



كلية الطب  
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Faculty of Medicine  
Quality Assurance Unit

## MEDICAL DOCTORATE (M.D.) DEGREE PROGRAM AND COURSES SPECIFICATIONS FOR **NEPHROLOGY**

According to currently applied Credit points bylaws)

<i><b>Advanced nephrology unit Department of internal medicine</b></i>
<i><b>Faculty of medicine Assiut University 2016-2017</b></i>



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Assiut University  
Faculty of Medicine  
Quality Assurance Unit (QAU)



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## M. D. degree of Advanced nephrology.

### A. Basic Information

- ✚ Program Title: Advanced nephrology.
- ✚ Nature of the program: Single.
- ✚ Responsible Department: Internal Medicine Department.
- ✚ Program Academic Director (Head of the Department):  
Prof. Dr. Lobna Farag Eltoony
  - Principle coordinator: Prof.Dr. Mohamad A. Sobh.
  - Assistant coordinator (s): Prof.Dr. Mohamad A. Tohamy.  
Prof.Dr. Maher A. Abdel Gaber.  
Dr: Effat Tony  
Dr. Walaa Hosny Mohamad  
Dr:Marwa kamal
- Internal evaluators: Prof. Dr. Enas A. Alkareemy (Assiut university)
- ✚ External evaluator(s): Pof.Dr. Ali M. Kasem (Sohag university).
- ✚ 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: 6courses + two elective courses
- ✚ First part 5 courses
- ✚ Second part 1 course

## **B. Professional Information**

### **1- Program aims**

- 1.1 To enable candidates to master 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 advanced 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. To enable candidates to describe the basic ethical and medicolegal principles relevant to advanced nephrology
- 1/5. To enable candidates to have professional careers as a consultant in Egypt and recognized abroad.
- 1/6 To enable candidates to continue self learning in subspecialties.
- 1/7 To enable candidates to master different research methodology and do their own.

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

### **2/1 Knowledge and understanding:**

- A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to his speciality as well as the evidence – based application of this knowledge to patient care.
- B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
- C. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Nephrology.
- D. Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Nephrology.
- E. Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of Nephrology.

### **2/2 Intellectual outcomes**

- A. Apply the basic and clinically supportive sciences which are appropriate to Nephrology related conditions.
- B. Demonstrate an investigatory and analytic thinking “problem – solving “approaches to clinical situation related to Nephrology.
- C. Plan research projects.
- D. Write scientific papers.
- E. Participate in clinical risk management as a part of clinical governance.
- F. Plan for quality improvement in the field of medical education and clinical practice in Nephrology.
- G. Create / innovate plans, systems, and other issues for improvement of performance in Nephrology.

H. Present and defend his / her data in front of a panel of experts.

I. Formulate management plans and alternative decisions in different situations in the field of Nephrology

### **2/3 Skills**

#### **2/3/1 Practical skills (Patient Care)**

A. Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

*p.s.* Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.

B. provides extensive level of patient care *for patients with all common diagnoses and for uncomplicated procedures* related to Nephrology.

C. provides extensive level of patient care *for non-routine, complicated patients and under increasingly difficult circumstances*, while demonstrating compassionate, appropriate and effective care.

D. Perform diagnostic and therapeutic procedures considered essential in the field of Nephrology.

E. handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

F. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in Nephrology related situations.

G, Gather essential and accurate information about patients of Nephrology related conditions.

H. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for Nephrology related conditions.

I. Develop and carry out patient management plans for Nephrology related conditions.

J. Counsel and educate patients and their families about Advanced nephrology related conditions.

K. Use information technology to support patient care decisions and patient education in all Nephrology related clinical situations.

L. Perform competently all medical and invasive procedures considered essential for Nephrology related conditions / area of practices.

M. Provide health care services aimed at preventing Advanced nephrology related health problems.

N. Lead health care professionals, including those from other disciplines, to provide patient-focused care in Nephrology related conditions.

O. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.( Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible 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. Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Advanced nephrology.
- B. Appraise scientific evidence.
- C. Continuously improve patient care based on constant self-evaluation and life-long learning.
- D. Participate in clinical audit and research projects.
- E. Practice skills of evidence-based Medicine (EBM).
- F. Educate and evaluate students, residents and other health professionals.
- G. Design logbooks.
- H. Design clinical guidelines and standard protocols of management.
- I. Appraise evidence from scientific studies related to the patients' health problems.
- J. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
- K. Use information technology to manage information, access on-line medical information; for the important topics.

## Interpersonal and Communication Skills

- L. Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including:-
- Present a case.
  - Write a consultation note.
  - Inform patients of a diagnosis and therapeutic plan completing and maintaining comprehensive.
  - Timely and legible medical records.
  - Teamwork skills.
- M. Create and sustain a therapeutic and ethically sound relationship with patients.
- N. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. .
- O. Work effectively with others as a member or leader of a health care team or other professional group.

## Professionalism

- P. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.
- Q. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- R. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

## Systems-Based Practice

S. Work effectively in health care delivery settings and systems related to Advanced nephrology including good administrative and time management.

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

U. Advocate for quality patient care and assist patients in dealing with system complexities.

V. Design, monitor and evaluate specification of under and post graduate course and programs.

W. Act as a chair man for scientific meetings including time management.

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

#### **Academic standards for Medical Doctorate (MD) degree in Nephrology**

Assiut Faculty of Medicine developed MD 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 20/3/2010. 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](http://www.acgme.org/acWebsite/navPages/nav_Public.asp)

2. The Joint Committee on Higher Medical Training Advanced nephrology curriculum approved by Postgraduate Medical Education and Training Board UK2007.

[http://www.med.umich.edu/intmed/advanced\\_nephrology/edu/fellowinfo.htm](http://www.med.umich.edu/intmed/advanced_nephrology/edu/fellowinfo.htm)).Hamed.msobh@yahoo.com

**A. Duration of program: 4-6 years**

**B. Structure of the program:**

**Total number of credit point = 420 CP**

**Master degree: 180 credit point**

**Didactic #: 37 (23.1%), practical 123 (76.9%), total 160 CP**

**Thesis and researches: 80 CP (33.3%)**

**First part**

**Didactic 10 CP ( 100 %), practical 0( 0 %).total 10 CP**

**Second part**

**Didactic 24 , ( 16.3 %) practical 123 ( 83.7 %) total 147**

**According the currently applied bylaws:**

Total courses:160 credit point

Compulsory courses: 157 credit point (98.1%)

Elective courses:3 credit point (1.9%)

	Credit points	% from total
Basic science courses	10	4.1%
Humanity and social courses	3	1.2%
Speciality courses	147	61.3%
Others ( Computer, ...)		0
Field training	123	51.3%
Thesis	40	16.7%
2 published researches	40	16.7%

### **C- Program Time Table**

Duration of program 4 years (could be extended at maximum to 6 years) divided into

#### Part 1

Program-related basic science courses

- Medical statistic
- Research methodology
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.

Students are allowed to sit the exams of the remaining basic science courses after 12 months from applying to the MD degree.

- Thesis and 2 published researches

For the M D thesis;

MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination

- Part 2

Program –related speciality courses and ILOs

Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

Two elective courses can be set during either the 1<sup>st</sup> or 2<sup>nd</sup> parts.

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

Total degrees 1700 marks.

500 marks for first part

1200 for second part

Written exam 40% - 70%.

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

## Curriculum Structure: (Courses):

✚ Levels and courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		Lectures	training	total
<b>First Part</b>				
<b>Basic science courses (10 CP)</b>				
Course 1: Medical Statistics	FAC309A	1	-	1
Course 2: Research Methodology	FAC309B	1	-	1
Course 3: - Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	1	-	1
Course 4 :Pathology	-REN305	3.5	-	3.5
Course 5 Physiology	- REN303	3.5	-	3.5
<b>Elective courses*</b>	3 CP			
Elective course 1		1.5		1.5
Elective course 2		1.5		1.5
<b>Thesis</b>		40 CP		
<b>Published researches**</b>		40 CP		
<b>Second Part</b>				
Speciality courses 24 CP				
Speciality Clinical Work (log Book) 123 CP				
Speciality Course Course 6 Nephrology)	REN318	24		24
<b>Speciality Clinical Work (123 CP)</b>	REN318		123	123
Total of second part		24	123	147

\* Elective courses can be taken during either the 1<sup>st</sup> or 2<sup>nd</sup> 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#:

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.

- Quality assurance of clinical practice.
- -Hospital management

# Two of the above mentioned courses are prerequisites for fulfillment of the degree.

### 3. Thesis / Researches:

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

\*\* Another 40 points are appointed to acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

## 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 Annex 6 II: Program Matrix

## 7-Admission requirements

 Admission Requirements (prerequisites) if any :

### I. General Requirements:

- Master degree in Nephrology

### II. Specific Requirements:

- Fluent in English (study language)

## VACATIONS AND STUDY LEAVE

The current departmental policy is to give working Candidates 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 (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- + Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.
- + Examination of the second part cannot be set before 4 years from registering to the degree.
- + Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- + The minimum duration of the program is 4 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 MD thesis.
4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

**9-Program assessment methods and rules (Annex IV)**

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

### Weighting of assessments:

Courses		Degrees			
First Part	Course Code	Written Exam	Oral	and/or Practical I Exam	Total
Basic science courses:					
Course 1: Medical Statistics	FAC309A	35	15	-	50
Course 2: Research methodology	FAC309B	35	15	-	50
Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	35	15	-	50
Course 4 Pathology		100	75	-	175
Course 5 Physiology		100	75	-	175
Total of first part					500
<b>Second Part</b>					
	Course code	written	oral	Practical/clinical	total
Speciality Courses		500			
Course 6 Nephrology	<b>REN318</b>		200	<b>500</b>	
Paper 1		125			
Paper 2		125			
Paper 3		125			

Paper 4		125			
Total of second part		500	200	500	1200
Elective course 1		50		50	100
Elective course 2		50		50	100

\* 25% of the oral exam for assessment of logbook

**500 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 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written examination in Tropical Medicine and Gastroenterology 1 paper 1 ( 1 hour) in Basics of Radiology
- Written examination 3 hours in Pathology + oral Exam
- Written examination 3 hours in and physiology+ oral Exam

##### **➤ Second part:**

- Written exam 4 papers 3 hours for each in Nephrology + Oral exam+ Clinical exam.
- **Elective courses**
  - Written exam one paper 1 hour in Elective course 1 + Oral & Practical exam
  - Written exam one paper 1 hour in Elective course 2 + Oral & Practical exam

## 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
<b>Program Principle Coordinator:</b>	<b>Prof. mohamad A. Sobh</b>		
<b>Head of the Responsible Department (Program Academic Director):</b>	<b>Prof. Lobna El-Tony</b>		

# Annex 1, Specifications for Courses / Modules

## Annex 1: specifications for courses

### First Part

- 1) Course 1: Medical statistics
- 2) Course 2: Research Methodology
- 3) Course 3: - Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- 4) Course 4 : Pathology
- 5) Course 5: Physiology

### Course 1: Medical statistics

***Name of department: Public Health and Community Medicine***  
***Faculty of medicine***  
***Assiut University***  
***2016-2017***

#### 1. Course data

- + Course Title: Medical statistics
- + Course code: FAC309A
- + Speciality: offered to all clinical and academic specialties
- + Number of credit points: 1 credit point
- + Department (s) delivering the course: Pubic Health and Community Medicine
- + Coordinator (s):
  - Course coordinator: Prof. Ahmed M. Hany
  - Assistant coordinator (s):
    - Prof. Farag Mohammed Moftah
    - Prof. Hosnia Saeed Abdel Majeed
- + Date last reviewed: September 2017
- + Requirements (pre-requisites) if any :
  - Completed Master degree in any of the academic or clinical departments of Medicine.

## 2. Course Aims

Enable graduate students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data

## 3. Intended learning outcomes (ILOs): To be able to use statistical principals to manage data

### A knowledge and understanding

ILOS	Methods of teaching/ learning	Methods of Evaluation
A. List the types of variables	Lecture and discussion	Written examination
B. Identify the methods of data collection	Lecture and discussion	Written examination
C. Describe the different sampling strategies	Lecture and discussion	Written examination
D. Identify types of tabular and graphic presentation of data	Lecture and discussion	Written examination
E. Identify measures of central tendency and dispersion	Lecture and discussion	Written examination
F. Identify the characters of normal distribution curve.	Lecture and discussion	Written examination

## B. intellectual

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe the normal curves.	Lecture & Discussions	Written examination
B. Describe and summarize data	Lecture & Discussions	Written examination
C. Select the proper test of significance	Lecture & Discussions	Written examination
D. Interpret the proper test of significance	Lecture & Discussions	Written examination

## C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central tendency and dispersion.	Tutorial on SPSS	Assignments SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

## D general skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Discussions	Research assignment
B. Use information technology to manage information, access on-line medical information; for the important topics.	tutorial	Research and audits' assignment

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

**Time Schedule: First Part**

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	A	B	C	D
Introduction	A-F	A-D	-	A&B
Tables and graphics	D	A-D	-	A&B
Sampling	C	-	-	A&B
Methodology of data collection	B	-	-	A&B
Type of variables	A	-	-	A&B
Proportion test& Chi-square test	E,F	C&D	-	A&B
Student T test& Paired T test	E,F	C&D	F	A&B
ANOVA test	E,F	C&D	F	A&B
Non parametric tests	E,F	C&D	F	A&B
Discrimination analysis factor analysis	E,F	C&D	-	A&B
SPSS Introduction	A-F	A-D	-	A&B
Data entry and cleaning of data	A	A-D	A-C	A&B
Transforming of variables	A	A&B	A-C	A&B
Descriptive statistics	D	A-D	D&E	A&B
Graphic presentation	D	A&B	D	A&B
Chi square and interpretation of results	E,F	C&D	F	A&B
Correlation Regression	E,F	C&D	F	A&B
Multiple and logistic Regression	E,F	C&D	F	A&B

## 5. Course Methods of teaching/learning

1. Lectures
2. Assignments
3. Discussions
4. Exercises
5. Tutorial on SPSS v.16

## 6. Course assessment methods:

- i. **Assessment tools:**
  1. Practical examination
  2. Attendance and active participation
  3. Assignments
  4. SPSS examination
  5. written exam
- ii. **Time schedule:** After 6 months from applying to the M D degree.
- iii. **Marks:** 50 (35 for written exam and 15 for oral exam).

## 7. List of references

- i. **Lectures notes**  
Department lecture notes
- ii. **Essential books**  
Medical statistics
- iii. **Recommended books**  
Discovering statistics using SPSS
- iii. **Periodicals, Web sites, etc**

## 8. Signatures

<b>Course Coordinator:</b> - Prof. Ahmed M. Hany	<b>Head of the Department:</b> - Prof. Omaima El Gibaly
<b>Date:</b> 17/9/2017	<b>Date:</b> 17/9/2017

## Course 2: Research Methodology

*Name of department: All clinical and academic departments*

*Faculty of medicine*

*Assiut University*

**2016-2017**

### 1. Course data

-  **Course Title: Research methodology**
-  **Course code: FAC309B**
-  **Speciality: Offered to all clinical and academic specialties**
-  **Number of credit points: 1 credit point**
-  **Department (s) delivering the course: Department of public health**
-  **Coordinator (s):**
  - **Course coordinator: Prof. Ali Zarzour**
  - **Assistant coordinator (s):**
    - Prof. Mohamed H. Qayed**
    - Prof. Omaila El-Gibaly**
-  **Date last reviewed: September 2017**
-  **Requirements (prerequisites) if any :**
  - **Completed Master degree in any of the academic or clinical departments of Medicine.**

## 2. Course Aims

To provide graduate students with the skills of:

- Research proposal,
- Writing planning and implementing rigorous research,
- Writing and publishing scientific papers.

## 3. Intended learning outcomes (ILOs): To be able to write a rigorous research proposal

### A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs	Lecture and discussion	Written examination
B. Identify sources and types of bias in research		
C. Describe the different sampling strategies, and compute sample size		
D. Select and design valid measurement tools for research		
E. Explain ethical issues in conducting research on human subjects		
F. describe the rules of authorship in scientific writing		
G. List the steps involved in proposal writing		

H. Identify a research problem within a conceptual framework	Lecture on Criteria to Consider to identify a research problem	discussion
I. Use the web sources to do a literature search	Practical tutorial on web	assignment
J. Select the appropriate study design for the research question	Lecture on various study designs	Written examination
K. Minimize bias in designing research	Lecture on the different types of bias	Written examination
L. Screening & theoretical background	Lectures on criteria for successful screening program& criteria for evaluation a screening test.	Written examination

### **B. intellectual**

<b>Competency and Skills</b>	<b>Methods of teaching/ learning</b>	<b>Methods of Evaluation</b>
A. Apply basic science & knowledge for appraising scientific literature	Discussions & seminars	Written examination

### C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Develop a budget and time line for the research	Tutorial	Assignments
B. Design a data entry file	Tutorial on Epi-info or Excel	Assignments Written exam
C. Identify steps required in fielding the study	Lecture	Assignments Written exam
D. Identify steps required for calculation Sensitivity, Specificity, positive predictive value, negative predictive value, Accuracy of a screening test	Lecture	Assignments Written exam

### D general skills

#### Practice based learning improvement & professionalism

#### (Scientific Paper writing skills)

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. To be able to write an abstract	Tutorial	Written examination case study for critique
B. Write the introduction	Tutorial	Written examination
C. Write the methodology section	Tutorial	Written examination
D. Present the results	Tutorial	Written examination
E. Perform Discussion section	Tutorial	Written examination
F. Learn Authorship ethical rules	Tutorial	Written examination

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

### Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	A	B	C	D
Introduction & proposal writing	G	A	A	A-F
Epidemiological Study designs	A,J	A	B,C	-
Screening & theoretical background	L	A	-	-
Screening practical	L	A	D	-
Sample size calculation	B	A	B,C	-
Research bias	H	A	C	F
Ethics in research	E,F	A	C	F

## 5. Course Methods of teaching/learning:

1. Lectures
2. Assignments
3. Discussion
4. Exercises

## 6. Course assessment methods:

### i. Assessment tools:

1. Written examination
2. Attendance and active participation
3. Class
4. Assignments

**ii. Time schedule:** After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

## 7. List of references

### i. Lectures notes

- Department lecture notes

### ii. Essential books

- An epidemiologic Approach to Reproductive Health, CDC, FHI, and WHO Phyllis A. wingo, James E. Higgins, Goerge L. Rubin, and S. Christine Zahniser

### iii. Recommended books

- Evidence Based Medicine How to practice and teach EBM.
- David Sachett, Sharon E. Straus, W. Scott Richardson, William Rosenberg R. Brain Haynes

### iv. Periodicals, Web sites, ... etc

- Dissertation workshop open courseware JHSPH

## 8. Signatures

<b>Course Coordinator:</b> - Prof. .Ali Zarzour	<b>Head of the Department:</b> - Prof. Omaima El Gibaly
<b>Date:</b> 17/9/2017	<b>Date:</b> 17/9/2017

## Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

***Name of department:***

***Forensic medicine and clinical toxicology***

***Faculty of medicine***

***Assiut University***

**2016-2017**

### 1. Course data

-  **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
-  **Course code: FAC310C**
-  **Speciality: *General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology (1<sup>st</sup> part).***
-  **Number of credit points: 1 credit point**
-  **Department (s) delivering the course: Forensic Medicine and Clinical Toxicology**
-  **Coordinator (s):**
  - **Course coordinator:**  
Prof. Wafaa Mohamed Abdel Moneium
  - **Assistant coordinator (s) Assist.**  
Prof. Amal Ali.Mohammed
-  **Date last reviewed: 9– 2017.**
-  **Requirements (prerequisites) if any :**
  - **Completed Master degree.**

## 2. Course Aims

To describe the basic ethical and medicolegal principles and bylaws relevant to practice in the field of General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology

## 3. Intended learning outcomes (ILOs):

### A knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention principals of Taking consent.	Lecture and discussion	Oral &Written exam
B. Mention principals of Writing a death certificate	Lecture and discussion	Oral &Written exam
C. Mention principals of diagnosing death.	Lecture and discussion	Oral &Written exam
D. Mention principals of writing toxicological reports.	Lecture and discussion	Oral &Written exam
E. Explain principals of medical reports.	Lecture and discussion	Oral &Written exam
F. List indications and principals of induced emesis, gastric lavage and samples collection.	Lecture and discussion	Oral &Written exam

## B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present case , seminars in death certificate	Lecture and discussion	Oral &Written exam
B. Present case, seminars in toxicological cases	Lecture and discussion	Oral &Written exam

## C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Identify medical ethics and ethics in research.	Lecture and discussion	Reading Discussion
B. Prepare and write consent.	Lecture and discussion	Reading Discussion
C. Identify medical responsibilities.	Lecture and discussion	Reading Discussion
D. Write death certificate.	Lecture and discussion	Reading Discussion and active participation
E. Deal with a case of Suspicious death	Lecture and discussion	Reading Discussion and active participation
F. Perform gastric lavage, induce emesis, and obtain samples.		
G. Write medical and toxicological reports	Lecture and discussion	Reading Discussion and active participation
H. Develop and carry out		

patient management plans for Euthanasia, and Organ Transplantation		
I. Counsel patients and their families about speciality related conditions including Permanent infirmities, Euthanasia, and Organ Transplantation		

### D general skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present a case.	Lecture and discussion	Global rating logbook
B. Write a consultation note	Lecture and discussion	Global rating logbook
C. Inform patients and maintaining comprehensive.	Lecture and discussion	Global rating logbook
D. Make timely and legible medical records	Lecture and discussion	Global rating logbook
E. Acquire the teamwork skills	Lecture and discussion	Global rating logbook

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

### Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
1. Death and death certificate.	B,C	A	D,E	A
2. Medical Reports	A		G	A,D,E
3. Toxicological reports	D,F	B	G,F	A,E
4. Ethics in research.	A		A	
5. Medical ethics.	E		A,B,C,H,I	B,C,E

## 5. Course Methods of teaching/learning:

1. Lectures.
2. Discussions.
3. Exercises.

## 6. Course assessment methods:

### i. Assessment tools:

1. Written examination.
2. Attendance and active participation.
3. Oral examination.

**ii. Time schedule:** After 6 months from applying to the M D degree.

**iii. Marks:** 50 (35 for written exam and 15 for oral exam).

## 7. List of references

### i. Lectures notes

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

## ii. Essential books

- Ballantyne B., Marrs T. and Syversen T.(1999):General and Applied Toxicology.2<sup>nd</sup> edition. MACMILLAN REFERENCE LTD.UK.
- Bernard Knight and Pekka Saukko (2004): Knight Forensic Pathology. Hodder Arnold press

## iii. Recommended books

- Klassen D. (2001): Casarettand Doull s. Toxicology the basic science of poisons. McGraw. Hill press medical publishing division New York

## iv. Journal and web site

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at [www.sciencedirect.com](http://www.sciencedirect.com). As :  
Forensic Science International Journal.  
Toxicology Letter.

## 8. Signatures

<b>- Course Coordinator:</b> <b>Prof. Wafaa Mohamed Abdel Moneium</b>	<b>- Head of the Department:</b> <b>Prof. Wafaa Mohamed Abdel Moneium</b>
<b>Date: 17- 9-2017</b>	<b>Date: 17- 9-2017</b>

## Course 4 Pathology

- ✚ **Course Title: Pathology**
- ✚ **Course code: REN305**
- ✚ **Speciality: Nephrology**
- ✚ **Number of CP : DIDACTIC 3.5 CPS (100%), practical 0(0%), total 3.5.**
- ✚ **Department (s) delivering the course: Internal Medicine - Faculty of Medicine- Assiut- EGYPT**
- ✚ **Coordinator (s): Staff members of pathology in conjunction with staff members of Nephrology**
- ✚ **Date last reviewed: September 2017**
- ✚ **Requirements (prerequisites) if any :**
  - None
- ✚ **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

## Course Aims

-The student should acquire the pathological facts necessary for *Nephrology*.

## Intended learning outcomes (ILOs):

### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe Pathologic details of: <ul style="list-style-type: none"> <li>• Glomerulonephritis (primary &amp; secondary).</li> <li>• Vasculitis.</li> <li>• Tubulo-interstitial nephritis.</li> <li>• Hypertension and the kidney.</li> <li>• Ischemic heart disease</li> <li>• Hypertension</li> <li>• Vasculitis</li> <li>• Renal involvement in systemic diseases</li> </ul>	-Lectures	-Written and oral examination - Log book

### 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 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

Practical: 0 hours

## 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	Log book Oral exam

### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Clinical round -Seminars -Lectures	- Logbook Oral exam Chick list

### Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Observation Senior staff experience Case taking	Logbook Oral exam

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems	-Observation -Senior staff experience	1. 360o global rating

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

**Time Schedule: / One year after application to MD degree**

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Course 3 Pathology				
Describe Pathologic details of:				
Glomerulonephritis (primary & secondary).	A	A,B	-	A-D
Vasculitis.	A	A, B	-	A-D
Tubulo-interstitial nephritis.	A	A,B	-	A-D
Hypertension and the kidney.	A	A,B	-	A-D
Renal involvement in systemic diseases	A	A,B	-	A-D
Ischemic heart disease	A	A,B	-	A-D

#### **5. Course Methods of teaching/learning:**

1. Didactic ; Lectures
2. Post graduate 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. Written and oral examination
  2. Chick list
  3. log book
  4. 360o global rating
- ii. Time schedule: **One year after application to MD degree**
- iii. **Marks: 175**

## 8. List of references

**. Lectures notes**

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

**ii. Essential books**

1- Robbins of Pathology

**iii. Recommended books**

1-Oxford of Pathology

**iv. Periodicals, Web sites, ... etc**

- American Journal of Pathology

## 9. Signatures

<b>Course Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b>	<b>Date:</b>

## Course 5 Physiology

- ✚ **Course Title: Physiology**
- ✚ **Course code: REN303**
- ✚ **Speciality: Nephrology**
- ✚ **Number of CP : DIDACTIC 3.5 CPS (100%), practical 0(0%), total 3.5.**
- ✚ **Department (s) delivering the course: Internal Medicine - Faculty of Medicine- Assiut- EGYPT**
- ✚ **Coordinator (s): Staff members of Physiology in conjunction with staff members of Nephrology**
- ✚ **Date last reviewed: September 2017**
- ✚ **Requirements (prerequisites) if any :**
  - None
- ✚ **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

## Course Aims

-The student should acquire the facts of physiology necessary for *Nephrology*.

## Intended learning outcomes (ILOs):

### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Illustrate Physiologic Principles of: Kidney and urinary tract system:</p> <ol style="list-style-type: none"> <li>1- The functional structure of the kidney and other urinary tract system.</li> <li>2- The mechanism of urine formation.</li> <li>3- The regulatory functions of the kidney.</li> <li>4- Electrolytes disturbances.</li> <li>5- Regulation of acid-base balance</li> <li>6- Homeostasis</li> <li>7- The innervation of the heart</li> <li>8- The regulation of the heart rate.</li> <li>9- The cardiac output and its components.</li> <li>10- The arterial blood pressure and its regulation.</li> <li>11- The pulmonary and coronary circulations.</li> <li>12- The ECG and its clinical significant.</li> <li>13- Acid-base balance</li> <li>14- Hormones of the kidney, importance and abnormalities</li> </ol>	<p>-Lectures</p>	<p>-Written and oral examination - Log book</p>

## 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

Practical: 0 hours

## 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	Log book Oral exam

## Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Clinical round -Seminars -Lectures	- Logbook Oral exam Chick list

### Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Observation Senior staff experience Case taking	Logbook Oral exam

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems	-Observation -Senior staff experience	1. 360o global rating

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Course 5 physiology				
Illustrate Physiologic Principles of:				
1-The functional structure of the kidney and other urinary tract system.	A	A,B	-	A-D
2- The mechanism of urine formation.	A	A, B	-	A-D
3- The regulatory functions of the kidney.	A	A,B	-	A-D
4- Electrolytes disturbances.	A	A, B	-	A-D
5- Regulation of acid-base balance	A	A,B	-	A-E
6- Homeostasis	A	A, B	-	A-E
7- The innervation of the heart	A	A,B	-	A-E
8- The regulation of the heart rate.	A	A,B	-	A-D
9- The cardiac output and its components.	A	A, B	-	A-D
10- The arterial blood pressure and its regulation.	A	A,B	-	A-D
11- The pulmonary and coronary circulations.	A	A, B	-	A-D
12- The ECG and its clinical significant.	A	A,B	-	A-E
13- Acid-base balance	A	A, B	-	A-E
14-Hormones of the kidney, importance and abnormalities	A	A,B	-	A-E

### 5. Course Methods of teaching/learning:

1. Didactic ; Lectures
2. Post graduate 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. Written and oral examination
2. Chick list
3. log book
4. 360o global rating

ii. Time schedule: **One year after application to MD degree**

iii. Marks: 175

### 8. List of references

. Lectures notes

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

ii. Essential books

- Medical physiology books by Staff Members of the Department of Medical physiology -Assiut University

iv. Periodicals, Web sites, ... etc

- American Journal of Physiology

### 9. Signatures

<b>Course Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b>	<b>Date:</b>

## Second Part

### Course 6 Nephrology

**Name of department:** **Nephrology and transplantation**

**Faculty of medicine.**

**Assiut University.**

**2016-2017**

#### 1. Course data

- + Course Title: **Nephrology**
- + Course code: REN318
- + Speciality: Nephrology
- + Number of hours: Didactic 24,( 16.3 %) practical 123( 83.7 %) total 147.
- + Department (s) delivering the course: Nephrology- Faculty of Medicine- Assiut- EGYPT
- + 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: **September 2017**
- + Requirements (prerequisites) if any :
  - None
- + Requirements from the students to achieve course ILOs are clarified in the joining log book.

#### **This course consists of 3 Units**

Module 1 Clinical nephrology 40%

Module 2 Dialysis 30%

Module:3Transplantation 30%

## 2. Course Aims

- 1.1 To enable candidates to master 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 advanced 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. To enable candidates to describe the basic ethical and medicolegal principles relevant to Nephrology.
- 1.6. To acquire in depth the physiological and Pathological Background necessary for Nephrology in clinical reasoning, diagnosis and management of Renal diseases.

### 3. Course intended learning outcomes (ILOs):

#### Unit 1 Clinical nephrology

#### A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions:</p> <ol style="list-style-type: none"> <li>1- Fluid and electrolyte disorders</li> <li>2- Primary and secondary glomerulonephritis and recent guidelines</li> <li>3- Updates in pregnancy and renal diseases</li> <li>4- Updates in diabetic nephropathy</li> <li>5- Chronic kidney diseases and recent guidelines in management of uremic syndrome</li> <li>6- Infectious diseases and the kidney</li> <li>7- Drug therapy in kidney diseases</li> <li>8- Acute kidney injury</li> <li>9- Tubulointerstitial and vascular diseases of the kidney</li> <li>10- Congenital and hereditary diseases of the kidney</li> </ol>	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Seminar</li> <li>• Outpatient and inpatient direct observation and management</li> <li>• case presentation</li> <li>• tutorial</li> <li>• journal club</li> </ul>	<ul style="list-style-type: none"> <li>-OSCE</li> <li>-Written Exam</li> <li>- Oral Exam</li> <li>- Case presentation</li> <li>-MCQ exam at the second half of the second year</li> <li>-Log book</li> </ul>

11- Geriatric nephrology and urologic disorders		
<p>B. Mention the principles of :</p> <ol style="list-style-type: none"> <li>1- glomerulonephritis</li> <li>2- vascular diseases of the kidney</li> <li>3- Interpretation of Biochemical investigations: <ul style="list-style-type: none"> <li>▪ Urine examination</li> <li>▪ Renal function tests</li> <li>▪ Tests for glomerular function</li> <li>▪ Tests for tubular function</li> <li>▪ Microbiological examination of urine</li> <li>▪ Immunological tests</li> <li>▪ Kidney biopsy</li> <li>▪ Radiologic examination: Ultrasonography, Plain abdominal X-ray, Intravenous urography (IVU), Computerized tomography.</li> </ul> </li> </ol>		
<p>C. Mention Basics of the following rare diseases and conditions:</p> <ul style="list-style-type: none"> <li>• Medullary cystic kidney diseases.</li> <li>• Medullary sponge kidney.</li> <li>• Acquired renal cystic diseases.</li> <li>• Tuberous sclerosis.</li> <li>• Von Hippel- Lindau syndrome.</li> </ul>		
<p>D. Explain the facts and principles of the relevant basic supportive sciences related to renal diseases.</p>		
<p>E. Explain the facts and principles of the relevant clinically supportive sciences related to renal diseases .</p>		
<p>F. Describe the basic ethical and medicolegal principles relevant to renal diseases.</p>		
<p>G. Describe the basics of quality assurance to ensure good clinical care in renal diseases.</p>		

H. Explain the ethical and scientific principles of medical research.		
I. Explain the impact of common health problems in renal diseases on the society.		

### B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case in common problem related to renal diseases.	Clinical rounds  Senior staff experience Practice with clinical cases for at least 4 month in the nephrology Unit • Supervision on the residents for the admitted cases	-case presentation Log book and Portfolios
B. Apply the basic and clinically supportive sciences which are appropriate to renal diseases related problems.		
C. Demonstrate an investigatory and analytic thinking “problem – solving “approaches to clinical situation related to renal diseases..		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs as in: <ul style="list-style-type: none"> <li>▪ Hypertensive emergencies</li> <li>▪ Acute coronary syndrome</li> <li>▪ Arrhythmias</li> <li>▪ Acute pulmonary edema</li> <li>▪ Cardiac arrest.</li> <li>▪ Electrolyte disturbances</li> <li>▪ Acute Kidney injury</li> <li>▪ coma</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Acute complications of dialysis.</li> </ul>		
G. Plain quality improvement activities in the field of medical education and clinical practice in renal diseases.		
H. Create and innovate plans, systems, and other issues for improvement of performance in renal diseases.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of renal diseases.		

### C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to renal diseases.	Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)	-OSCE at the end of each year -log book
B-Order the following non invasive/invasive diagnostic procedures <ul style="list-style-type: none"> <li>▪ ECG</li> <li>▪ Chest x rays</li> <li>▪ Renal function tests</li> <li>▪ Tests for glomerular function</li> <li>▪ Tests for tubular function</li> </ul>	-Clinical round with senior staff Observation -Post graduate teaching	

<ul style="list-style-type: none"> <li>▪ Microbiological examination of urine</li> <li>▪ Immunological tests</li> <li>▪ Kidney biopsy</li> <li>▪ Radiologic examination.</li> <li>▪ Ultrasonography</li> <li>▪ Plain abdominal X-ray</li> <li>▪ Intravenous urography (IVU)</li> <li>▪ Angiography</li> <li>▪ Computerized tomography.</li> <li>▪ Radionuclide imaging</li> <li>▪ Magnetic resonance imaging.</li> </ul>		
<p>C. Interpret the following non invasive/invasive diagnostic procedures</p> <ul style="list-style-type: none"> <li>▪ ECG</li> <li>▪ Chest x rays</li> <li>▪ Renal function tests</li> <li>▪ Tests for glomerular function</li> <li>▪ Tests for tubular function</li> <li>▪ Microbiological examination of urine</li> <li>▪ Immunological tests</li> <li>▪ Kidney biopsy</li> <li>▪ Radiologic examination: Ultrasonography, Plain abdominal X-ray, Intravenous urography (IVU), Computerized tomography.</li> </ul>	<p>Clinical round with senior staff Observation -Post graduate teaching</p>	
<p>D. Perform the following non invasive/invasive diagnostic procedures:</p> <ul style="list-style-type: none"> <li>● Abdominal ultrasound</li> <li>● Ryle and Sengestaken fixation</li> <li>● Cardiopulmonary resuscitation</li> <li>● Pleurocentesis and paracentesis</li> <li>● Endotracheal intubation</li> <li>● Airway suctioning</li> <li>● Hemodialysis catheter insertion either</li> </ul>	<p>-Hand on workshops -Perform under supervision of senior staff</p>	<p>- Procedure presentation - Log book - Chick list</p>

<p>femoral or central line</p> <ul style="list-style-type: none"> <li>• Fistula cannulation</li> <li>• ECG and direct current use as anti-arrhythmic</li> <li>• Renal biopsy</li> <li>• Insertion of peritoneal catheter</li> </ul>		
<p>E. Prescribe the following non invasive and invasive therapeutic procedures.</p> <p>- Proper drug regimens for renal disease.</p> <p>-</p>	<p>Clinical round with senior staff</p> <p>Observation</p> <p>-Post graduate teaching</p>	<p>- Log book</p> <p>- Chick list</p>
<p>F. Perform the following non invasive AND invasive therapeutic procedures</p> <p>-Paracentesis under sonography</p> <p>-Pulse therapy for acute glomerulonephritis</p>		
<p>G. Develop and carry out patient management plans for the following problems:</p> <ol style="list-style-type: none"> <li>1. Rapidly progressive Glomerulonephritis</li> <li>2. Nephrotic and nephritic syndrome</li> <li>3. Tubulo interstitial diseases</li> <li>4. Renal failure</li> <li>5. UTI</li> <li>6. Renal vascular disease</li> </ol>	<p>Clinical round with senior staff</p>	
<p>H. Counsel and educate patients and their family about:</p> <ul style="list-style-type: none"> <li>• Chronic kidney diseases</li> <li>• Prevention of UTI</li> <li>• Controlling risk factors for renal disease</li> <li>• Modes of disease development</li> </ul>	<p>Clinical round with senior staff</p>	

I. Use information technology to support patient care decisions and patient education for renal diseases related conditions.	-Post graduate teaching -Clinical round with senior staff	
J. Provide health care services aimed at prevention and management of renal diseases and related complications.	-Post graduate teaching -Clinical round with senior staff	
k. Work with health care professionals, including those from other disciplines, to provide patient-focused care.	Clinical round with senior staff	
L-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive,timely and legible medical records)	Clinical round with senior staff	

## General Skills for all Units

### Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement	-Simulations	-Global rating

activities using a systematic methodology in the common problems (plain and conduct audit cycles)	-Clinical round -Seminars -Lectures -Case presentation	-Procedure/case presentation -Log book and Portfolios -Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	Simulations Clinical round Seminars Lectures Case presentation Hand on workshops	-Global rating -Procedure/case presentation Log book and Portfolios -Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

## Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients.	-Simulations -Clinical round -Seminars -Lectures -Case presentation	-Global rating -Procedure/case presentation -Log book and Portfolios -Chick list
G. Perform the following oral communications: -Interpretation of results of different investigations related to the conditions mentioned in A.A and A.B and A.C and discussion of different therapeutic option.		
H. Fill the following reports: -Abdominal ultrasonography reports. -Patient medical report. Renal biopsy pathology report		
I. Work effectively with others as a member or leader of a health care team in the conditions mentioned in A.A :A-C		

## Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	Observation Senior staff experience Case taking	1. Objective structured clinical examination 2. Patient survey
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

## Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating 2. Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

## Unit 2 Dialysis

### A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions:</p> <ul style="list-style-type: none"> <li>• Hemodialysis, types and complications</li> <li>• Peritoneal dialysis; types and complications</li> <li>• Plasma exchange, types and complications</li> <li>• Vascular access for dialysis</li> <li>• Dialytic therapy for drug toxicity and poisoning</li> <li>• Update in dialysis procedures and equipments</li> </ul>	<ul style="list-style-type: none"> <li>-Lecture</li> <li>- seminar</li> <li>-outpatient</li> <li>-inpatient</li> <li>-case presentation</li> <li>-Direct observation</li> <li>-tutorial)</li> <li>- journal club,</li> <li>-Critically appraised topic.</li> </ul>	<ul style="list-style-type: none"> <li>-OSCE</li> <li>-Written Exam</li> <li>- Oral Exam</li> <li>- Case presentation</li> <li>-MCQ exam at the second half of the second year</li> <li>-Log book</li> </ul>
<p>B. Mention the principles of :</p> <ul style="list-style-type: none"> <li>• <b>Dialysis:</b> Principle and indications of dialysis. Types of dialysis               <ul style="list-style-type: none"> <li>▪ Haemodialysis</li> <li>▪ Peritoneal dialysis</li> </ul> </li> </ul> <p>preparation Procedures Types of Dialyzers Types of Dialyzate fluid Water treatment system</p>		

<p>Anticoagulants</p> <p>Complications</p> <p>Vascular access</p> <p>Insertion of femoral catheters</p> <p>Insertion of central venous catheters</p> <p>Insertion of peritoneal catheters</p> <p>Drug regimens after dialysis.</p> <p>Outcome of dialysis</p> <p>Dialysis adequacy</p>		
<p>C. Mention Basics of the following rare diseases and conditions:</p> <p>-Acquired renal cystic disease</p> <p>Dialysis related amyloidosis</p>		
<p>D. Explain the facts and principles of the relevant basic supportive sciences related to dialysis.</p>		
<p>E. Explain the facts and principles of the relevant clinically supportive sciences related to dialysis.</p>		
<p>F. Describe the basic ethical and medicolegal principles relevant to dialysis.</p>		
<p>G. Describe the basics of quality assurance to ensure good clinical care in dialysis..</p>		
<p>H. Explain the ethical and scientific principles of medical research.</p>		
<p>I. Explain the impact of common health problems in dialysis on the society.</p>		
<p>J. Formulate management plans and alternative decisions in different situations in the field of dialysis.</p>		

## B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case in common problem related to dialysis.	Clinical rounds Senior staff experience	-case presentation Log book and Portfolios
B. Apply the basic and clinically supportive sciences which are appropriate to dialysis related problems.		
C. Demonstrate an investigatory and analytic thinking “problem – solving “approaches to clinical situation related to dialysis.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs as in: <ul style="list-style-type: none"> <li>▪ Bleeding during dialysis</li> <li>▪ Air embolism</li> <li>▪ Haemolytic reaction</li> <li>▪ Hypersensitivity reaction</li> <li>▪ Dysequilbruim syndrome</li> <li>▪ Convulsions durng dialysis</li> <li>▪ Complications of double way cannula insertion</li> </ul>		
G. Plain quality improvement activities in the field of medical education and clinical practice in dialysis.		
H. Create and innovate plans, systems, and other issues for improvement of performance in dialysis		
I. Present and defend his / her data in front of a panel of experts		

## C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Take history, examine and clinically diagnose different conditions related to dialysis.</p>	<p>Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)</p>	<p>-OSCE at the end of each year -log book &amp; portfolio</p>
<p>B-Order the following non invasive/invasive diagnostic procedures</p> <ol style="list-style-type: none"> <li>1. Urine analysis</li> <li>2. ECG</li> <li>3. Abd. Ultrasound</li> <li>4. Chest X ray</li> <li>5. kidney function tests</li> </ol>	<p>-Clinical round with senior staff Observation -Post graduate teaching</p>	<p>log book</p>
<p>C. Interpret the following non invasive/invasive diagnostic procedures</p> <ol style="list-style-type: none"> <li>1. Urine analysis</li> <li>2. ECG</li> <li>3. Abd. Ultrasound</li> <li>4. Interpretation of chest X ray</li> <li>5. Interpretation of kidney function tests</li> </ol>	<p>Clinical round with senior staff Observation -Post graduate teaching</p>	<p>log book</p>
<p>D. Perform the following non invasive and invasive diagnostic procedures.</p> <ul style="list-style-type: none"> <li>-Blood gas analysis</li> <li>-Interventional US</li> </ul>	<p>-Hand on workshops -Perform under supervision of senior</p>	<p>- Procedure presentation - Log book - Chick list</p>

	staff	
<p>E. Prescribe the following noninvasive and invasive therapeutic procedures.</p> <ul style="list-style-type: none"> <li>• Drug regimens for different medical complications in dialysis.</li> </ul>	<p>Clinical round with senior staff Observation -Post graduate teaching</p>	<p>- Log book - Chick list</p>
<p>F. Perform the following non invasive and invasive therapeutic procedures</p> <ul style="list-style-type: none"> <li>▪ Insertion of femoral catheters</li> <li>▪ Insertion of central venous catheters</li> <li>▪ Insertion of peritoneal catheters</li> </ul>		
<p>G. Develop and carry out patient management plans for the conditions mentioned in A.A –A-C</p>	<p>Clinical round with senior staff</p>	
<p>H. Counsel and educate patients and their family about:</p> <p>- common hereditary renal problem</p>	<p>Clinical round with senior staff</p>	
<p>I. Use information technology to support patient care decisions and patient education for dialysis related conditions.</p>	<p>-Post graduate teaching -Clinical round with senior staff</p>	
<p>J. Provide health care services aimed at preventing dialysis related conditions.</p>	<p>-Post graduate teaching -Clinical round with senior staff</p>	
<p>K. Work with health care professionals, including those from other disciplines, to provide patient-focused care.</p>	<p>Clinical round with senior staff</p>	

<p>L-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)</p>	<p>Clinical round with senior staff</p>	
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## Unit 3 Renal transplantation

### A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions:</p> <ul style="list-style-type: none"> <li>▪ Basic immunology and immunologic principles for transplantation</li> <li>▪ Immunosuppressive medications in renal transplantation</li> <li>▪ Evaluation and preoperative management of kidney transplant recipient</li> <li>▪ Prophylaxis and treatment of kidney transplant rejection</li> <li>▪ Medical management of kidney transplant recipient</li> <li>▪ Recurrent diseases in kidney transplant</li> <li>▪ Update in treatment and prophylaxis of renal transplant rejection.</li> </ul>	<ul style="list-style-type: none"> <li>-Lecture</li> <li>- seminar</li> <li>-outpatient</li> <li>-inpatient</li> <li>-case presentation</li> <li>-Direct observation</li> <li>-tutorial)</li> <li>- journal club,</li> <li>-Critically appraised topic.</li> </ul>	<ul style="list-style-type: none"> <li>-OSCE</li> <li>-Written Exam</li> <li>- Oral Exam</li> <li>- Case presentation</li> <li>-MCQ exam at the second half of the second year</li> <li>-Log book</li> </ul>
<p>B. Mention the principles of :</p> <ul style="list-style-type: none"> <li>- Renal transplantation</li> <li>- Types of transplantation</li> <li>- Indications</li> <li>- Types of kidney donors</li> <li>- Contraindications of transplantation</li> <li>- Complications of transplantation</li> <li>- Transplant rejection</li> </ul>		

<ul style="list-style-type: none"> <li>- Follow up of pre and post- transplant patients</li> <li>- Immune suppressive drugs</li> </ul>		
<p>C. Mention Basics of the following rare diseases and conditions:</p> <ul style="list-style-type: none"> <li>- common hereditary renal problem</li> </ul>		
<p>D. Explain the facts and principles of the relevant basic supportive sciences related to renal transplantation.</p>		
<p>E. Explain the facts and principles of the relevant clinically supportive sciences related to renal transplantation.</p>		
<p>F. Describe the basic ethical and medicolegal principles relevant to renal transplantation.</p>		
<p>G. Describe the basics of quality assurance to ensure good clinical care in renal transplantation.</p>		
<p>H. Explain the ethical and scientific principles of medical research.</p>		
<p>I. Explain the impact of common health problems in renal transplantation on the society.</p>		
<p>J. Formulate management plans and alternative decisions in different situations in the field of renal transplantation.</p>		

## B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case in common problem related to renal transplantation.	Clinical rounds Senior staff experience	-case presentation Log book and Portfolios
B. Apply the basic and clinically supportive sciences which are appropriate to renal transplantation related problems.		
C. Demonstrate an investigatory and analytic thinking “problem – solving “approaches to clinical situation related to renal transplantation.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs as in: <ul style="list-style-type: none"> <li>▪ Acute Rejection</li> <li>▪ Chronic allograft nephropathy</li> </ul>		
G. Plain quality improvement activities in the field of medical education and clinical practice in renal transplantation.		
H. Create and innovate plans, systems, and other issues for improvement of performance in renal transplantation.		
I. Present and defend his / her data in front of a panel of experts		

## C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A. Take history, examine and clinically diagnose different conditions related to renal transplantation.</p>	<p>Didactic; Lectures Clinical rounds Seminars Clinical rotations (service teaching)</p>	<p>-OSCE at the end of each year -log book &amp; portfolio</p>
<p>B-Order the following non invasive and invasive diagnostic procedures</p> <ol style="list-style-type: none"> <li>1. Work up investigations prior transplantation               <ul style="list-style-type: none"> <li>HLA MATCHING</li> <li>ABO matching</li> <li>Estimation of GFR for the donor</li> <li>Abdominal US for donor</li> <li>Renal Arteriography for donor</li> <li>Biochemical parameters for donor</li> <li>Kidney biopsy</li> </ul> </li> </ol>	<p>-Clinical round with senior staff Observation -Post graduate teaching</p>	<p>log book</p>
<p>C. Interpret the following non invasive and invasive diagnostic procedures and results of investigations mentioned in B</p>	<p>Clinical round with senior staff Observation -Post graduate teaching</p>	<p>log book</p>
<p>D. Perform the following noninvasive and invasive diagnostic procedures.</p> <ul style="list-style-type: none"> <li>- Abdominal US for donor</li> </ul>	<p>-Hand on workshops -Perform under</p>	<p>- Procedure presentation - Log book - Chick list</p>

Kidney biopsy	supervision of senior staff	
E. Prescribe the following non invasive and invasive therapeutic procedures: <ul style="list-style-type: none"> <li>▪ Immunosuppressive drugs</li> <li>▪ Anti-rejection therapy</li> </ul>	Clinical round with senior staff Observation -Post graduate teaching	- Log book - Chick list
F. Perform the following non invasive and invasive therapeutic procedures: <ul style="list-style-type: none"> <li>▪ Dialysis in transplant recipients</li> </ul>		
G. Develop and carry out patient management plans for the conditions mentioned in A.A AND A.B.	Clinical round with senior staff	
H. Counsel and educate patients and their family about: <ul style="list-style-type: none"> <li>- Complication of transplantation</li> <li>-Donor safety</li> </ul>	Clinical round with senior staff	
I. Use information technology to support patient care decisions and patient education for renal transplantation related conditions.	-Post graduate teaching -Clinical round with senior staff	
J. Provide health care services aimed at preventing renal transplantation related conditions.	-Post graduate teaching -Clinical round with senior staff	
K. Work with health care professionals, including those from other disciplines, to provide patient-	Clinical round with	

focused care.	senior staff	
L-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)	Clinical round with senior staff	

**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
<b>UNIT 1 Clinical nephrology</b>				
Fluid and electrolyte disorders	A,D-J	A-E,G-J	A-F,I-L	A-P
Primary and secondary glomerulonephritis and recent guidelines	A,D-J	A-E,G-J	A-F,I-L	A-P
Updates in pregnancy and renal diseases	A,D-J	A-E,G-J	A-F,I-L	A-P
Updates in diabetic nephropathy	A,D-J	A-E,G-J	A-F,I-L	A-P
Chronic kidney diseases and recent guidelines in management of uremic syndrome	A,D-J	A-E,G-J	A-F,I-L	A-P
Infectious diseases and the kidney	A,D-J	A-E,G-J	A-F,I-L	A-P
Drug therapy in kidney diseases	A,D-J	A-E,G-J	A-F,I-L	A-P
Acute kidney injury	A,D-J	A-E,G-J	A-F,I-L	A-P
Tubulointerstitial and vascular diseases of the kidney	A,D-J	A-E,G-J	A-F,I-L	A-P

Congenital and hereditary diseases of the kidney	A,D-J	A-E,G-J	A-F,I-L	A-P
Geriatric nephrology and urologic disorders	A,D-J	A-E,G-J	A-F,I-L	A-P
vascular diseases of the kidney	B, ,D-J	A-E,G-J	A-F,I-L	A-P
Interpretation of Biochemical investigations:	B, ,D-J	A-E,G-J	A-F,I-L	A-P
Radiologic examination: Ultrasonography, Plain abdominal X-ray, Intravenous urography (IVU), Computerized tomography.	B, ,D-J	A-E,G-J	A-F,I-L	A-P
Glomerulonephritis	B, ,D-J	A-E,G-J	A-F,I-L	A-P
Interpretation of Biochemical investigations:	A,D-J	A-E,G-J	A-F,I-L	A-P
Medullary cystic kidney diseases.	C, D-J	A-I	A-L	A-P
Medullary sponge kidney.	C, D-J	A-I	A-L	A-P
Acquired renal cystic diseases.	C, D-J	A-I	A-L	A-P
Tuberous sclerosis.	C, D-J	A-I	A-L	A-P
Von Hippel- Lindau syndrome.	C, D-J	A-I	A-L	A-P
▪ Hypertensive emergencies	-	F	A-E,I-L	A-P
▪ Acute coronary syndrome	-	F	A-E,I-L	A-P
▪ Arrhythmias	-	F	A-E,I-L	A-P
▪ Acute pulmonary edema	-	F	A-E,I-L	A-P