

v. Others

None

9. Signatures

Course Coordinator	
Course Coordinator: **…….**	**Head of the Department:** **Prof Lobna El Tonny**
Date:	**Date:**

Second Part

Name of department: Internal Medicine, Nephrology Unit
Faculty of medicine
Assiut University

2016-2017

Course 7 Nephrology

1. Course data

- **Course Title:** ***Nephrology***
- **Course code:** REN218G
- **Speciality** ***: Nephrology.***
- Number of CREDIT POINT : Didactic 24 , (17,9 %) practical 110(82 ,1 %) total 134
- **Department (s) delivering the course:** Department of ***Internal Medicine and Nephrology Unit*** - Faculty of Medicine- Assiut University.
- **Coordinator (s):**

Principle coordinator **:** Prof. Mohamad A. Sob
Assistant coordinator (s): Prof. Dr. Mohamad A. Tohamy.
Prof. Dr. Maher A. Abdel Gaber.
Dr. Walaa Hosny Mohamad

- **Date last reviewed:** 19 /9/ 2017
- **General requirements (prerequisites) if any:**
  None
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

This course consists of 5 Modules

1- **Module 1 Clinical Nephrology (50%)**

2- **Module 2 Dialysis (20%)**

3- **Module 3 Renal transplantation (10%)**

4-**Unit (Module) 4 Nutrition in kidney diseases**

5) **Unit (Module) 5 Renal emergencies**

2. Course Aims

1.1 To enable candidates to Acquire satisfactory level of clinical skills ,patient's care in nephrology by teaching high level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of nephrology in addition to various interventions and techniques related to it.

1.2. To provide candidates with fundamental knowledge of renal medicine as regards; dealing with critically ill patient with renal diseases, those on dialysis and pre and post renal transplantation patients

1.3. To provide candidates with skills regarding techniques of dialysis, indications, contraindications, complications, care of dialyzed patients and preparation of patients for renal transplant.

1.4. To introduce candidates to the basics of scientific medical research.

3. Course intended learning outcomes (ILOs):

Module 1 Clinical Nephrology

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: I-Diseases of Internal Medicine related to nephrology II-Nephrology • The development and structure of the Kidney • Kidney homeostasis and functions • Renal circulation • Tubular functions • Clinical evaluation of kidneyfunction • Kidney Imaging Techniques • Urinalysis • Hematuria and proteinuria • Evaluation and management of hypertension • Secondary hypertension • Hyponatremia and hypernatremia • Disorders of calcium and phosphate metabolism • Disorders of potassium metabolism • Edema and clinical use of diuretics	Clinical round Seminars Lectures Case presentation Hand on workshops, Clinical rotation in the general medical emergency Unit	- Written and oral examination Log book

• Metabolic acidosis and alkalosis • Acute renal failure; pathogenesis, clinical approach and management • Chronic kidney diseases; pathophysiology, staging and management • Glomerular diseases; pathogenesis and different types • Acute and chronic tubulointerstitial nephritis • Obstructive uropathy • IgA nephropathy and related disorders • Urinary tract infection • Postinfectious GN • AntiGBM GN • Kidney in systemic diseases; SLE, heart diseases, liver diseases, with pregnancy • TMA and kidney • Dysproteinemia and the kidney • Genetic based renal disorders; renal transport disorders, Alport's syndrome, Adult polycystic kidney • Sickle cell nephropathy • Nephrophthisis and genetic disorders • Diabetic nephropathy • Bone disorders, hematologic disorders, neurologic disorders in CKD • Drugs and the kidney		
B. Mention the principles of : **I-Miscellaneous Disorders** • Glomerular diseases • Diabetic nephropathy • Effect of kidney on drugs and effect of drugs on the kidney • Dysproteinemia and the kidney		

• Bone and hematologic disorders in CKD **II. Renal Function Tests:** *Biochemical investigations -Urine examination - Renal function tests #Tests for glomerular function # Tests for tubular function *Microbiological examination of urine *Immunological tests *Kidney biopsy *Radiologic examination. -Ultrasonography -Plain abdominal X-ray -Intravenous urography (IVU) -Angiography - Computerized tomography. -Radionuclide imaging - Magnetic resonance imaging		
C. State update and evidence based Knowledge of • Lupus nephritis • Renal involvement in vasculitis. • Diabetic nephropathy • Glomeriolopathy secondary to virus infections • Treatment of glomerulonephritis. • Vasculitis • Analgesic nephropathy • Reflux nephropathy • Hypertensive emergencies		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Renal diseases.		

E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Renal diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Renal diseases.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of Renal diseases on the society and how good clinical practice improve these problems.		

Module 2 Dialysis

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Types of extracorporeal therapy • Types of hemodialysis • Indications and schedules of hemodialysis, hemofiltration • Outcomes of hemodialysis • Hemodialysis and hemofiltration machines • Water solute and dialysate clearance profile and dialysate characters • Types and complications of vascular access • Hemodialysis membranes • Anticoagulation in dialysis • Dialysis reuse • Drug usage in dialysis • Peritoneal dialysis; types, principles, complication, in diabetic patients.	Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	- Written and oral examination Log book
B. Mention the principles of : ➢ Extracorporeal Therapy and its Types Types of hemodialysis ➢ Indications and schedules of hemodialysis ➢ Outcomes of hemodialysis ➢ Hemodialysis and hemofiltration machines ➢ Water solute and dialysate clearance profile Dialysate		

➢ Hemodialysis and hemofiltration membranes Anticoagulation ➢ Types of Vascular access Complications of vascular Access ➢ Dialyzer reuse Complications of Hemodialysis ➢ Drug usage in hemodialysis ➢ Peritoneal dialysis: presribtion and its adequacy, solute and fluid movement, complications Diabetic patients on peritoneal dialysis Use of peritoneal dialysis in integrated renal replacement		
C. State update and evidence based Knowledge of Procedures of dialysis Types of Dialyzers Types of Dialyzate fluid Water treatment system		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Dialysis.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Dialysis.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Dialysis..		
G. Mention the ethical and scientific principles of medical research methodology.		
I. State the impact of common health problems in the field of Dialysis on the society and how good clinical practice improve these problems.		

Module 3 Renal transplantation

A-Knowledge and understanding

ILOs	Methods of teaching/ Learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Quality of life of CKD patients on dialysis and with renal transplantation • Living Kidney donation; contraindications, preparation of the donor, types • MHC recognition, allograft recognition and T-cell activation • Immunosuppressive drugs; Calcineurin inhibitors, steroid, mycophenolate moetil, azathioprine, polyclonal antibodies, monoclonal antibodies • HLA typing and matching • Allograft rejection; acute and chronic, immune tolerance • Evidence based preoperative renal Evaluation. • Follow up of pre and post- transplant Patients • Management of the renal transplant recipient; first day postoperative, high risk recipients, graft dysfunction	Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	- Written and oral examination Log book

B. Mention the principles of : • principle of transplantation • Types of transplantation • Major histocompatibility complex recognition • Allograft recognition and T-cell activation • HLA typing and matching • Acute allograft rejection • Chronic allograft rejection • Cross matching • Immune tolerance • Immunosuppressive drugs - Calcinuerin inhibitors - Mycophenolate mofetil - Sirolimus - Azathioprine and corticosteroid - Polyclonal antibodies - Monoclonal antibodies - Immunomodulation • Principles of protocol design • Protocols for living donor renal transplant • Withdrawal of Immunosuppressive drugs		
C. State update and evidence based Knowledge of • Types of transplantation • Immune suppressive drugs • Protocols for immunosuppressive drugs before, during and after renal transplantation.		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Renal transplantation.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Renal transplantation.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field		

of Renal transplantation.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of Renal transplantation on the society and how good clinical practice improve these problems.		

Module 4 and 5 Nutrition in kidney diseases and renal emergencies

A-Knowledge and understanding

ILOs	Methods of teaching/ Learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Assessment of protein stores in CKD • Role of specific nutrients on chronic kidney disease • Nutrition in chronic kidney disease and transplant patients • Acute Kidney Injury inward and in ICU • Uremic encephalopathy • Anuria • Uremic pulmonary edema • Convulsions in renal diseases • Rapidly progressive Glomerulonephritis; Post streptococcal GN, anti GBM GN, IgA GN, vasculitis • Hypertensive emergencies • Dialysis complications • Acute graft rejection • Infection post transplant • Hypokalemia, hyperkalemia, hypo and hypernatremia	Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	- Written and oral examination Log book
B. Mention the principles of : ➢ Assessment of protein ➢ stores in CKD		

➢ Role of specific nutrient prescription on chronic kidney diseases ➢ Nutrition in dialysis Patients ➢ Nutrition in transplant patients		
C. State update and evidence based Knowledge of ➢ Acute graft rejection ➢ Infection post-transplant ➢ Nutrition in chronic kidney disease and renal transplantation		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Renal emergencies and nutrition in kidney diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Renal emergencies and nutrition in kidney diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Renal emergencies and nutrition in kidney diseases..		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of Renal emergencies and nutrition in kidney diseases on the society and how good clinical practice improve these problems.		

B- Intellectual outcomes for all units (1-5)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases related to Renal diseases.	Clinical rounds Senior staff experience	Portfolios Procedure/case presentation Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Renal diseases.		
C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field of Renal diseases.		
D-Formulate management plans and alternative decisions in different situations in the field of the Renal diseases.		

C-Practical skills (Patient Care) for unit 1

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	- Clinical round Seminars Lectures Case presentation Hand on workshops,	-OSCE at the end of each year -log book & portfolio -Clinical exam in internal medicine
B. Order the following non invasive/invasive diagnostic procedures • ECG • Chest x rays • Urine analysis • Abdominal US • Renal biopsy • Plain KUB • CT abdomen • Laboratory investigations; Blood urea and serum creatinine, complete blood picture, liver function, ANA, C3 and C4, Antids DNA, ANCA, Cryoglobulins, Rheumatoid factor	Clinical round with senior staff Observation Post graduate teaching Hand on workshops	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures • - ECG • Chest x rays • Urine analysis • Kidney biopsy • Plain KUB	Clinical round with senior staff	Procedure presentation - Log book - Chick list

• Laboratory investigations Blood urea and serum creatinine, complete blood picture, liver function, ANA, C3 and C4, Antids DNA, ANCA, Cryoglobulins, Rheumatoid factor • Renal isotope scan		
D. Perform the following non invasive and invasive Diagnostic and therapeutic procedures. • Ultrasonography under supervision • Kidney biopsy Under supervision	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation - Log book - Chick list
E. Prescribe the following non invasive/invasive therapeutic procedures: - Proper drug regimens for renal disease.	Clinical round with senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to Renal diseases as 1. Glomerulonephritis 2. Nephrotic syndrome 3. Tubulo interstitial disease 4. Acute and Chronic Renal failure 5. UTI 6. Renal vascular disease	Clinical round with senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Renal diseases.		
H-Provide health care services aimed at preventing health problems related to Renal diseases as: • Hypertension • UTI • Renal failure		
I-Provide patient-focused care in common conditions		

related to Renal diseases ,while working with health care professionals, including those from other disciplines like in: • Diagnosis of renal stone disease. • Creation of AVF		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).		

C-Practical skills (Patient Care) unit 2

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year
B. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A, A.B	Clinical round with senior staff Observation	-Procedure presentation - Log book - Chick list

• Renal X ray • Kidney ultrasonoghraphy • Renal CT • Kidney function tests	Post graduate teaching Hand on workshops	
C-Interpret the following noninvasive/invasive diagnostic procedures • Arterial blood gases, electrolytes • Renal sonography • Renal X ray • Renal CT • Kidney function tests	Clinical round with senior staff	Procedure presentation - Log book - Chick list
D. Perform the following non invasive and invasive Diagnostic and therapeutic procedures. • Arterial blood gases • Renal sonography under supervision • Insertion of femoral catheters • Insertion of central venous catheters • Insertion of peritoneal catheters	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation - Log book - Chick list
E. Prescribe the following non invasive/invasive therapeutic procedures : F. Prescribe proper treatment for conditions mentioned in A.A,A.B	Clinical round with senior staff	- Procedure presentation - Log book - Chick list
G. Carry out patient management plans for common conditions related to Dialysis and common renal problems.	Clinical round with senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Dialysis.		
H-Provide health care services aimed at preventing health problems related to Dialysis.		
I-Provide patient-focused care in common conditions		

related to Dialysis, while working with health care professionals, including those from other disciplines like Conditions mentioned in A.A.A.B		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).		

C-Practical skills (Patient Care) unit 3, 4.5

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year
II. Order the following noninvasive/invasive diagnostic procedures Routine appropriate Lab investigations related to conditions mentioned in A.A, A.B • Renal X ray • Kidney ultrasonoghraphy	Clinical round with senior staff Observation Post graduate	-Procedure presentation - Log book - Chick list

• Renal CT • Kidney function tests • Renal biosy from grafted kidney • Serum levels of immunosuppressive drugs	teaching Hand on workshops	
C-Interpret the following non invasive/invasive diagnostic procedures • Arterial blood gases • Renal sonography • Renal biopsy • Renal X ray • Renal CT • Kidney function tests	Clinical round with senior staff	Procedure presentation - Log book - Chick list
D. Perform the following non invasive and invasive Diagnostic and therapeutic procedures. • Arterial blood gases • Renal sonography under supervision • Renal biopsy under supervision	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation - Log book - Chick list
E. Prescribe the following noninvasive/invasive therapeutic procedures : F. Prescribe proper treatment for conditions mentioned in A.A,A.B	Clinical round with senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to Renal transplantation and common post renal transplant problems	Clinical round with senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to renal transplantation, renal emergencies and Nutrition in kidney diseases		
H-Provide health care services aimed at preventing health problems related to renal transplantation, renal emergencies and Nutrition in kidney diseases		

I-Provide patient-focused care in common conditions related to Renal transplantation, renal emergencies and nutrition in kdieny disease , while working with health care professionals, including those from other disciplines like Conditions mentioned in A.A.A.B		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).		

D-General Skills for all units (1-5)

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology (share in audit and risk management activities and use logbook).	-Case log -Observation and supervision -Written & oral communication	Procedure/case presentation -Log book and Portfolios
B. Appraises evidence from scientific studies(journal club)	-Journal clubs - Discussions in seminars and clinical rounds	
C. Conduct epidemiological Studies and surveys.		
D. Perform data management including data entry and analysis using information technology to manage information, access on-line medical information; and support their own education.		
E. Facilitate learning of junior students and other health care professionals including their evaluation and assessment.	Clinical rounds Senior staff experience	

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain therapeutic and ethically sound relationship with patients.	Simulations Clinical round Seminars Lectures Case presentation Hand on workshops	Global rating Procedure/case presentation Log book Portfolios Chick list and
G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		
H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
I. Work effectively with others as a member of a health care team or other professional group.		
J. Present a case in common problems related to Renal diseases.	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report -Abdominal U/S Renal biopsy report for pathology	Senior staff experience	Chick list
L. Council patients and families about: -Prevention of UTI -Controlling risk factors for renal disease -Nutrition in Kidney disease Early detection of chronic kidney diseases Management of different complications of chronic renal disease	Clinical round with senior staff	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	1. Objective structured clinical examination 2. Patient survey
N. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		1. 360o global rating
O. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		1. Objective structured clinical examination 2. 360o global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
P. Work effectively in relevant health care delivery settings and systems including good administrative and time management.	Observation Senior staff experience	1. 360o global rating
Q. Practice cost-effective health care and resource allocation that does not compromise quality of care.		1. Check list evaluation of live or recorded performance
R. Assist patients in dealing with system complexities.		1. 360o global rating 2. Patient survey

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: / Second part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Unit 1 Clinical nephrology				
1-The development and structure of the Kidney 2-Kidney homeostasis and Functions	A,D-H	A-D	A-J	A-R
The development and structure of the Kidney	A,D-H	A-D	A-J	A-R
Kidney homeostasis and functions	A,D-H	A-D	A-J	A-R
Renal circulation	A,D-H	A-D	A-J	A-R
Tubular functions	A,D-H	A-D	A-J	A-R
Clinical evaluation of kidney function	A,D-H	A-D	A-J	A-R
Kidney Imaging techniques	A,D-H	A-D	A-J	A-R
Hemturia and proteinuria	A,D-H	A-D	A-J	A-R
Urinalysis	A,D-H	A-D	A-J	A-R
Evaluation and management of hypertension	A,D-H	A-D	A-J	A-R
Secondary hypertension	A,D-H	A-D	A-J	A-R
Hyponatremia and hypernatremia	A,D-H	A-D	A-J	A-R
Disorders of calcium and phosphate metabolism	A,D-H	A-D	A-J	A-R
Disorders of potassium metabolism	A,D-H	A-D	A-J	A-R
Edema and clinical use of	A,D-H	A-D	A-J	A-R

diuretics				
Metabolic acidosis and alkalosis	A,D-H	A-D	A-J	A-R
Acute renal failure; pathogenesis, clinical approach and management	A,D-H	A-D	A-J	A-R
Chronic kidney diseases; pathophysiology, staging and management	A,D-H	A-D	A-J	A-R
Glomerular diseases; pathogenesis and different types	A,D-H	A-D	A-J	A-R
Acute and chronic tubulointerstitial nephritis	A,D-H	A-D	A-J	A-R
Obstructive uropathy	A,D-H	A-D	A-J	A-R
IgA nephropathy and related disorders	A,D-H	A-D	A-J	A-R
Urinary tract infection	A,D-H	A-D	A-J	A-R
Postinfectious GN	A,D-H	A-D	A-J	A-R
AntiGBM GN	A,D-H	A-D	A-J	A-R
Nephrophthisis and genetic disorders	A,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
Drugs and the kidney; effect of the kidney on drugs and effect of drug on the kidney	A,D-H	A-D	A-J	A-R
Kidney in systemic diseases; SLE, heart diseases, liver diseases, with pregnancy	A,D-H	A-D	A-J	A-R
Genetic based renal disorders; renal transport disorders, Alport's syndrome, Adult polycystic kidney	A,D-H	A-D	A-J	A-R
Sickle cell nephropathy	A,D-H	A-D	A-J	A-R

TMA and kidney Dysproteinemia and the kidney	A,D-H	A-D	A-J	A-R
Nephrotic syndrome.	A,D-H	A-D	A-J	A-R
Diabetic nephropathy	A,C, D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
1) Progressive systemic sclerosis	A,D-H	A-D	A-J	A-R
2) Henoch-schnlőein purpura.	A,D-H	A-D	A-J	A-R
3) Essential mixed cryoglobulinaemia.	A,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
4) Hereditary glomerulopathy.	A,D-H	A-D	A-J	A-R
5) Schistosomal nephropathy	A,D-H	A-D	A-J	A-R
6) Malarial nephropathy	A,D-H	A-D	A-J	A-R
7) Glomeriolopathy secondary to virus infections	A,D-H	A-D	A-J	A-R
8) Shunt nephritis	A,D-H	A-D	A-J	A-R
9) Bacterial endocarditis	A,D-H	A-D	A-J	A-R
10) Treatment of glomerulonephritis.	A,D-H	A-D	A-J	A-R
a. Vasculitis	A,C ,D-H	A-D	A-J	A-R
1)Classification	A,D-H	A-D	A-J	A-R
2)Polyarteritis nodosa	A,D-H	A-D	A-J	A-R
3)Wegener's granulomatosis	A,D-H	A-D	A-J	A-R
4)Churg-strauss	A,D-H	A-D	A-J	A-R

syndrome.				
5)Temporal arteritis	A,D-H	A-D	A-J	A-R
6)Takayasu's arteritis	A,D-H	A-D	A-J	A-R
7)Good pasture'syndrome	A,D-H	A-D	A-J	A-R
8)ANCA and vasculitis.	A,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
b. Acute renal failure.	A,D-H	A-D	A-J	A-R
c. Chronic renal failure:	A,D-H	A-D	A-J	A-R
1)Definition	A,D-H	A-D	A-J	A-R
2)Etiology	A,D-H	A-D	A-J	A-R
3)Pathophysiology	A,D-H	A-D	A-J	A-R
4)Clinical features	A,D-H	A-D	A-J	A-R
5)Investigations	A,D-H	A-D	A-J	A-R
6)Management	A,D-H	A-D	A-J	A-R
e- Renal tubular disorders.	A,D-H	A-D	A-J	A-R
i. Renal glucosuria	A,D-H	A-D	A-J	A-R
ii. Amino acids tubular transport defects	A,D-H	A-D	A-J	A-R
iii. Nephrogenic diabetes incipidus	A,D-H	A-D	A-J	A-R
v. cystinosis.	A,D-H	A-D	A-J	A-R
vi. Wilson's disease.	A,D-H	A-D	A-J	A-R
vii. Oxalosis	A,D-H	A-D	A-J	A-R
viii Bartter's syndrome	A,D-H	A-D	A-J	A-R
7)Vitamin D resistant rickets.	A,D-H	A-D	A-J	A-R
8)Psudohyperparathyrodism	A,D-H	A-D	A-J	A-R
9)Fanconi syndrome.	A,D-H	A-D	A-J	A-R
f- Tubular and interstitial diseases.	A,D-H	A-D	A-J	A-R
i. Interstitial nephritis	A,D-H	A-D	A-J	A-R

ii. Analgesic nephropathy	A,C, D-H	A-D	A-J	A-R
iii Reflux nephropathy	A,C, D-H	A-D	A-J	A-R
iv. Pyelonephritis	A,D-H	A-D	A-J	A-R
v. Urinary tuberculosis.	A,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
g- Renal cystic diseases.	A,D-H	A-D	A-J	A-R
i. Classification of renal cystic diseases	A,D-H	A-D	A-J	A-R
ii. Autosomal dominant polycystic kidney diseases	A,D-H	A-D	A-J	A-R
iii. Autosomal recessive polycystic kidney diseases	A,D -H	A-D	A-J	A-R
h-Renal stone diseases.	A,D-H	A-D	A-J	A-R
III-Critical Care of patients with renal diseases.	A,C, D-H	A-D	A-J	A-R
Hypertensive emergencies	A,C, D-H	A-D	A-J	A-R
Acute coronary syndrome	A,C, D-H	A-D	A-J	A-R
Hypertensive emergencies	A,C, D-H	A-D	A-J	A-R
Acute coronary syndrome	A,C, D-H	A-D	A-J	A-R
Arrhythmias	A,C, D-H	A-D	A-J	A-R
Acute pulmonary edema	A,C, D-H	A-D	A-J	A-R
Cardiac arrest.	A,C, D-H	A-D	A-J	A-R
Electrolyte disturbances	A,C, D-H	A-D	A-J	A-R
Coma	A,C, D-H	A-D	A-J	A-R
Acute complication of dialysis	A,C, D-H	A-D	A-J	A-R
I-Miscellaneous Disorders	B,D-H	A-D	A-J	A-R
*Heamaturia	B,D-H	A-D	A-J	A-R
*Proteinuria	B,D-H	A-D	A-J	A-R

*Polyuria and oliguria	B,D-H	A-D	A-J	A-R
*Value of urine in medical diagnosis	B,D-H	A-D	A-J	A-R
*Renal manifestations of systemic diseases.	B,D-H	A-D	A-J	A-R
*Renal diseases in hepatic patients	B,D-H	A-D	A-J	A-R
*Kidney and heart	B,D-H	A-D	A-J	A-R
*Kidney and lungs	B,D-H	A-D	A-J	A-R
*Kidney and malignancy	B,D-H	A-D	A-J	A-R
*Kidney in pregnancy	B,D-H	A-D	A-J	A-R
*Drugs and kidney.	B,D-H	A-D	A-J	A-R
II. Renal Function Tests:	B,D-H	A-D	A-J	A-R
*Biochemical investigations	B,D-H	A-D	A-J	A-R
-Urine examination	B,D-H	A-D	A-J	A-R
- Renal function tests	B,D-H	A-D	A-J	A-R
#Tests for glomerular function	B,D-H	A-D	A-J	A-R
# Tests for tubular function	B,D-H	A-D	A-J	A-R
*Microbiological examination of urine	B,D-H	A-D	A-J	A-R
*Immunological tests	B,D-H	A-D	A-J	A-R
*Kidney biopsy	B,D-H	A-D	A-J	A-R
*Radiologic examination.	B,D-H	A-D	A-J	A-R
-Ultrasonography	B,D-H	A-D	A-J	A-R
-Plain abdominal X-ray	B,D-H	A-D	A-J	A-R
-Intravenous urography (IVU)	B,D-H	A-D	A-J	A-R
-Angiography	B,D-H	A-D	A-J	A-R
- Computerized tomography.	B,D-H	A-D	A-J	A-R

-Radionuclide imaging	B,D-H	A-D	A-J	A-R
- Magnetic resonance imaging	B,D-H	A-D	A-J	A-R
Unit 2 Dialysis				
Types of extracorporeal system	A,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
Principle and indications of dialysis.	B,D-H	A-D	A-J	A-R
Types of dialysis; hemodialysis, peritoneal dialysis	B,D-H	A-D	A-J	A-R
Outcomes of hemodialysis	B,D-H	A-D	A-J	A-R
Hemodialysis and hemofiltration machine	B,D-H	A-D	A-J	A-R
Water solute and dialysate clearance profile and dialysate characters	B,D-H	A-D	A-J	A-R
Types and complications of vascular access	B,C-H	A-D	A-J	A-R
5-Types of Dialyzers	C,D-H	A-D	A-J	A-R
Types of Dialyzate fluid	B,D-H	A-D	A-J	A-R
Hemodialysis membranes	B,C-H	A-D	A-J	A-R
Anticoagulants	B,D-H	A-D	A-J	A-R
Dialysis reuse	B,D-H	A-D	A-J	A-R
Drug usage in dialysis	B,D-H	A-D	A-J	A-R
Peritoneal dialysis; types, principles, complication, in diabetic patients.	B,D-H	A-D	A-J	A-R
Insertion of femoral catheters	B,D-H	A-D	A-J	A-R
Insertion of central venous catheters	B,D-H	A-D	A-J	A-R

Diabetic patients on peritoneal dialysis	B,D-H	A-D	A-J	A-R
Insertion of peritoneal catheters	B,D-H	A-D	A-J	A-R
Unit 3 renal transplantation				
Quality of life in patients with dialysis and renal transplantation	A,D- H	A-D	A-J	A-R
Living Kidney Donation; contraindications, types, preparation of the donor	A,D- H	A-D	A-J	A-R
MHC recognition, allograft recognition and T-cell activation	A,D- H	A-D	A-J	A-R
Immunosuppressive drugs; Calcineurin inhibitors, steroid, mycophenolate moetil, azathioprine, polyclonal antibodies, monoclonal antibodies	A,C,D- H	A-D	A-J	A-R
HLA typing and matching	A,D- H	A-D	A-J	A-R
Evidence based preoperative renal Evaluation	B,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
Follow up of pre and post-transplant patients	A,D-H	A-D	A-J	A-R
	A,D-H	A-D	A-J	A-R
Transplant graft rejection	A,D-H	A-D	A-J	A-R
Management of the renal transplant recipient	A,D-H	A-D	A-J	A-R
1. principle of transplantation	B,D-H	A-D	A-J	A-R
2. Types of transplantation	B,C-H	A-D	A-J	A-R

3. Indications	B,D-H	A-D	A-J	A-R
4.Types of kidney donors	B,D-H	A-D	A-J	A-R
5. Contraindications	B,D-H	A-D	A-J	A-R
6.Complications	B,D-H	A-D	A-J	A-R
patients	B,D-H	A-D	A-J	A-R
7.Immune suppressive drugs; calcineurin inhibtors, mycophenolate mofetil, sirolimus, azathioprine and corticosteroids, monoclonal antibodies, polyclonal antibodies, immunomodulation	B,C,D-H	A-D	A-J	A-R
Principles of protocol design	C,D-H	A-D	A-J	A-R
Protocols for living donor kidney transplant recipients	C,D-H	A-D	A-J	A-R
Withdrwal of immuno-suppressive drugs	C,D-H	A-D	A-J	A-R
Unit 4-5 Nutrition and renal emergences				
➢ Acute Kidney Injury	A,D-H	A-D	A-J	A-R
➢Acute Kidney Injury in	A,D-H	A-D	A-J	A-R
ICU	A,D-H	A-D	A-J	A-R
• Uremic encephalopathy	A,D-H	A-D	A-J	A-R
• Anuria	A,D-H	A-D	A-J	A-R
• Uremic pulmonary edema	A,D-H	A-D	A-J	A-R
• Convulsions in renal diseases	A,D-H	A-D	A-J	A-R
• Rapidly progressive Glomerulonephritis	A,D-H	A-D	A-J	A-R
• Post streptococcal GN	A,D-H	A-D	A-J	A-R
• Anti GBM GN	A,D-H	A-D	A-J	A-R
• IgA GN	A,D-H	A-D	A-J	A-R
• Systemic vasculitis syndromes associated	A,D-H	A-D	A-J	A-R

➢ Assessment of protein ➢ stores in CKD	B,D-H	A-D	A-J	A-R
➢ Role of specific nutrient prescription on chronic ➢ kidney diseases	B,D-H	A-D	A-J	A-R
➢ Nutrition in dialysis Patients	B,D-H	A-D	A-J	A-R
➢ Nutrition in transplant patients	C,D-H	A-D	A-J	A-R
➢ Acute graft rejection	C,D-H	A-D	A-J	A-R
➢ Infection post transplant	C,D-H	A-D	A-J	A-R

5. Course Methods of teaching/learning:

1. Didactic ; Lectures
2. Clinical rounds
3. Seminars, Clinical rotations
4. (service teaching) Observation
5. Post graduate teaching
6. Hand on workshops
7. Perform under supervision of senior staff
8. Simulations
9. Case presentation

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra training according to their needs

7. Course assessment methods:

i. Assessment tools:

1. Clinical examination
2. Written and oral examination

3. Chick list
4. log book & portfolio
5. Procedure/case presentation
6. One MCQ examination in the second year and one in the third year
7. Objective structured clinical examination
8. Check list evaluation of live or recorded performance
9. Patient survey
10. 360o global rating

ii. Time schedule: At the end of second part

iii. Marks: 1200

8. List of references

. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies
- Principles of Nephrology Book by Staff Members of the Department of renal Diseases-Assiut University

ii. Essential books

1. Cecil – text book of Medicine 2010.
2. Oxford - text book of Medicine2010

iii. Recommended books

1. Davidson- text book of Medicine 2010
2. Harrisons - text book of Medicine 2008
3. Brenner's text book of nephrology 2008
4. Bisset – Khan Abdominal U/S 2010.
5. Hand book of dialysis. JT Daugirdas, PG Blake Ts Ing 2008
6. Hand book of dialysis 2008.
7. Hand book of kidney transplantation 2010.
8. National kidney foundation 2008.
9. Hand book of dialysis 2008

iv. Periodicals, Web sites, … etc

- BMJ

- American Journal of Nephrology
- Nephron
- European Journal of renal Diseases
- Egyptian Journal of renal Diseases &transplantation

9. Signatures

Course Coordinator: Prof. Mohamad A. Sob **m**	**Head of the Department:** **Prof. Lobna El tonny**
Date:	**Date:**

Program academic reference Standards ARS

1- Graduate attributes for master degree *in* Nephrology

***The Graduate (after residence training and master degree years of study) must*:**

1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and clinical audit ***in Nephrology***.

2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in related speciality.

3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of ***Nephrology***.

4- Provide patient care that is appropriate, effective and compassionate for dealing with common health problems and health promotion using evidence-based and updated information.

5- Identify and share to solve health problems in his speciality.

6- Acquire all competencies –including the use of recent technologies- that enable him to provide safe, scientific, and ethical and evidence based clinical care including update use of new technology in ***Nephrology***..

7- Demonstrate interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.

8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.

9- Acquire decision making capabilities in different situations related to *Nephrology*.

10- Show responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

11- Be aware of public health and health policy issues and share in system-based improvement of health care.

12- Show appropriate attitudes and professionalism.

13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in *Nephrology* or one of its subspecialties.

2- Competency based Standards for clinical master degree graduates

2.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.

2-1-B- The relation between good clinical care of common health problems in the speciality and the welfare of society.

2-1-C- Up to date and recent developments in common problems related to Nephrology.

2-1-D- Ethical and medicolegal principles relevant to practice in Nephrology..

2-1-E -Quality assurance principles related to the good medical practice in Nephrology.

2-1-F- Ethical and scientific basics of medical research.

2.2- Intellectual skills:

By the end of the program, the graduate should be able to demonstrate the following:

2-2-A- Correlation of different relevant sciences in the problem solving and management of common diseases of Nephrology.

2-2-B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Nephrology.

2.2- C- Demonstrating systematic approach in studying clinical problems relevant to Nephrology.

2-2-D- Making alternative decisions in different situations in ***Nephrology***.

2.3- Clinical skills

By the end of the program, the graduate should be able to

2-3-A - Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

2-3-B- Demonstrate patient care skills relevant to Nephrology. for patients with common diseases and problems.

2-3- C- Write and evaluate reports for situations related to the field of Nephrology.

2.4- General skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Practice-based Learning and Improvement***

2-4-A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence,, improvements in patient care and risk management.

2-4-B- Use all information sources and technology to improve his practice.

2-4-C- Demonstrate skills of teaching and evaluating others.

- ***Competency-based objectives for Interpersonal and Communication Skills***

2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

- ***Competency-based objectives for Professionalism***

2-4-E- Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

- ***Competency-based objectives for Systems-based Practice***

2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to

effectively use system resources to provide care that is of optimal value.

2-4-g- Demonstrate skills of effective time management.

2-4-H- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	Medical knowledge	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems-based practice
Didactic (lectures, seminars, tutorial)	X	X		X	X	X
journal club,	X	X	X			
Educational prescription	X	X	X	X	X	X
Present a case (true or simulated) in a grand round	X	X	X	X	X	
Observation and supervision	X		X	X	X	X
conferences		X	X	X		X
Written assignments	X	X	X	X	X	X
Oral assignments	X	X	X	X	X	X

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for Master Degree students.

Method	Practical skills	K	Intellectual	General skills			
	Patient care	K	I	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems-based practice
Record review	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					
OSCE	X	X	X	X	X	X	X

Annex 4, Glossary of Master Degree doctors assessment methods

- Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.

- Chart Stimulated Recall – Uses the MSc doctor's patient records in an oral examination to assess clinical decision-making.

- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.

- Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MSc doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MSc doctor's performance.

- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MSc doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MSc doctors.

- Procedure or Case Logs – MSc doctors prepare summaries of clinical experiences including clinical data. Logs are

useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by a MSc doctors.

- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations – MSc doctors, faculty, nurses, clerks, and other clinical staff evaluate MSc doctors from different perspectives using similar rating forms.
- Portfolios – A portfolio is a set of project reports that are prepared by the MSc doctors to document projects completed during the MSc study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.
- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- Procedure or Case Logs – MSc doctors prepare summaries of clinical experiences including clinical data. Logs are

useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MSc doctors.

Annex 5, Program evaluation tools

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits questionnaires	#
Senior students	questionnaires	#
Alumni	questionnaires	#

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الماجستير مع المعايير الأكاديمية المعتمدة من كلية الطب – جامعة أسيوط لدرجة الماجستير في أمراض الكلى

I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and clinical audit in *Nephrology.*	1- إجادة تطبيق أساسيات و منهجيات البحث العلمي و استخدام أدواته المختلفة
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in *Nephrology.*	2-تطبيق المنهج التحليلي و استخدامه في مجال التخصص
3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in *Nephrology.*	3-تطبيق المعارف المتخصصة و دمجها مع المعارف ذات العلاقة في ممارسته المهنية
4- Provide patient care that is appropriate, effective and compassionate for dealing with common health problems and health promotion using evidence-based and update information.	4-إظهار وعيا بالمشاكل الجارية و الرؤى الحديثة في مجال التخصص
5- Identify and share to solve health problems in *Nephrology.*	5-تحديد المشكلات المهنية و إيجاد حلولا لها
6- Acquire all competencies that enable him to provide safe, scientific, ethical and evidence based clinical care including update use of new technology in *Nephrology.*	6-إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية

7- Demonstrate interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public. 8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.	7–التواصل بفاعلية و القدرة على قيادة فرق العمل
9- Acquire decision making capabilities in different situations related to *Nephrology.*	8–اتخاذ القرار في سياقات مهنية مختلفة
10- Show responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	9– توظيف الموارد المتاحة بما يحقق أعلي استفادة و الحفاظ عليها
11- Be aware of public health and health policy issues and share in system-based improvement of health care.	10–إظهار الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة في ضوء المتغيرات العالمية و الإقليمية
12- Show appropriate attitudes and professionalism.	11–التصرف بما يعكس الالتزام بالنزاهة و المصداقية و الالتزام بقواعد المهنة
13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in *Nephrology* or one of its subspecialties.	12–تنمية ذاته أكاديميا و مهنيا و قادرا علي التعلم المستمر

2. Academic standard

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.1.A -Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problems and topics.	2-1-أ-النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.
2.1.B- The relation between good clinical care of common health problems in *Nephrology* and the welfare of society.	2-1-ب-التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة.
2.1. C- Up to date and recent developments in common problems related to *Nephrology*	2-1-ج-التطورات العلمية في مجال التخصص.
2.1. D- Ethical and medicolegal principles relevant to practice in the *Nephrology*	2-1-د-المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص.
2.1. E-Quality assurance principles related to the good medical practice in *Nephrology*	2-1-هـ- مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. F- Ethical and scientific basics of medical research.	2-1-و- أساسيات وأخلاقيات البحث العلمي
2.2. A-Correlation of different relevant sciences in the problem solving and management of common diseases of *Nephrology*. 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to *Nephrology*.	2-2-أ- تحليل و تقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل

2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to *Nephrology*.	2-2-ب- حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
2.2. A-Correlation of different relevant sciences in the problem solving and management of common diseases of *Nephrology*.	2-2-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية
2.2. C- Demonstrating systematic approach in studying clinical problems relevant to the *Nephrology*	2-2-د- إجراء دراسة بحثية و /أو كتابة دراسة علمية منهجية حول مشكلة بحثية
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-2هـ- تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-2-و- التخطيط لتطوير الأداء في مجال التخصص
2.2.D- Making alternative decisions in different situations in the field of *Nephrology.*	2-2-ز- اتخاذ القرارات المهنية في سياقات مهنية متنوعة
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. 2.3.B- Demonstrate patient care skills relevant to *Nephrology* for patients with common diseases and problems.	2-3-أ- إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص

2.3.C- Write and evaluate reports for Situation related to *Nephrology*	2-3-ب- كتابة و تقييم التقارير المهنية
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. 2.3.B- Demonstrate patient care skills relevant to that speciality for patients with common diseases and problems.	2-3-ج- تقييم الطرق و الأدوات القائمة في مجال التخصص
2.4.D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	2-4-أ-التواصل الفعال بأنواعه المختلفة
2.4.A-Demonstrate practice-based learning and improvement skills that investigation and involves evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.B- Use all information sources and technology to improve his practice.	2-4-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.B- Use all information sources and technology to improve his practice. 2.4.E-Demonstrate professionalism behavior, as manifested through a commitment to carrying out professional	2-4-ج- التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية

responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	
2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, , improvements in patient care and risk management.	2-4-د- استخدام المصادر المختلفة للحصول على المعلومات و المعارف
2.4. C- Demonstrate skills of teaching and evaluating others.	2-4-هـ- وضع قواعد ومؤشرات تقييم أداء الآخرين
2.4. F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.	2-4-و- العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة
2.4.G- Demonstrate skills of effective time management.	2-4-ز- إدارة الوقت بكفاءة
2.4.H- Demonstrate skills of self and continuous learning.	2-4-ح- التعلم الذاتي و المستمر

Comparison between ARS and ILOS for master degree in Nephrology

(ARS)	(ILOs)
2-1- Knowledge and understanding	***2-1- Knowledge and understanding***
2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.	**2-1-A**- Explain the essential facts and principles of relevant basic sciences including, Physiology, Biochemistry , Parasitology, Microbiology and immunology , Pathology , and Anatomy, , pharmacology and genetics related to Nephrology **2-1-B-** Mention essential facts of clinically supportive sciences including Basics of internal Medicine and diagnostic radiology and clinical pathology related to Nephrology **2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Nephrology
	2-1-B The relation between good clinical care of common health problem in Nephrology and the welfare of society.

2-1-C- Up to date and recent developments in common problems related to the field of Nephrology.	**2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Nephrology. **2-1-D-** Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Nephrology **.**
2-1-D- Ethical and medicolegal Principles relevant to practice in the Nephrology field.	**2-1-E-** Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of Nephrology.
2-1-E-Quality assurance principles related to the good medical practice in the Nephrology field.	**2-1-F-** Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Nephrology.
2-1-F- Ethical and scientific basics of medical research.	**2-1-G-** Mention the ethical and scientific principles of medical research methodology**.**
***2-2- Intellectual skills*:** **2-2-A-**Correlation of different relevant sciences in the problem solving and management of common diseases of the Nephrology.	***2-2- Intellectual skills:*** **2-2-A-** Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Nephrology .

2-2-B-Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Nephrology.	**2-2-B-** Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Nephrology.
2-2-C- Demonstrating systematic approach in studding clinical problems relevant to the Nephrology field.	**2-2-C-** Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the Nephrology field.
2-2-D Making alternative decisions in different situations in the field of the Nephrology.	**2-2-D-** Formulate management plans and alternative decisions in different situations in the field of the Nephrology.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills:	***2/3/1/Practical skills (Patient Care :)***
2-3-A- Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.	**2-3-1-A-** Obtain proper history and examine patients in caring and respectful behaviors.
	2-3-1-B- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Nephrology.
2-3-B- Demonstrate patient care skills relevant to that Nephrology for patients with common diseases and problems.	**2-3-1-C-** Carry out patient management plans for common conditions related to Nephrology.
	2-3-1-D- Use information technology to support patient care decisions and patient education in common clinical situations related to Nephrology.
	2-3-1-E- Perform competently non invasive and invasive procedures considered essential for the Nephrology.
	2-3-1-F- Provide health care services aimed at preventing health problems related to Nephrology.
	2-3-1-G- Provide patient-focused care in common conditions related to Nephrology, while working with health care professionals, including those from other disciplines.

2-3-C- Write and evaluate reports for situations related to the field of Nephrology.	**-3-1-H** Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).
2-4- General skills **2-4-A-** Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	***2/3/2 General skills*** **2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks). **2-3-2-B-** Appraises evidence from scientific studies. **2-3-2-C-** Conduct epidemiological studies and surveys.
2-4-B- Use all information sources and technology to improve his practice.	**2-3-2-C-** Conduct epidemiological studies and surveys. **2-3-2-D**.Perform data management including data entry and analysis and using information technology to manage information, access on-line medical information; and support their own education.
2-4-C- Demonstrate skills of teaching and evaluating others.	**2-3-2-E-** Facilitate learning of students other health care professionals including their evaluation and assessment.
2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	**2-3-2-F-** Maintain therapeutic and ethically sound relationship with patients. **2-3-2-G-** Elicit information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-H-** Provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-I-** Work effectively with others as a member of a health care team or

	other professional group.
2-4-E-Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-J-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-K**- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices. **2-3-2-L**-Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.	**2-3-2-M**-Work effectively in relevant health care delivery settings and systems including good administrative and time management **2-3-2-N-** Practice cost-effective health care and resource allocation that does not compromise quality of care. **2-3-2-O**- Assist patients in dealing with system complexities.
2-4-G- Demonstrate skills of effective time management	**2-3-2-M**-Work effectively in relevant health care delivery settings and systems including good administrative and time management
2-4-H- Demonstrate skills of self and continuous learning.	**2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

III-Program matrix
Knowledge and Understanding

Course	Program covered ILOs							
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E	2/1/F	2/1/G	2/1/H
Course 1 : Physiology and Biochemistry and anatomy	✓							
course 2 : Microbiology ,Immunology and parasitology	✓							
course 3 : Clinical Pathology and pathology	✓							
Course 4 : Pharmacology and genetic and diagnostic radiology	✓							
Course 5 : Infection control & Addiction	✓							
Course 6 Basics of Internal Medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course 7 : Speciality course (Nephrology)	✓	✓	✓	✓	✓	✓	✓	✓

Intellectual

Course	Program covered ILOs			
	2/2/A	2/2/B	2/2/C	2/2/D
Course 1 : Physiology and Biochemistry and anatomy	✓			
course 2 : Microbiology ,Immunology and parasitology	✓			
course 3 : Clinical Pathology and pathology	✓			
Course 4 : Pharmacology and genetic and diagnostic radiology	✓			
Course 5 : Infection control & Addiction	✓			
Course 6 Basics of Internal Medicine	✓	✓	✓	✓
Course 7 : Speciality course (Nephrology)	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs							
	2/3/1/ A	2/3/1/ B	2/3/1/ C	2/3/1/ D	2/3/1/ E	2/3/1/ F	2/3/1/ G	2/3/1/ H
Course 1 : Physiology and Biochemistry and anatomy								
course 2 : Microbiology ,Immunology and parasitology								
course 3 : Clinical Pathology and pathology								
Course 4 : Pharmacology and genetic and diagnostic radiology								
Course 5 : Infection control & Addiction				✓	✓			
Course 6 Basics of Internal Medicine	✓		✓	✓	✓			✓
Course 7 : Specialized course (Nephrology)	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/ A	2/3/2/ B	2/3/2/ C	2/3/2/ D	2/3/2/ E	2/3/2/ F	2/3/2/ G	2/3/2/ H
Course 1 : Physiology and Biochemistry and anatomy				✓				✓
course 2 : Microbiology ,Immunology and parasitology				✓				✓
course 3 : Clinical Pathology and pathology				✓				✓
Course 4 : Pharmacology and genetic and diagnostic radiology				✓				✓
Course 5 : Infection control & Addiction				✓				✓
Course 6 Basics of Internal Medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course 7 : Specialized course (Nephrology)	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs						
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/M	2/3/2/N	2/3/2/O
Course 1 : Physiology and Biochemistry and anatomy			✓		✓		
course 2 : Microbiology ,Immunology and parasitology			✓		✓		
course 3 : Clinical Pathology and pathology			✓		✓		
Course 4 : Pharmacology and genetic and diagnostic radiology			✓		✓		
Course 5 : Infection control & Addiction			✓		✓		
Course 6 Basics of Internal Medicine	✓	✓	✓	✓	✓	✓	✓
Course 7 : Specialized course (Nephrology)	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Example:

Department information:

Equipments and Specialized Units:

a- Outpatient clinic for examining and investigating new patients and follow up of patients after discharge with various renal diseases (weekly nephrology clinic).

b- Nephrology wards (24 beds).

c- Scientific library (Internal medicine text Books Nephrology text Books, MD, MS thesis in nephrology).

d- Electronic library for scientific seminars and case presentation.

e- Seminar room with data show.

f- Diagnostic unit equipped with:

1- Abdominal U/S.

2- Invasive diagnostic procedures for kidney biopsy.

g- Haemodialysis ward (58 machines well- equipped, automated).

h- Peritoneal dialysis unit.

- Evaluation by the Department head and stuff members.

Staff members

-Prof.Dr. Mohamad A. Tohamy.
-Prof.Dr. Maher A. Abdel Gaber.
-Prof. Mohamad A. Sobh
-Prof.Dr. Ashrf A. Elshazly.
Dr. Mohamad Hassan
-Dr. Effat A. Tony
Dr. Walaa Hosny Mohamad
Dr. Sameer Kamal
Dr. Essam AbdelAzez
Dr. Marwa Kamal Abdo
Dr. Nashwa Mostafa
Dr. Mostafa Gaafar
Dr. Alshymaa Sayed
Dr. Radwa Awad
Dr. Omnia Hashem

- Regular assessments.
- Log book monitoring.
- Recent equipments and Specialized Units.

(End of the program specifications)