Master (MSC) Degree Program and Courses Specifications for

Critical care medicine

(According to currently applied Credit points bylaws)

Critical medicine
Faculty of medicine
Assiut University
2022-2023/2023-2024

Master degree of critical care Medicine

A. Basic Information

Program Title: Master degree of critical care Medicine for *2022-2023*

- **Nature of the program: Single.**
- **Responsible Department: Internal Medicine**
- **Program Academic Director (Head of the Department):**
- **Prof. Mohamed Elyamni**
- **Principle coordinator: Pr. Dr. Nour El-Deen Abdel Azeem El-Hefni**
  Prof: Dr Mahmood Ali M.Ashry
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- **Assistant coordinators Prof: Dr . Mohammad Mustafa A. Ashmawi**
  Prof: Dr . Mohammad Hossam H. Maghrapy
  Dr.Soheir Mostafa

And all other staff members in Internal medicine department.

- **Internal evaluators: Prof Howarda Nafady**
- **External evaluator: Prof Hassan Hassanen**
- **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:27-11-2022**
- **Total number of courses: 8 courses + 1 elective course**
  First part: 6 courses
  Second part: 2 courses

B. Professional Information

1- Program aims

1/1 To enable candidates to keep with national standards of patients care 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 critical and intermediate care units , besides dealing with emergent cases in emergency unit and enabling the candidates of making appropriate referrals to a sub-specialist.

1/2. Provide candidates with fundamental knowledge in critical care unit as regards; dealing with critically ill patients, ICU equipments, techniques, indications, contraindications and training skills of different critical care techniques.

1/3 To introduce candidates to the basics of scientific medical research.

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

1.5 Enabling the 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, Physiology, Pathology, Biochemistry, Microbiology and Pharmacology, Clinical Pathology to critical care medicine.

B. Mention essential facts of clinically supportive sciences including internal medicine specialties and **Anesthesia and intensive care.**

C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention, and treatment of critical disorders in various systemic diseases related to critical care medicine.
D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to critical care medicine.
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to critical care medicine.

F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of critical care medicine.
G. Mention the ethical and scientific principles of medical research methodology.

H. State the impact of common health problems in the field of critical care medicine 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 medical emergencies
B. Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to medical emergencies.
C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to internal medicine.
D. Formulate management plans and alternative decisions in different situations in the field of the Critical care medicine.

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 critical care medicine.

C. Carry out patient management plans for common conditions related to critical care medicine.

D. Use information technology to support patient care decisions and patient education in common clinical situations related to critical care medicine.

E. Perform competently non invasive and invasive procedures considered essential for the critical care medicine.

F. Provide health care services aimed at preventing health problems related to critical care medicine.

G. Provide patient-focused care in common conditions related to medical emergencies, 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 and 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 Critical Care Medicine

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. These standards were re-revised and approved without changes by the Faculty Council on 27-11-2022

4- Program External References (Benchmarks)

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

2- Curriculum and syllabus for interventional cardiology subspeciality training in Europe. EuroInterv.2006;2:31-36

3-American College of Critical Care Medicine of the society of critical care medicine: Guideline for advancing training of physicians in critical care. Crit Care med 1997;25:1601-1607. http://journals.lww.com/ccmjournal/Abstract/1997/09000

4- Core Curriculum for the European Society of intensive care medicine . http://www.ihi.org/knowledge/

Comparison between program and external reference		
Item	**Internal Medicine Critical care Medicine program**	**American College of Critical Care Medicine of the society of critical care medicine 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 them 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%.

Curriculum Structure: (Courses):

Courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		Didactics	Training	Total
First Part				
Basic science courses (8CP) **Course 1 (Pharmacology)**	CCM 206	1	-	1
Course 2 (Physiology)	CCM 203	2	-	2
Course 3 -Pathology & Clinical Pathology	CCM 218A#	3	-	3
Course 4 -Microbiology& Clinical Biochemistry	CCM 218 B#	2	-	2
General clinical compulsory courses (6 points) **Course 5 Basics of Internal MEDICINE**	- MED218 A	5	-	5
Course 6 Anesthesia and postoperative intensive care	-AIP229	1	-	1
Elective courses*	2CP			
- Elective course				
Clinical training and scientific activities:				
Clinical training in General clinical compulsory courses (10 CP) **Course 5 Basics of Internal MEDICINE**	MED218 A	-	8	8
Course 6 Anesthesia and postoperative	-AIP229	-	2	2

intensive care				
Clinical training and scientific activities in Speciality course (14 CP) **Course 7:Advanced internal Medicine** **Course 8: Critical care medicine**	-MED 218 B CCM 218 C		6 8	14
Thesis	20 CP			
Second Part	Speciality courses 24 CP Speciality Clinical Work 96 CP			
Speciality Courses **Course 7 Advanced internal medicine** **Course 8 Critical Care Medicine**	-MED 218 B - CCM 218 C	10 14 Total 24		
Training and practical activities in speciality (96 CP) **Course 7 Advanced internal medicine** **Course 8 Critical Care Medicine**	-MED 218 B - CCM 218 C		40 56 Total 96	
Thesis	**20 CP**			
Total		**180**		

1-First year for the Basic science courses in collaborations with academic departments and for basic training in anesthesia department. Also for acquisition of the basic training in the internal medicine department for all residents. Also training in general emergency unit and Rheumatology unit.

2- Second year: The candidate spend the first 10 months of the second year in different units of internal medicine department as follow:

-Cardiology unit……2month

-Gastroenterology……..2 month

-Nephrology……2month

-Heamatology unit ….1month

-Endocrinology…….1.5 month
-Neurology……...3 weeks In neurology department
-Chest……3 weeks in chest department
3-The candidate spend the last 2month of the 2nd year and the 3rd year in different critical care units of internal medicine department as follow:
-Cardiology critical care unit…….10 weeks.
-Gastroenterology critical care unit…….10 weeks.
-Nephrology critical care unit…….10 weeks.
-Haematology critical care unit …… 8 weeks.
-Endocrinology critical care unit……. 8 weeks.
-Neurology critical care unit……...5 weeks In Neurology department.
-Chest critical care unit ……5 weeks in Chest department.

Research Pathway

Selection of a research according to credit point bylaws in one of these point

Clinical trial .

-Meta Analysis/ Systematic Review.

-Clinical Audit.

-Epidemiological Studies

According to the department bylaws in one of theses point

Mechanical ventilation

Acute hemodynamic

Non invasive imaging cardiac intervention

GI endoscopy

Bronchoscopy

* 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.

Units' Titles' list	% from total Marks
Course 7 Advanced internal medicine	
Unit 1 Cardiovascular	17%
Unit 2 Gastroenterology & Hepatology	17%
Unit 3 Nephrology and dialysis	17%
Unit 4 Endocrinology and diabetes	14.5%
Unit 5 Hematology	8.5%
Unit 6 Chest disease	6.5%
Unit 7 Neurological disease	6.5%
Unit 8 Rheumatologic disease Unit	6.5%
9 General emergency unit	6.5%
9 UNITS	100%

Units' Titles' list	% from total Marks
Course 8: Critical care Medicine **Unit 1 Cardiology critical care** **Unit 2 Gastroenterology & Hepatology critical care** **Unit 3 Nephrology and dialysis critical care** **Unit 4 Endocrinology, diabetes critical care** **Unit 5 Haematology critical care** **Unit 6 Chest critical care** **U nit 7 Neurological critical care**	**17%** **17%** **17%** **14.5%** **14.5%** **10%** **10%**
7 units	**100 %**

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 :**
- - MBBCh Degree form any Egyptian Faculties of Medicine
- - Equivalent Degree from medical schools abroad approved by the Ministry of Higher Education
- - One year appointment within responsible department (for non Assiut University based registrars)

I. 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	Course Code	Written Exam	* Oral Exam	Practical / Clinical Exam	Total
First part					
Basic Courses:					
1. Course 1 (Pharmacology)	CCM206	30	20	-	50
2. Course 2 (Physiology)	CCM203	60	40	-	100
3. Course 3 -Pathology & Clinical Pathology	CCM218A#	90 (45+45)	60 (30+30)	-	150
1. Course 4 Microbiology& Clinical Biochemistry	CCM218B#	60 (30+30)	40 (20+20)	-	100
General clinical courses					
Course 5 Basics of Internal MEDICINE		150	50	50	250
Course 6 Anesthesia and postoperative intensive care		30	20		50
		420	280		700

Second Part					
Speciality Courses:					
Course 7 Advanced internal medicine Paper1 [paper2	-MED 218 B	**80 120**	**80**	200	
Course 8 Critical Care Medicine Paper 3 paper 4 Paper 3	- CCM 218 C	**90 120 90**	**120**	300	
Total of Speciality courses		500	200	500	1200
Elective course		**50**	50		100

* 25% of the oral exam for assessment of logbook

700 marks for first part

1200 for second part

100 for Elective course

Examination system:

- **First part:**
  - Written exam 1 hours in Pharmacology + Oral exam .
  - Written exam 2 hours in Physiology + Oral exam .
  - Written exam 2 hours in Microbiology and Biochemistry + Oral exam.
  - Written exam 3 hours in Pathology and clinical pathology + Oral exam.
  - Written exam 1 hours in Anesthesia and postoperative intensive care + Oral exam including assessment of practical skills

- Written exam 3 hours in Basics of Internal medicine + Oral exam +Clinical .

➢ **Second part:**

- Written exam Two papers 3 hours for each in advanced Internal medicine + Oral exam+ Clinical exam.
- Written exam Two papers 3 hours for each in Critical care medicine + Oral exam+ Clinical /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
Program Principle Coordinator:	**Prof.** Pr. Dr. Noor El-Deen Abdel Azeem El-Hefny **Prof: Dr Mahmood Ali M.Ashry**		
Head of the Responsible Department (Program Academic Director):	**Prof : Mohamed Elyamany**		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses

First Part

Course 1 (Pharmacology)

- **Course title : Pharmacology**
- **Course code: CCM 206**
- **Speciality : Critical care medicine**
- **Number of credit point : 1 Didactic, (100 %) practical 0 (0%) total 1 credit point .**
- **Department (s) delivering the course: Pharmacology in conjunction with Internal Medicine department.**
- **Coordinator (s): Staff members of Pharmacology Department in conjunction with Internal Medicine Department as annually approved by both departments councils**
- **Date last reviewed: September 2022**
- **Requirements (prerequisites) if any :**

  Non

2. Course Aims

The student should acquire the professional knowledge and facts of pharmacology necessary for critical care medicine.

3. Intending learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention *principles of pharmacology of:* - General pharmacology (pharmacokinetics, pharmacodynamics) - Cardiovascular system:- -Drugs of hypertension and hypertensive emergencies -Drugs of heart failure -Antiarrhythmics. -Inotropic agents. -Diuretics. -Anticoagulants ,antiplatelets -Thrombolytic CNS - Tranquilizers. -Antiepileptic. -dehydrating measures.	-Lectures	-Written and oral examination - Log book

-Anesthetics. Respiratory system:- -drugs of bronchial asthma and status asthmaticus GIT:- Drugs of peptic ulcer. Others Treatment of diabetes Non sterolidal anti-inflammatory drugs Corticosteroids Antibiotics Antiviral for COVID 19 Pandemic NOAC		

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 critical care medicine.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

Practical: 0 hours

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 and 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 and oral communication	Log book
C. Write a report in common condition mentioned in A.A		

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	Logbook

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	Logbook

4.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
Principles of General pharmacology (pharmacokinetics, pharmacodynamics :	A	A	-	A-E
Anticoagulants	A	A	-	A-E
-Drugs of hypertension and hypertensive emergencies -drugs of heart failure -Antiarrhythmics. -Inotropic agents. -Diuretics. -Anticoagulants ,antiplatelets -Thrombolytic therapy	A	A	-	A-E
- Insulin and Hypoglycemic drugs	A	A	-	A-E
Tranquilizers. Antiepileptic. -dehydrating measures. -Anesthetics.	A	A	-	A-E
drugs of bronchial asthma.				

- Corticosteroids	A	A	-	A-E
- Antibiotics	A	A	-	A-E
- Antacids	A	A	-	A-E
Non-steroidal anti inflammatory drugs	A	A	-	A-E
Antiviral for COVID 19 Pandemic NOAC	A	A	-	A-E

5. Course Methods of teaching/learning:

Didactic (lectures, seminars, tutorial)

1. Laboratory work
2. Observation and supervision
3. Written & oral communication
4. 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. Assessment of practical skills)
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

Katsong's Pharmacology **Fifteenth Edition (2021)**

iii. Recommended books

Basic & Clinical Pharmacology, 14 th Edition (2017). By Bertram Katzung, Anthony Trevor, Susan Masters.

iv. Periodicals, Web sites, … etc

American Journal of internal Medicine

BMJ

NEJIM

v. others

None

9. Signature

Course Coordinator: ……..	**Head of the Department:** ……
Date: ……	**Date:** ……

Course 2 (Physiology)

- **Course title : Physiology**
- **Course code: CCM 203**
- **Speciality : Critical care medicine**
- **Number of credit point: Didactic 2 (100%) practical 0 (0 %) total 2 credit point .**
- **Department (s) delivering the course: physiology in conjunction with internal medicine.**
- **Coordinator (s): Staff members of physiology Department in conjunction with internal medicine Department as annually approved by both departments councils**
- **Date last reviewed: 6/2022**
- **Requirements (prerequisites) if any :**

  No

2. Unit Aims

-The student should acquire the facts of physiology necessary for Critical Care Medicine and in Clinical reasoning, diagnosis and management.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Physiologic Principles of Cardiovascular system: **1- The innervations of the heart** **2- The regulation of the heart rate.** **3- The arterial blood pressure and its regulation.** **4- Phases of action potential** **5- Pulmonary and coronary circulation.** **6- Haemorrhage and its compensatory reaction.** **7- ECG and its clinical significant.** **Endocrine:** **1- Regulation of blood glucose** **2- Physiology of thyroid gland** **3-Physiology of adrenal gland** **4-Calcium homeostasis** **GIT:** **1- Gastrointestinal Hormones gut and pancreas** **Respiratory System:** **1- Know the regulation of normal respiration and physiology of respiration.** **2- Gas transport in blood (oxygen dissociation curve and CO2 curve)** **3- Blood gases** **CNS** **1- Describe the structure and functions of the**	**-Lectures**	**-Written and oral examination** **- Log book**

ANS **2- Know its higher centers.** **3- Pain** **Nephrology** **1- Acid base balance (mechanisms and abnormalities)** **2- Urine formation** **3- Hormones of the kidney** **Metabolism:** **Regulation of body temperature:** • **Know the centre and mechanism for regulation of body temperature.** • **Know the reaction of body on exposure to cold and hot** • **Know abnormalities of regulation of body temperature.**		

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 critical care medicine	**Didactic (lectures, seminars, tutorial)**	**-Written and oral examination** **-Log book**

C- Practical skills

Practical: 0 hours

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 and 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 and oral communication	Log book
C. Write a report in common condition mentioned in A.A		

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	Logbook

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	Logbook

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
Physiology of Cardiovascular system:	A	A	-	A-D
Physiology of Respiratory System	A	A		A-D
Physiology of Nervous system	A	A		A-D
Physiology of Endocrine System	A	A		A-D
Physiology of GIT	A	A		A-D

5. Course Methods of teaching/learning:

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

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
2. Log book

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

iii. Marks: 100

8. List of references

i. Lectures notes

- Lectures notes
- Staff members print out of lectures and/or CD copies
- Medical physiology books by Staff Members of the Department of Medical physiology -Assiut University.

ii. Essential books

- Guyton AC, Hall JE: Textbook of Medical Physiology, 11th ed. Saunders, 2006.

iii. Recommended books

Ganong's Review of medical physiology

9. Signature

Course Coordinator: ……..	Head of the Department: ……
Date: ……	Date: ……

Course 3 Pathology and Clinical Pathology

Name of department: Internal Medicine
Faculty of medicine
Assiut University
2022-2023/2023-2024

Course 3 unit 1 Pathology

1. Unit data

- **Unit Title:** Pathology
- **Unit code: CCM 218A#**
- **Speciality :** Critical Care Medicine
- **Number of credit point :** 1.5 lecture (100 %) practical 0(0%), total 1.5 **credit point**
- **Department (s) delivering the unit**: pathology in conjunction with internal medicine
- **Coordinator (s**): Staff members of pathology Department in conjunction with internal medicine department as annually approved by both departments councils
- **Date last reviewed: September 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 pathological facts necessary for critical care medicine

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ Learning	*Methods of Evaluation*
A. Mention Principles of General Pathology of: **-Thrombosis and embolism** **- Infections Including COVID-19** **-circulatory disturbances.**	**-Lectures**	**-Written and oral examination** **- Log book**
B-Describe Pathologic Details of: **A. Cardiovascular System:** **- Heart failure** **-Hypertension** **-Atherosclerosis** **-Cardiomyopathy** **-Ischemic heart disease** **B. Gastrointestinal system:** **-Inflammatory bowel diseases** **peptic ulcer** **--Malabsorption** **C-Respiratory system** **-Pneumonia** **-Respiratory failure** **-Pulmonary embolism**	**-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 to critical care medicine	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. Perform data management including data entry and analysis.	-Observation and supervision -Written and 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 and oral communication	Log book
C. Write a report in common condition mentioned in A.A and 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**	**Logbook**

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**	**Logbook**

4. 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
General Pathology				
Thrombosis and embolism	A	A	-	A-E
- Infections	A	A	-	A-E
-Disturbance of circulation	A	A	-	A-E
Pathologic details of:				
Cardiovascular System:				
- -Atherosclerosis	B	A	-	A-E
-Cardiomyopathy				
- Heart failure	B	A		A-E
-Hypertension	B	A		A-E
Gastrointestinal system:				
-Inflammatory bowel diseases	B	A		A-E
- peptic ulcer	B	A		A-E
Malabsorption	B	A		A-E
Respiratory system	B	A		A-E
-Pneumonia	B	A		A-E
-Respiratory failure	B	A		A-E
Pulmonary embolism	B	A		A-E

5. Methods of teaching/learning:

1-Didactic (lectures, seminars, tutorial)
2-Written & oral communication
3-Senior staff experience

6. 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. 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: 75

8. List of references

Lectures notes

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

ii. Essential books

- Kaplan's USMLE step 1 lecture notes 2016

iii. Recommended books

Robbins and Cotran's Pathologic basis of diseases
Robbin's Basic Pathology 10 edition, 2017

iv. Periodicals, Web sites, … etc

www.biomedcentral.com

Course 3 (Unit2)Clinical pathology

- **Unit Title: Clinical pathology**
- **Unit code: CCM218A#**
- **Speciality is Critical care medicine**
- **Number of CREDIT POINT :Didactic 1.5 (100%), practical 0 (0%),total 1.5.**

Department (s) delivering the Unit: clinical pathology in conjunction with Internal medicine department

- **Coordinator (s): Staff members of clinical pathology Department in conjunction with Internal medicine Department as annually approved by both departments councils**
- **Date last reviewed: 7/2022**
- **Requirements (prerequisites) if any :**

None

2. Unit Aims

The student should acquire the facts of clinical pathology necessary for critical care medicine.

3. Intending learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of clinical pathology of : ☒ -Hepatitis markers ☒ Electrolytes (Sodium, potassium, and calcium) ☒ Cardiac markers ☒ Blood glucose assessment tests ☒ Kidney function tests ☒ Liver function tests ☒ Plasma proteins ☒ Blood picture ☒ Bone marrow ☒ Blood culture ☒ Urine analysis and Proteinuria ☒ Cerebrospinal fluid ☒ Immunologic tests ☒ Haemolysis ☒ Laboratory investigations for COVID-19	-Lectures -Laboratory work	-Written and oral examination -Assessment of practical skills - Log book

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 critical care medicine	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills = 0 credit point

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 and oral communication	Log book

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 and 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 and oral communication	Log book
C. Write a report in common condition mentioned in A.A		

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**	**Logbook**

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**	**Logbook**

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**
☒ Hepatitis markers	A	A	-	A-E
☒ - Electrolytes (Sodium, potassium, and calcium)	A	A	-	A-E
☒ - Cardiac marker	A	A	-	A-E
☒ Blood glucose assessment tests	A	A	-	A-E
☒ Kidney function tests	A	A	-	A-E
☒ Liver function tests	A	A	-	A-E
☒ Proteinuria and urine analysis	A	A	-	A-E
☒ Cerebrospinal fluid	A	A	-	A-E
☒ Plasma proteins	A	A	-	A-E
☒ Blood picture	A	A	-	A-E
☒ Blood culture	A	A	-	A-E
☒ Bone marrow	A	A	-	A-E
☒ Immunologic tests				
☒ Haemolysis				

5. 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 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. 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: 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 2007

Harr: clinical laboratory Science Review;4th edition, 2012

iii. Recommended books

Tietz textbook of clinical chemistry and molecular diagnosis 6th edition, 2018

iv. Periodicals, Web sites, … etc

www.biomedcentral.com

9. Signature

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

Course 4 (Microbiology) & Clinical Biochemistry

Course 4 unit 1 (Microbiology)

1. Unit data

- **Unit Title: Microbiology**
- **Course code: CCM218B#**
- **Speciality is Critical care Medicine**
- **Number of credit point : lectures 1 (100 %), practical 0 (0 %).total 1 credit point**

Department (s) delivering the unit : Microbiology in conjunction with Internal medicine

- **Coordinator (s): Staff members of Microbiology Department in conjunction with Internal medicine Department as annually approved by both departments councils**
- **Date last reviewed: 5/2022**
- **Requirements (prerequisites) if any :**

  None

2. Course aims

The student should acquire the facts of microbiology necessary for Critical care medicine .

3. Intending learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of Microbiology of: **-Infecious agents (Gm +ve, Gm –ve, T.B, Zoonosis, typhoid ,brucellosis, candidiasis).** **-HIV infection.** **-Hospital acquired infection.** **-Community acquired infection** **-Covid 19 infection** **-Antibiotics and antimicrobial.** **-Sterilization and disinfection.** **-Hypersensitivity reactions.** **-Food poisoning.**	**-Lectures**	**-Written and oral examination** **- Log book**

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 Critical Care Medicine	**Didactic (lectures, seminars, tutorial)**	**-Written and oral examination** **-Log book**

C- Practical skills = 0 credit point

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 and 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 and oral communication	Log book
C. Write a report in common condition mentioned in A.A.		

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	Logbook

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. 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
General bacteriology				
Infecious agents (Gm +ve,Gm –ve, T.B, Zoonosis, typhoid , brucellosis, candidiasis	A	A	-	A-E
Antimicrobial agents	A	A	-	A-E
HIV infection.	A	A	-	A-E
Hospital acquired infection. - -Community acquired infection	A	A	-	A-E
-Antibiotics and antimicrobial.	A		-	A-E
Sterilization and disinfection.	A	A	-	A-E
Hypersensitivity reactions.	A	A	-	A-E
Food poisoning.	A	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- Assessment of practical skills)

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

Kaplan's microbiology and immunology last edition

step 1 lecture notes 2018

iii. Recommended books

Review of microbiology 8th edition

iv. Periodicals, Web sites, … etc

www.ASM.org

Course 4 Unit 2 Biochemistry

- **Unit2: Biochemistry**
- **Course code: CCM218B#**
- **Speciality : Critical care medicine**
- **Number of credit point : Didactic 1, (100%) practical 0 (0%) total 1 credit point.**
- **Department (s) delivering the unit : Biochemistry in conjunction with Internal Medicine department.**
- **Coordinator (s): Staff members of Biochemistry Department in conjunction with internal medicine Department as annually approved by both departments councils**
- **Date last reviewed: 5/ 2022**
- **Requirements (prerequisites) if any :None**

2. Unit Aims

-The student should acquire the facts of biochemistry necessary for critical care medicine in clinical reasoning, diagnosis and management of systemic diseases and emergencies.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe *details of Biochemistry of:* - **Insulin, and growth hormones** - **Carbohydrate metabolism** - **Protein metabolism** - **Cardiac enzyme.**	**-Lectures**	**-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 critical care Medicine	**Didactic (lectures, seminars, tutorial)**	**-Written and oral examination** **-Log book**

C- Practical skills

Practical: 0 hours

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 and 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 and oral communication	Log book
C. Write a report in common condition mentioned in A.A		

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	Logbook

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	Logbook

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
- Insulin, and growth hormones	A	A	-	A-E
- Carbohydrate metabolism	A	A	-	A-E
- Protein metabolism	A	A	-	A-E
Cardiac enzyme	A	A	-	A-E

5. Methods of teaching/learning:

Didactic (lectures, seminars, tutorial)

1. Observation
2. Written & oral communication
3. Senior staff experience

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

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

7. 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

Kaplan's USMLE step 1 lecture 2021:biochemistry and medical genetics

iii. Recommended books

Lippincott's illustrated Review: Biochemistry 8th edition, 2021

iv. Periodicals, Web sites, … etc

American Journal of internal Medicine

BMJ

NEJIM

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 5 Basics of Internal medicine

Name of department: Internal medicine
Faculty of medicine
Assiut University

2022-2023

1. Course data

- Course Title: Basics Internal medicine.
- Course code: MED 218 A
- Speciality *:* Internal medicine
- Number of Credit points: Didactic 5 , (38.5 %) practical 8 (61.5 %) total 13 Credit points
- Department (s) delivering the course: Department of Internal medicine Faculty of Medicine- Assiut University.

- Coordinator (s):

Course coordinator:

Prof. Mohmed Elyamni
Prof. Mahmoud Ali Ashery

- Assistant coordinator

Prof. Manal Ezz
Prof.Lobna Wahid
Prof:Omar Herdan
Prof:Effat Tony
Prof:Ahmed Farrag

- Date last reviewed: 5/2022

General requirements (prerequisites) if any: None

- Requirements from the students to achieve course ILOs are clarified in the joining log book.

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 the Basics of Internal medicine and enabling the candidates of making appropriate referrals to a sub-specialist.

2. To demonstrate the ability to provide patient-centered care that is appropriate, compassionate, and effective for treatment of diseases related to basics of Internal medicine and the promotion of health.

4-To give opportunities to evaluate and manage a broad variety of general medicine diseases .

5-To learn candidates to develop skills for using diagnostic tools.

3. Course intending 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: 1- Infectious diseases (Fever and PUO) including COVID 19 Pandemic 2- Common GIT diseases • Liver cirrhosis , • Ascitis, • Jaundice, • Hepatic malignancy 3 - Recognition and assessment of the critically ill patients • Fluid therapy • Poisoning 4- Presenting problem in critically ill patients:- • Circulatory failure, shock • Respiratory failure, ARDS • Acute kidney injury • Sepsis, DIC 5-Abdominal pain 6-Undiagnosed haematological diseases (pallor, bleeding tendency) 7-Undiagnosed rheumatological diseases (polyarthralgia) 8-Generalized edema	Didactic; Lectures Seminars	-log book & portfolio -Oral and written exam
B. Mention the principles of : -Basis of Clinical examination in internal medicine -Clinical examination of critically ill patients		

C. State update and evidence based Knowledge of Presenting problem in critically ill patients		
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 related 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 medica research methodology.		
H. State the impact of common health problems related To basics of Internal medicine on the society and how good clinical practice improve these problems.		

B-Intellectual outcomes For unit 1-3

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 of basics of Internal medicine.		
D-Formulate management plans and alternative decisions in different situations in the field of 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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - Complete laboratory investigations. - Hormonal assays - Imaging studies according to the suspected disease. -ECG -Chest X-ray - ESR, blood culture. -Blood picture -Blood chemistry -Metabolic profile:[i.e. serum electrolytes] -Endocrinal profile Rheumatoid factor, ANF, LE cells. -CBC, Blood film -Liver function tests - Abdominal Ultrasonography -CT abdomen -Platelet function. -Coagulation profile.	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures	Clinical round with	-Procedure presentation

-Routine appropriate Lab investigations related to conditions mentioned in A.A and A.B	senior staff	- Log book - Chick list
D. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. -Blood gases - ECG	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: -Prescribe proper treatment for conditions mentioned in A.A and A.B -Application of Intravenous cannula.	Clinical round with senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to basics of internal medicine.	Clinical round with senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to basics of internal medicine.		
H-Provide health care services aimed at preventing health problems related to basics of internal medicine.		
I-Provide patient-focused care in common conditions related to basics of internal medicine , while working with health care professionals, including those from other disciplines like: Conditions mentioned in A.A.		
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
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 Hematological diseases and rheumatologic disorders and general medicine .	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report - Discharge report -Death report	Senior staff experience	Chick list
L. Council patients and families about: - Hazards of blood transfusion - Haemolytic blood disease -Rheumatological disorders -Infectious diseases - Eating disorders	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: First part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Infectious diseases	A,D-G	A-D	A-J	A-R
Infectious diseases (Fever and PUO)	A-D-H		A-J	A-R
Common GIT diseases • Liver cirrhosis , • Ascitis, • Jaundice, • Hepatic malignancy	A-D-H	A-D	A-J	A-R
3 - Recognition and assessment of the critically ill patients • Fluid therapy • Poisoning	A-D-H	A-D	A-J	A-R
4- Presenting problem in critically ill patients:- • Circulatory failure, shock • Respiratory failure, ARDS • Acute kidney injury • Sepsis, DI	A,B,D-H	A-D	A-J	A-R
5-Abdominal pain	A-D-H	A-D	A-J	A-R
6-Undiagnosed haematological diseases (pallor, bleeding tendency)	A-D-H	A-D	A-J	A-R
7-Undiagnosed rheumatological diseases	A-D-H	A-D	A-J	A-R

(polyarthralgia)				
8-Generalized edema	**A-D-H**	**A-D**	**A-J**	**A-R**
-Basis of Clinical examination in internal medicine	**A-D-H**	**A-D**	**A-J**	**A-R**
-Clinical examination of critically ill patients	**A-D-H**	**A-D**	**A-J**	**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. Case log
13. Observation and supervision
14. Written & oral communications
15. Simulation
16. Hand on work shop
17. Service teaching
18. Perform under supervision of senior staff
19. 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 year

iii. Marks: 300

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, 25 edition. 2015

2- Oxford - text book of Medicine 11 edition

3- Davidson 24 edition.

4- Current Medical Diagnosis & treatment, 2022

iii. Recommended books

1. Harrisons - text book of Medicine , 20 edition, 2018
2. Macloid clinical methods 14 edition, 2018

iv. Periodicals, Web sites, … etc

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

v. Others

None

9. Signatures

Course Coordinator: …… **…….**	**Head of the Department:** **……**
Date: **……..**	**Date:** **……..**

Course 6 Anesthesia and intensive care

Name of department: : **Anesthesia and intensive care** department.
Faculty of medicine
Assiut University

2016-2017

1. Course data

- Course Title: **Anesthesia and intensive care**
- Course code: AIP229
- Speciality *:* Critical care medicine
- Number of Credit points: Didactic 1 , (33.3 %) practical 2 (66.7 %) total 3 Credit points
- Department (s) delivering the course: Anesthesia and postoperative intensive care Faculty of Medicine- Assiut University.
- **Coordinator (s): Staff members of Anesthesia and postoperative intensive care in conjunction with internal medicine Department as annually approved by both departments councils**

  Date last reviewed: 5/2022

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

Course aims

1. To teach and learn high level of clinical skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Anesthesia and post operative intensive care.
2. Provide candidates with fundamental knowledge of intensive care medicine as regards; dealing with critically ill patients .

Course intended learning outcomes

A- Knowledge and understanding

ILOs	**Methods of teaching/ Learning**	***Methods of Evaluation***
<u>A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions:</u> 1 -Indications of admission to ICU 2-Management of the Elderly Patient in the ICU 3- Care of Patients with Environmental Injuries • Heat Stroke • Hypothermia • Electric Shock 1. Disorders Fluids- Fluid therapy 2. A-Invasive& noninvasive assessment of arterial blood gases 4-Nutrition & Malnutrition in the Critically ill Patient 1. Entral tube feeding 2. Total parental nutrition 5- Management of severe COVID 19 infection	-Didactic (lectures, seminars, tutorial) - journal club, -Critically appraised topic, Educational prescription -Present a case (true or simulated) in a grand round	-Log book& Portfolio -Oral exam & Written exam
5- Mention the principles of Mechanical ventilation:- 1. Objectives of mechanical ventilation 2. Indications of mechanical ventilation 3. Modes and settings of mechanical ventilation 4. Weaning from mechanical ventilation 5. Non invasive positive pressure ventilation 6. Complications of mechanical ventilation		

7. Sedation and muscle relaxants 6-Airway management -Nasal and oral airways -Laryngeal mask airway - Endotraheal tube Suction 7. Central venous pressure and pulmonary artery wedge pressure. 8-Infection in ICU 1. Ventilator associated pneumonia 2. Sepsis syndrome. 3. Empirical antibiotic therapy		
C. State update and evidence based Knowledge and ventilatory strategies in • ARDS • Sepsis • Basics of anesthesia in different medical conditions(hypertension,DM,valvular and ischemic heart diseases)		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Intensive Care Medicine.		
E. Mention the basic ethical and medicolegal principles relevant that should be applied in practice and are to Intensive Care Medicine.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Intensive Care Medicine.		
G. Mention the ethical and scientific principles of medical research methodology		
H. State the impact of common health problems in the field of Intensive Care Medicine on the society and how good clinical practice improves 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 Intensive Care Medicine.	-Clinical rounds -Senior staff experience	-Procedure & case presentation -log book & portfolio
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Intensive Care 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 of Intensive Care Medicine.		
D-Formulate management plans and alternative decisions in different situations in the field of Intensive Care 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, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Order the following non invasive and invasive diagnostic procedures • CVP (order) • Arterial blood gases • Ventilator adjustment • Investigations appropriate to conditions mentioned above	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive and invasive diagnostic procedures • Hemodynamic Monitoring • ABGs	-Clinical round with senior staff -Observation - Post graduate teaching -Hand on workshops	
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures • airway management • ABG sampling • CVP measurement • Ventilator adjustment	-Clinical round with senior staff -Observation Post graduate teaching -Hand on	

• Chest care	workshops	
E. Prescribe the following non invasive and invasive therapeutic procedures : • Intubation • NIV &IPPV modes and settings	-Clinical round with senior staff -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to Intensive Care Medicine.	- Clinical round with senior staff - Perform under supervision of senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Intensive Care Medicine.		
H. Provide health care services aimed at preventing health problems related to Intensive Care Medicine like: • Hospital acquired pneumonia • Ventilator associated respiratory tract infection • Bed sores • Deep venous thrombosis • Psychological disturbances of the patients		
I. Provide patient-focused care in common conditions related to Intensive Care Medicine, while working with health care professionals, including those from other disciplines like: • Conditions mentioned in A.A		
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

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	--Log book & portfolio
B. Appraises evidence from scientific studies (journal club)	- Case log - Observation and supervision - Written & oral communication - Journal clubs - Discussions in seminars and clinical rounds	--Log book & portfolio
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.	-Observation & supervision -Didactic	Simulation Record review (report)
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 of Intensive Care Medicine.		
K. Write a report • Patients' medical reports • Death report • ABGs • Hemodynamics	-Senior staff experience	
L. Council patients and families about • Symptoms of critical illness • Methods of management • How they synchronize with ventilator	-Perform under supervision of senior staff	

4. 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
1. Management of the Elderly Patient in the ICU	A,D-H	A-D	A-J	A-L
2. Care of Patients with Environmental Injuries	A,D-H	A-D	A-J	A-L
• Heat Stroke	A,D-H	A-D	A-J	A-L
• Hypothermia	A,D-H	A-D	A-J	A-L
• Electric Shock				
• Organophosphrous poisning	A,D-H	A-D	A-J	A-L
3. Disorders Fluids- Fluid therapy ,:	A,D-H	A-D	B,C,D	A-L
A-Invasive& noninvasive assessment of arterial blood gases	A,D-H	A-D	B,C,D	A-L
1. Acid base status	A,D-H	A-D	B,C,D	A-L
2. Hypoxaemia and hypercapnia	A,D-H	A-D	A,I	A-L
3. Pulse oximetry	A,D-H	A-D	A,H,G	A-L
B-The most common electrolyte disorders	A,D-H	A-D	A,I	A-L
1. Hypokalemia	A,D-H	A-D	A,I	A-L
2. Hypomagnesemia	A,D-H	A-D	A,I	A-L
3. Hyponatremia	A,D-H	A-D	A,I	A-L
4. Hypocalcaemia.	A,D-H	A-D	A,I	A-L
4. Nutrition & Malnutrition in the Critically ill Patient	A,D-H	A-D	A-J	A-L

A-Nutrition	A,D-H	A-D	A-J	A-L
1. Entral tube feeding	A,D-H	A-D	A-J	A-L
2. Total parentral nutrition	A,D-H	A-D	A-J	A-L
• Indications of admission to ICU	B,D-H	A-D	A-J	A-L
• Basic and advanced life support	B,D-H	A-D	A-J	A-L
• Vascular access:	B,D-H	A-D	A-J	A-L
• Monitoring of various body function	B,D-H	A-D	A-J	A-L
• Cardiopulmonary resuscitation	B,D-H	A-D	A-J	A-L
• Theories of mechanism of action of general and local anesthesia	B,D-H	A-D	A-J	A-L
• Airway management	B,D-H	A-D	D	A-L
1. Nasal and oral airways	B,D-H	A-D	D	A-L
2. Laryngeal mask airway	B,D-H	A-D	D	A-L
3. Endotraheal tube	B,D-H	A-D	D	A-L
• Suction	B,D-H	A-D	D	A-L
4. Central venous pressure and pulmonary artery wedge pressure.	B,D-H	A-D	B,C,D	A-L
• Infection in ICU	B,D-H	A-D	D,H	A-L
1. Ventilator associated pneumonia	B,D-H	A-D	D,H	A-L
2. Sepsis syndrome.	B,D-H	A-D	D,H	A-L
3. Empirical antibiotic therapy	B,D-H	A-D	A-J	A-L
• Mechanical ventilation	B,D-H	A-D	A-J	A-L

1. Objectives of mechanical ventilation	B,D-H	A-D	B,D,E	A-L
2. Indications of mechanical ventilation	B,D-H	A-D	B,D,E	A-L
3. Modes and settings of mechanical ventilation	B,D-H	A-D	B,D,E	A-L
4. Weaning from mechanical ventilation	B,D-H	A-D	B,D,E	A-L
5. Non invasive positive pressure ventilation	B,D-H	A-D	B,D,E	A-L
6. Complications of mechanical ventilation	B,D-H	A-D	B,D,E	A-L
7. Sedation and muscle relaxants	B,D-H	A-D	D,H	A-L
ARDS	C,D-H	A-D	D,H	A-L
Sepsis	B,C,D-H	A-D	D,H	A-L

5. Course Methods of teaching/learning:

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

11. Case log
12. Observation and supervision
13. Written & oral communications
14. Simulation
15. Hand on work shop
16. Service teaching
17. Perform under supervision of senior staff
18. 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 year

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

*Morgan G.E,Mikhail M and Murry M.,(2022);Clinical anaesthesiology ,7th Edition,MC Graw-Hill companies,UK,andUSA.

*Paul L Marino:The ICU Book(4th Edition.2014)

iii. Recommended books

*David E .Longnecker:Anaesthesiology ,(3rd Edition), 2017

* Textbook of critical care (Shoemaker,7th Edition,2016)

*Intensive care medicine(Irwin and Rippe) 8th Edition), 2017

iv. Periodicals, , … etc

*American journal of respiratory &critical care medecine

*British journal of anaesthesia

*Anaeshesia and analgesia

* Journal of applied physiology

v- Web sites

*www.fraca.co.uk

*www.nda.ox.ac.uk/wfsa/

vi. Others: None

9. Signatures

Course Coordinator: …… **…….**	**Head of the Department:** **……**
Date: **…….**	**Date:** **…….**

Second part

Course 7 Advanced internal Medicine

Name of department: : Internal medicine
Faculty of medicine
Assiut University
2022-2023

1. Course data

- Course Title: Advanced Internal medicine.
- Course code: MED 218 B
- Speciality *:* Internal medicine
- Number of Credit points: Didactic 10 , (17.86 %) practical 46 (82.14%) total 56 Credit points
- Department (s) delivering the course: Department of Internal medicine Faculty of Medicine- Assiut University.
- Coordinator (s):

Course coordinator: Pr. Dr. Nour El-Deen Abdel Azeem El-Hefni

- Assistant coordinator

Prof Mahmoud Al Ashry
Prof. Lobna abdel Wahed
Prof. Ahmed Farrag
Prof. Manal Ezz
Dr. Omar Herdan

- Date last reviewed: 5/2022

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 9 units(Modules)

Unit 1 Cardiovascular

Unit 2 Gastroenterology & Hepatology

Unit 3 Nephrology and dialysis

Unit 4 Endocrinology and diabetes

Unit 5 Hematology

Unit 6 Chest disease

Unit 7 Neurological disease

Unit 8 Rheumatologic disease

Unit 9 General emergency unit

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 the Internal medicine and enabling the candidates of making appropriate referrals to a sub-specialist.

2. To demonstrate the ability to provide patient-centered care that is appropriate, compassionate, and effective for treatment of diseases related to Internal medicine subspecialties and the promotion of health.

3-To give opportunities to evaluate and manage a broad variety of cardiovascular diseases & endocrine & GIT disorders& chest and neurological disorders.

5-To learn candidates to develop skills for using diagnostic tools.

3-Course intended learning outcomes

A-Knowledge and understanding

Unit 1 Cardiovascular

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **a. - Myocardial ischemia syndromes like chronic stable angina, acute coronary syndromes, coronary artery spasm, and others.** **b. Hypertension and hypertensive heart diseases.** **c. Rheumatic fever and rheumatic heart diseases.** **d. Different pericardial diseases, whether acute or chronic.** **e. Acute and chronic diseases of the myocardial muscle.** **f. Arrhythmias**	**Didactic;** **-Lectures** **-Clinical rounds** **-Seminars** **-Clinical rotations (service teaching)**	**-log book & portfolio** **- MCQ examination every six month during second and third year** **-Oral and written exam**
B. Mention the principles of : **a. - Disturbances of the cardiac rhythm and all types of both tachycardias & bradycardias.** **b. Interrelation ship between the heart and other body systems.** **c. Drug and non drug therapy of different cardiac diseases.** **d. Indications for echocardiography (transthoracic and transoesphageal)**		

C. State update and evidence based Knowledge of **a. - Myocardial ischemia syndromes like chronic stable angina, acute coronary syndromes, coronary artery spasm, and others.** **b. Arrhythmias**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Cardiovascular system.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Cardiovascular system		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Cardiovascular system		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of cardiovascular diseased on the society and how good clinical practice improve these problems.		

Unit (Module) 2 Gastroenterology and Hepatology

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **a. Malabsorption** **b. Acute and chronic diarrhea** **c. Acid pepsin disorder and peptic ulcer** **d. GIT malignancy** **e. GIT motility disorders** **f. Esophageal disorders** **g. Acute and chronic hepatitis** **h. Liver cirrhosis** **i. Hepatic encephalopathy** **j. NASH** **k. Hepatic malignancy** **l. Acute and chronic pancreatitis** **m. Tumors of the pancreas** **n. Hepatorenal syndrome**	**Didactic; Lectures Seminars**	**log book & portfolio - MCQ examination -Oral and written exam**
B. Mention the principles of : **1. Cholangitis** **2. Medical acute abdomen** **3. Acute liver cell failure.** **4. Hemodynamic monitoring**		

C. State update and evidence based Knowledge of a. **Malabsorption** b. **Acute and chronic diarrhea** c. **GIT malignancy** d. **GIT motility disorders** e. **Acute and chronic hepatitis** f. **Liver cirrhosis** g. **Hepatic encephalopathy** h. **NASH** i. **Hepatic malignancy** j. **Acute and chronic pancreatitis** k. **Tumors of the pancreas** l. **Jaundice** m. **Ascites**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to gastroenterology and hepatic diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to gastroenterology and hepatic diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of gastroenterology and hepatic diseases.		
G. Mention the ethical and scientific principles of me research methodology.		
H. State the impact of common health problems in tl field of gastroenterology and hepatic diseases on the society and how good clinical practice improve thes problems.		

Unit (Module) 3 Nephrology and 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: **a. - Glomerulonephritis** **b. Nephrotic syndrome** **c. Tubulo interstitial disease** **d. Renal failure** **e. UTI** **f. Kidney in systemic disease.**	**Didactic;** **-Lectures** **-Clinical rounds** **-Seminars** **-Clinical rotations (service teaching)**	**-log book & portfolio** **- MCQ examination every six month during second and third year** **-Oral and written exam**
B. Mention the principles of : **a. Renal vascular disease** **b. Dialysis**		
C. State update and evidence based Knowledge of **a. - Nephrotic syndrome** **b. Renal failure** **c. Kidney in systemic disease.**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences 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 me research methodology.		
H. State the impact of common health problems in th field of nephrology on the society and how good clini practice improve these problems.		

Unit (Module) 4 Endocrinology and diabetes

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **a. Diabetes mellitus** **b. Thyroid and parathyroid diseases** **c. Adrenal gland diseases** **d. Obesity** **e. Pituitary gland diseases** **f. Diabetes insipidus** **g. Short stature** **h. Diabetes insipidus** **i. Osteoporosis** **j. Endocrine Emergencies**	**Didactic; Lectures Clinical rounds**	**-log book - MCQ examination every six month -Oral and written exam**
B. Mention the principles of : **a. Growth disorder** **b. Ca homeostasis**		
C. State update and evidence based Knowledge of endocrinal diseases.		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to endocrinal diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to endocrinal diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of endocrinal diseases.		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems in the of endocrinology on the society and how good clinical practice improve these problems.		

Unit (Module) 5 Haematology

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **a. Anemias (Iron deficiency, Megaloblastic, Hemolytic)** **b. Hemoglobinopathies** **c. Bone marrow aplasia** **d. Myelodysplastic syndromes** **e. Acute leukemias** **f. Chronic leukemias** **g. Lymphomas** **h. Myeloproliferative disorders** **i. Plasma cell disorders (Multiple myeloma)** **j. Clotting disorders** **k. Thrombophilia (predisposition, causes)** **l. Abnormalities in Granulocytes (neutropenia, leukomoid reaction)** **m. Disorders of Bleeding (platelet function and number disorders) Vascular disorders** **n. Neutropenic patients** **o. Critically thrombocytopenic patients** **p. Hypovolaemic shock**	**Didactic;** **-Lectures** **-Clinical rounds** **-Seminars** **-Clinical rotations (service teaching)**	**log book & portfolio** **- MCQ examination** **-Oral and written exam**
B. Mention the principles of : **a. Blood transfusion** **b. Hemodynamic monitoring**		
C. State update and evidence based Knowledge of **a. Anemias (Iron deficiency, Megaloblastic,**		

Hemolytic) **b. Acute leukemias** **c. Chronic leukemias** **d. Lymphomas** **e. Myeloproliferative disorder**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Hematological diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Hematological diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Hematological diseases.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of Hematological diseases on the society and how good clinical practice improve these problems.		

Unit (Module) 6 CHEST DISEASES

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **a. Pneumonias** **b. Acute asthma** **c. Pleural effusion** **d. Respiratory failure (acute &chronic)** **e. Interstitial pulmonary fibrosis** **f. Chronic obstructive pulmonary disease(COPD)**	**Didactic; Lectures Seminars**	**log book & portfolio - MCQ examination -Oral and written exam**
B. Mention the principles of : **a. Respiratory failure**		
C. State update and evidence based Knowledge of : **a. Chronic obstructive pulmonary disease(COPD)**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Chest.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Chest.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Chest.		
G. Mention the ethical and scientific principles of me research methodology.		
H. State the impact of common health problems in tl field of Chest on the society and how good clinical practice improve these problems.		

Unit (Module) 7 Neurology

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: ▪ **Cerebrovascular stroke** ▪ **Myopathy and neuromuscular junctional disorder** ▪ **Neuropathies.** ▪ **Coma (causes and management)** ▪ **Infections of nervous system**	**Didactic; Lectures Seminars**	**log book & portfolio - MCQ examination -Oral and written exam**
B. Mention the principles of : **-Anatomic Principles of central and peripheral nervous system** **Physiology of neurological reflexes and their centers** **-Interpretation of investigations as CT brain.** **Involuntary movement**		
C. State update and evidence based Knowledge of **1-Stroke 2-Coma 3-Neuropathy**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to neurological disorders related to internal medicine		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to neurological disorders related to internal medicine		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of neurological disorders.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field neurology on the society and how good clinical practice improve these problems.		

Unit (Module) 8 Rheumatology, and muscloskeletal disorders

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **a. Rheumatoid arthritis** **b. SLE** **c. Crystal induced arthropathy** **d. Systemic sclerosis** **e. Dermatomyositis and polymyositis** **f. Osteoarthritis** **g. Seronegative arthropathy** **h. Arthritis in systemic diseases** **i. Infective arthritis** **j. Antiphospholipid syndrome**	**Didactic; Lectures Seminars**	**- log book & portfolio - MCQ examination -Oral and written exam**
B. Mention the principles of : **-Hematological and gastroenterology changes in Rheumatologic diseases.**	**Didactic; Lectures Seminars**	**-**
C. State update and evidence based Knowledge of **A. Rheumatoid arthritis** **B. SLE** **C. Arthritis in systemic diseases** **D. Infective arthritis** **E. Antiphospholipid syndrome**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to rheumatologic diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to rheumatologic diseases		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of rheumatologic diseases		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of Rheumatology on the society and how good clinical practice improve these problems.		

Unit (Module) 9 General emergency unit

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A- Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: **- Comatosed patients**	**Didactic; Lectures Seminars**	**-log book & portfolio** **-Oral and written exam**
B. Mention the principles of : ▪ **Shock** ▪ **CPR** ▪ **Fluid therapy** ▪ **Electrolyte imbalance** ▪ **Acid –base imbalance**		
C. State update and evidence based Knowledge of ▪ **Shock** ▪ **CPR**		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to General emergency unit		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to General emergency unit.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of General emergency unit.		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems related To General emergency unit on the society and how good clinical practice improve these problems.		

B- Intellectual outcomes for (units 1-8)

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 Advanced 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 Advanced 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 of Advanced internal medicine		
D-Formulate management plans and alternative decisions in different situations in the field of the Advanced internal medicine		

C-Practical skills (Patient Care)

Unit 1 Cardiovascular

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)**	**-Clinical Exam -OSCE every six month during second and third year , Oral -log book**
B. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A -X ray chest -cardiac markers -ECG	**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 -Routine appropriate Lab investigations related to conditions mentioned in A.A -X ray chest -cardiac markers -ECG -Echocardiography Blood gases	**Clinical round with senior staff**	**Procedure presentation - Log book - Chick list**

D. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. **-ECG** **-Echocardiography** **-Blood gases** **-CVP**	**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 : **-Prescribe proper treatment for conditions in A.A**	**Clinical round with senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to cardiology.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to cardiology.		
H-Provide health care services aimed at preventing health problems related to cardiology like: **a. Myocardial ischemia syndromes like chronic stable angina, acute coronary syndromes, coronary artery spasm, and others.** **b. Hypertension and hypertensive heart diseases.**		
I-Provide patient-focused care in common conditions related to cardiology while working with health care professionals, including those from other disciplines like: Conditions mentioned in A.A.		
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).		

Unit (Module) 2 Gastroenterology and hepatology

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 every six month -log book & portfolio - Clinical exam**
B. Order the following non invasive/invasive diagnostic procedures Stool analysis Liver function test Chest X ray Barium studies Abdominal US Abdominal CT & MRI Upper and lower GI endoscopy GIT motility study	**Clinical round with senior staff Observation Post graduate teaching**	**-Procedure presentation - Log book - Chick list**
C. Interpret the following non invasive/invasive diagnostic procedures -Results of Routine appropriate Lab investigations related to conditions mentioned in A.A. -Abd. ultrasound		

D. Perform the following non invasive and invasive diagnostic and therapeutic procedures. **-Abdominal US .** **-Liver biopsy under supervision** **-Abdominal Paracentesis** **-Nasogastric tube and sungestaken tube application**	**Clinical round with senior staff** **-Perform under supervision of senior staff**	**-Procedure presentation** **- Log book** **- Chick list**
E. Prescribe the following non invasive and invasive therapeutic procedures: **-Application of Intravenous catheter.** **-Prescribe proper treatment for conditions mentioned in A.A** **-Proper drug regimens for** **GIT diseases** **Abdominal paracentesis**	**Clinical round with senior staff** **Perform under supervision of senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Gastroenterology and hepatology.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Gastroenterology and hepatology.		
H. Provide health care services aimed at preventing health problems related to Gastroenterology and hepatology		
I. Provide patient-focused care in common conditions related to Gastroenterology and hepatology		
A. 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).		

Unit (Module) 3 Nephrology and dialysis

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)**	**-Clinical Exam OSCE, every six month in the second and third year -log book & portfolio**
B. Order the following non invasive/invasive diagnostic procedures - Routine appropriate Lab investigations related to conditions mentioned in A.A: -Abdominal Ultrasonography -CT abdomen -Urine analysis -Blood gases -Dialysis	**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 - Routine appropriate Lab investigations related to conditions mentioned in A.A -chest X ray . -Abdominal Ultrasonography. -Blood gases	**Clinical round with senior staff**	**Procedure presentation - Log book - Chick list**

D. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. **- Abdominal Ultrasonography** **-Urine analysis** **-Blood gases** **–Dalysis**	**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 : **- Prescribe proper treatment for conditions mentioned in A.A** **-Urinary catheter.** **-Dialysis**	**Clinical round with senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Nephrology.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Nephrology.		
H-Provide health care services aimed at preventing health problems related to Nephrology.		
I-Provide patient-focused care in common conditions related to Nephrology. , while working with health care professionals, including those from other disciplines like: **Conditions mentioned in A.A.**		
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).		

Unit (Module) 4 Endocrine and diabetes

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 every six months -log book & portfolio -**
B. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Laboratory investigations related to conditions mentioned in A.A . -Urine and stool analysis -Measure the blood sugar. -Ultrasonography	**-Clinical round with senior staff Observation Post graduate teaching**	**- Log book - Chick list**
C. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A - Liver function tests -Results of Urine analysis -Abdominal Ultrasonography. -kidney function test -Random blood sugar.	**Clinical round with senior staff**	**-Procedure presentation - Log book - Chick list**

D. Perform the following non invasive/invasive diagnostic and therapeutic procedures. **- Blood sugar estimation** **-Urinalysis** **-Application of intravenous cannula.** **-Abdominal US under supervision.** **-Insulin administration.**	**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: **-Prescribe proper treatment for conditions mentioned in A.A**	**Clinical round with senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Endocrinal diseases.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Endocrinal diseases.		
H-Provide health care services aimed at preventing health problems related to Endocrinal diseases.		
I-Provide patient-focused care in common conditions related to Endocrinal diseases., while working with health care professionals, including those from other disciplines like: Conditions mentioned in A.A.		
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).		

Unit (Module) 5 Haematology

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 first year -log book & portfolio -**
B. Order the following non invasive/invasive diagnostic procedures **Routine appropriate Laboratory investigations related to conditions mentioned in A.A and A.B as** **-CBC, Blood film** **-Liver function tests** **- Abdominal Ultrasonography** **-CT abdomen** **-Platelet function.** **-Coagulation profile.**	**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 **-Routine appropriate Lab investigations related to conditions mentioned in A.A and A.B**	**Clinical round with senior staff**	**-Procedure presentation - Log book - Chick list**
D. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. **-Plasmapharesis**	**Clinical round with senior staff -Perform under**	**-Procedure presentation - Log book - Chick list**

	supervision of senior staff	
E. Prescribe the following non invasive/invasive therapeutic procedures: **-Prescribe proper treatment for conditions mentioned in A.A and A.B** **-Application of Intravenous cannula.**	**Clinical round with senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Hematological diseases.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Hematological diseases.		
H-Provide health care services aimed at preventing health problems related to Hematological diseases. <u>like:</u> **-Delayed diagnosis of neoplastic blood diseases.** **- Anemia.**		
I-Provide patient-focused care in common conditions related to Hematological diseases. , while working with health care professionals, including those from other disciplines like: **Conditions mentioned in A.A.**		
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).		

Unit (Module) 6 Chest

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 -log book & portfolio**
B. Order the following non invasive/invasive diagnostic procedures - Routine appropriate Lab investigations related to conditions mentioned in A.A -ECG -Chest X-ray - ESR, blood culture. -Echocardiography. -Blood picture -Blood chemistry -Sputum culture -chest CT SCAN	**Clinical round with senior staff Observation Post graduate teaching**	
C. Interpret the following non invasive/invasive diagnostic procedures - Routine appropriate Lab investigations related to conditions mentioned in A.A -ECG -Chest X-ray - ESR, blood culture. -Echocardiography.	**Clinical round with senior staff**	**-Procedure presentation - Log book - Chick list**

-Blood picture **-Blood chemistry** **-Sputum culture**		
D. Prescribe the following non invasive/invasive therapeutic procedures: **-Prescribe proper treatment for conditions mentioned in A.A**	**Clinical round with senior staff Perform under supervision of senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
E. Carry out patient management plans for common conditions related to Chest.	**Clinical round with senior staff**	
F. Use information technology to support patient care decisions and patient education in common clinical situations related to Chest.		
G. Provide health care services aimed at preventing health problems related to Chest.		
H. Provide patient-focused care in common conditions related Chest., while working with health care professionals, including those from other disciplines like: Conditions mentioned in A.A.		
I. 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).		

Unit (Module) 7 Neurology

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 -log book & portfolio**
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - CT and MRI brain -ECG -Blood chemistry - Serum electrolytes -EEG	**-Clinical round with senior staff Observation -Post graduate teaching**	**-Procedure presentation - Log book - Chick list**
C. Interpret the following non invasive/invasive diagnostic procedures - ECG -Blood chemistry - Serum electrolytes	**Clinical round with senior staff**	**-Procedure presentation - Log book - Chick list**

Unit (Module) 8 Rheumatology

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 first year -log book & portfolio**
B. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A -ECG -Chest X-ray - ESR, blood culture. -Blood picture -Blood chemistry -Metabolic profile:[i.e. serum electrolytes] -Endocrinal profile Rheumatoid factor, ANF, LE cells.	**Clinical round with senior staff Observation Post graduate teaching**	**-Procedure presentation - Log book - Chick list**
C. Interpret the following non invasive/invasive diagnostic procedures --Routine appropriate Lab investigations related to conditions mentioned in A.A -ECG -Chest X-ray - ESR, blood culture. -Echocardiography.		

-Blood picture **-Blood chemistry** **-Metabolic profile:[i.e. serum electrolytes]** **-Endocrinal profile** **Rheumatoid factor, ANF, LE cells.**		
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures. **-ECG** **-Plasmapharesis**	**Clinical round with senior staff** **-Perform under supervision of senior staff**	**-Procedure presentation** **- Log book** **- Chick list**
E. Prescribe the following non invasive and invasive therapeutic procedures: **-Prescribe proper treatment for conditions mentioned in A.A** **-Proper drug regimens for Rheumatologic diseases**	**Clinical round with senior staff** **Perform under supervision of senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Rheumatologic diseases	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Rheumatologic diseases		
H. Provide health care services aimed at preventing health problems related to Rheumatologic diseases		
I. Provide patient-focused care in common conditions related to Rheumatologic diseases		
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).		

Unit (Module) 9 General emergency unit

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 -log book & portfolio -Clinical exam in this branch.**
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - Complete laboratory investigations. - Imaging studies according to the suspected disease.	**-Clinical round with senior staff Observation -Post graduate teaching**	**-Procedure presentation - Log book - Chick list**
C. Interpret the following non invasive/invasive diagnostic procedures --Routine appropriate Lab investigations related to conditions mentioned in A.A		
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures. -ECG -Blood gases -Ryle tube insertion		

D-General Skills for all units (1-9)

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 Advanced internal medicine units	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report -Death report -Ultrasonography report	Senior staff experience	Chick list
L. Council patients and families about: -Hypertension Myocardial ischemia -Congenital heart diseases Hereditary renal disease Diabetes and diabetic foot Gastroenterology and hepatology diseases	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 Cardiovascular system				
- Myocardial ischemia syndromes like chronic stable angina, acute coronary syndromes, coronary artery spasm, and others.	A,C,D-H	A-D	A,,B,C,H	A-R
Hypertension and hypertensive heart diseases.	A,C,D-H	A-D	A,,B,C,H	A-R
Rheumatic fever and rheumatic heart diseases.	A,C,D-H	A-D	A-J	A-K,M-R
Different pericardial diseases, whether acute or chronic.	A,D-H	A-D	A-J	A-K, M-R
Acute and chronic diseases of the myocardial muscle.	A,D-H	A-D	A,,B,C,H	A-K, M-R
Coma	A,D,-H	A-D	A-J	A-R
Arrhythmias	A,C,-H	A-D	A-J	A-K, M-R
Cardiogenic shock	A,D-H	A-D	A-J	A-L, M-R
Disturbances of the cardiac rhythm and all types of both tachycardias & bradycardias.	B,D-H	A-D	A-J	A-L, M-R
Interrelation ship between the heart and	B,D-H	A-D	A-J	A-L, M-R

other body systems.				
Drug and non drug therapy of different cardiac diseases.	B,D-H	A-D	A-J	A-K, M-R
Unit 2 Gastroenterology, hepatology				
Rption	A,C,D-H	A-D	A-J	A-R
Acute and chronic diarrhea	A,C,D-H	A-D	A-J	A-R
Acid pepsin disorder and peptic ulcer	A,C,D-H	A-D	A-J	A-R
GIT malignancy	A,C,D-H	A-D	A-J	A-R
GIT motility disorders	A,D-H	A-D	A-J	A-R
Esophageal disorder	A,D-H	A-D	A-J	A-R
Acute and chronic hepatitis	A,B,C,D-H	A-D	A-J	A-R
Liver cirrhosis	A,D-H	A-D	A-J	A-R
Hepatic encephalopathy	A,C,D-H	A-D	A-J	A-R
NASH	A,C,D-H	A-D	A-J	A-R
Hepatic malignancy	A,C,D-H	A-D	A-J	A-R
Acute and chronic pancreatitis	A,C,D-H	A-D	A-J	A-R
Tumors of the pancreas	A,C,D-H	A-D	A-J	A-R

Jaundice	A,D-H	A-D	A-J	A-R
Ascites	A,C,D-H	A-D	A-J	A-R
Hepatorenal syndrome	A,D-H	A-D	A-J	A-R
Hepatic encephalopathy	A,C,D-H	A-D	A-J	A-R
Cholangitis	B,D-H	A-D	A-J	A-R
Central venous line placement	B,D-H	A-D	A-J	A-R
Hemodynamic monitoring	B,D-H	A-D	A-J	A-R
Unit 3 Nephrology and dialysis				
Glomerulonephritis	A, D-H	A-D	A-J	A-R
Nephrotic syndrome	A,C, D-H	A-D	A-J	A-R
Tubulo interstitial disease	A, D-H	A-D	A-J	A-R
Renal failure	A,C, D-H	A-D	A-J	A-R
UTI	A, D-H	A-D	A-J	A-R
Kidney in systemic disease.	A,C, D-H	A-D	A-J	A-R
Renal vascular disease	A, D-H	A-D	A-J	A-R
Dialysis	B, D-H	A-D	A-J	A-R
Unit 4 Endocrine and Diabetes				
Diabetes mellitus	A, C-H	A-D	A-J	A-R
Thyroid and parathyroid diseases	A, C-H	A-D	A-J	A-R
Adrenal gland diseases	A, C-H	A-D	A-J	A-R
Obesity	A, C-H	A-D	A-J	A-R
pituitary gland diseases	A, C-H	A-D	A-J	A-R
Diabetes insipidus	A, C-H	A-D	A-J	A-R
Short stature	A, C-H	A-D	A-J	A-R
Diabetes insipidus	A, C-H	A-D	A-J	A-R
Osteoporosis	A, C-H	A-D	A-J	A-R
Growth disorder	B, C-H	A-D	A-J	A-R
Ca homeostasis	B, C-H	A-D	A-J	A-R
Update in endocrine	A, C-H	A-D	A-J	A-R

disorders				
Unit 6 CHEST DISEASES				
COPD	A, D-H	A-D	A-I	A-R
Lung cancer	A, D-H	A-D	A-I	A-R
Pleural effusion	A, D-H	A-D	A-I	A-R
Interstitial pulmonary fibrosis	A, D-H	A-D	A-I	A-R
Respiratory failure	B, D-H	A-D	A-I	A-R
Unit 7 Neurology				
Stroke	A,C,D-H	A-D	A-C	A-R
Coma	A,C,D-H	A-D	A-C	A-R
Neuropathy	A,C, D-H	A-D	A-C	A-R
Myopathy and neuromuscular junctional disorder	A, D-H	A-D	A-C	A-R
Infections of nervous system	A,D-H	A-D	A-C	A-R
-Anatomic Principles of central and peripheral nervous system	B	A,D	-	D
Physiology of neurological reflexes and their centers	B	A	-	D
-Interpretation of investigations as CT brain.	B	A,D	-	D
Involuntary movement	B	A,D	-	D
8- Rheumatology and muscloskeletal disorders				
Rheumatoid arthritis	A-C,D-H	A-D	A-J	A-R
SLE	A-C	A-D	A-J	A-R
Crystal induced arthropathy	A,D-H	A-D	A-J	A-R
Systemic sclerosis	A,D-H	A-D	A-J	A-R
Dermatomyositis and	A,D-H	A-D	A-J	A-R

polymyositis				
Osteoarthritis	**A,D-H**	**A-D**	**A-J**	**A-R**
Seronegative arthropathy	**A,D-H**	**A-D**	**A-J**	**A-R**
Arthritis in systemic diseases	**A-C,D-H**	**A-D**	**A-J**	**A-R**
Infective arthritis	**A-C,D-H**	**A-D**	**A-J**	**A-R**
Antiphospholipid syndrome	**A-C,D-H**	**A-D**	**A-J**	**A-R**
Hematological and gastroenterology changes in Rheumatologic diseases.	**B,D-H**	**A-D**	**A-J**	**A-R**
Unit 9 General emergency unit				
Comatosed patient	**A**	**A-D**	**A-J**	**A-R**
Shock	**A,C,D-H**	**A-D**	**A-J**	**A-R**
CPR	**A,C,D-H**	**A-D**	**A-J**	**A-R**
▪ **Fluid therapy**	**B,D-H**	**A-D**	**A-J**	**A-R**
▪ **Electrolyte imbalance**	**B,D-H**	**A-D**	**A-J**	**A-R**
▪ **Acid –base imbalance**	**B,D-H**	**A-D**	**A-J**	**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. Case log
13. Observation and supervision
14. Written & oral communications
15. Simulation
16. Hand on work shop
17. Service teaching
18. Perform under supervision of senior staff
19. 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 second part

iii-Marks :480

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, 25 edition. 2015

2-Oxford - text book of Medicine 11 edition

3-Davidson24 edition.

4-Current Medical Diagnosis & treatment, 2022

5-kaplan USEMLE Step 2 lecture notes 2022

iii. Recommended books

1. Harrisons - text book of Medicine , 20 edition, 2018
2. Macloid clinical methods 14 edition, 2018

iv. Periodicals, Web sites, … etc

- American Journal of internal Medicine
- New England Journal of Medicine
- American Journal Of Gastroenterology
- BMJ
- Egyptian Heart Journal

v. Others

None

9. Signatures

Course Coordinator: …… **…….**	**Head of the Department:** **……**
Date: **…….**	**Date:** **…….**

Course 8 Critical care Medicine

Name of department: : Internal medicine
Faculty of medicine
Assiut University
2022-2023/2023-2024

1. Course data

- Course Title: Critical Care Medicine.
- Course code: CCM 218 C
- Speciality *:* Internal medicine
- Number of Credit points: Didactic 14 , (17.9 %) practical 64 (82.1 %) total 7 8 Credit points
- Department (s) delivering the course: Department of Internal medicine Faculty of Medicine- Assiut University.
- Coordinator (s):
- **Principle coordinator: Pr. Dr. Nour El-Deen Abdel Azeem El-Hefni**
- **Prof: Dr Mahmood Ali M.Ashery**
  Dr.soheir Mostafa kasem
- **Assistant coordinators Prof: Dr Mohammad Mustafa A. Ashmawi**
  Prof: Dr Mohammad Hossam H. Maghrapy
  Prof:Alla ELDean Abdo El Monem
  Prof Dr. Hanan Sharaf El Dean
  Dr.Ahmed Ali
  Dr.Ahmed Bahie
- Date last reviewed: 5/2022

This course consists of 7 units (Modules)

1. **Coronary critical care**
2. **Gastroenterology critical care**
3. **Nephrology critical care**
4. **Endocrinology critical care**
5. **Hematology critical care**
6. **Chest critical care**
7. **Neurological critical care**
8. **Rheumatology Critical care**

1. Course aim

1/1 To enable candidates to keep with national standards of patients care 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 critical and intermediate care units , besides dealing with emergent cases in emergency unit and enabling the candidates of making appropriate referrals to a sub-specialist.

1/2. Provide candidates with fundamental knowledge in critical care unit as regards; dealing with critically ill patients, ICU equipments, techniques, indications, contraindications and training skills of different critical care techniques.

1/3.Enable the candidates how to perform the core investigations and procedures required in Critical Care Medicine

2- Intended learning outcomes (ILOs)

Unit (Module)1 Cardiology critical care unit

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: - Acute coronary syndrome -Hypertensive urgency and emergencies. - Pericardial tamponade. -Pulmonary edema -Cardiogenic shock	Didactic; Lectures Seminars	-log book & portfolio -Oral and written exam
B. Mention the principles of : ▪ Cardiac rhythm disturbance (Dysrrhythmia)		
C. State update and evidence based Knowledge of -Dysrrhythmia		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related coronary critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to coronary critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of general medicine		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems related to emergencies on the society and how good 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 coronary care	-Clinical rounds Senior staff experience	-Logbook and Portfolios -Procedure and case presentation
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to coronary care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to coronary care		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - complete laboratory investigations. - ECG - Echocadiography -Holter. -Stress ECG -Pacing - Cardiac Catheterization	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A -X ray chest -cardiac markers -ECG Echocardiography Cardiac Catheterization	Clinical round with senior staff	Procedure presentation - Log book - Chick list
E. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. - Cardiopulmonary resuscitation -ECG	Clinical round with senior staff -Perform	Procedure presentation - Log book - Chick list

-Echocardiography **-Blood gases** **Cardiac Catheterization** **-Pericardiocentesis** **-Defibrillation and cardioversion**	**under supervision of senior staff**	
E. Prescribe the following non invasive/invasive therapeutic procedures : **-Prescribe proper treatment for conditions in A.A** **-Mange the patient post resuscitation** **-use fluids and vasoactive /inotropic drugs to support the circulation**	**Clinical round with senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Coronary care.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to coronary care.		
H-Provide health care services aimed at preventing health problems related to coronary care like: **a. Myocardial ischemia syndromes like chronic stable angina, acute coronary syndromes, coronary artery spasm, and others.** **b. Hypertension and hypertensive heart diseases.**		
I-Provide patient-focused care in common conditions related to coronary care. while working with health care professionals, including those from other disciplines like: Conditions mentioned in A.A.		
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
Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	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.	Clinical round Seminars Lectures Case presentation	Global rating Procedure/case presentation Log book Portfolios Chick list
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 general diseases	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report - Discharge report	Senior staff experience	Chick list
L. Council patients and families about: - Hypertension Myocardial ischemia -Congenital heart diseases	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.	**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**

Unit (Module) 2 Hepatology and Gastroenterology critical care

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: ▪ **Hepatic encephalopathy.** ▪ **GIT bleeding** ▪ **Fulminant hepatitis** ▪ **Spontaneous bacterial peritonitis and others** ▪ **Acute Abdomen**	**Didactic; Lectures Seminars**	**-log book & portfolio -Oral and written exam**
B. Mention the principles of : ▪ **Management of hypovolemic shock** ▪ **Fluid therapy** ▪ **Blood transfusion** ▪ **Central venous line placement** ▪ **Airway management** ▪ **Endotracheal intubation** ▪ **Hemodynamic monitoring**		
C. State update and evidence based Knowledge of Gastrointestinal emergencies		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related gastro intestinal critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to gastro intestinal critical care		
F. Mention the basics and standards of quality		

assurance to ensure good clinical practice in the field of gastro intestinal critical care		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems related To gastro intestinal emergencies on the society and how good 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 gastro intestinal critical care	**-Clinical rounds** **Senior staff experience**	**-Logbook and Portfolios** **-Procedure and case presentation**
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to gastro intestinal care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to gastro intestinal critical care		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - complete laboratory investigations. - liver function -Liver biopsy -Ultrasonography -Endoscopy	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures -Results of Routine appropriate Lab investigations related to conditions mentioned in A.A. -Abd ultrasound -Endoscopy		
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures. -Abdominal US . --Nasogastric tube and sungestaken tube application	Clinical round with senior staff -Perform	-Procedure presentation - Log book - Chick list

-Central venous catheter placement **-Endotracheal entubation**	**under supervision of senior staff**	
E. Prescribe the following non invasive and invasive therapeutic procedures: **-Application of Intravenous catheter.** **-Prescribe proper treatment for conditions mentioned in A.A** **-Proper drug regimens for GIT bleeding**	**Clinical round with senior staff Perform under supervision of senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common gastrointestinal emergency.	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to gastrointestinal emergency.		
H. Provide health care services aimed at preventing health problems related to gastrointestinal emergency.		
I. Provide patient-focused care in common conditions related to gastrointestinal emergency.		
B. 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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	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.	**Clinical round Seminars Lectures Case presentation**	**Global rating Procedure/case presentation Log book Portfolios Chick list**
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 gastroenterology critical care	**Clinical round Seminars**	**Clinical Exam**
K. Write a report : -Patients medical report - Discharge report	**Senior staff experience**	**Chick list**
L. Council patients and families about: -liver cell failure care	**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.	**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**

Unit (Module) 3 Nephrology critical care unit

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: **-Acute renal failure** **-uremic encephalopathy.** **- dialysis complications**	**Didactic; Lectures Seminars**	**-log book & portfolio -Oral and written exam**
B-Mention the principles of:- **A-Acid base disorders** **B-The most common electrolyte disorders** **1. Hypokalemia and hyperkalamia** **2. Hypomagnesemia** **3. Hyponatremia and hypernatreamia** **4. Hypocalcaemia and hypercalcemia**		
C. State update and evidence based Knowledge of renal emergencies		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related nephrology critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to nephrology critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of nephrology critical care		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems related nephrology critical care on the society and how good 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 nephrology critical care	**-Clinical rounds** **Senior staff experience**	**-Logbook and Portfolios** **-Procedure and case presentation**
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to nephrology critical care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to nephrology critical care		

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** **-log book & portfolio** **-Clinical exam in this branch.**

B. Order the following non invasive/invasive diagnostic procedures: **-Routine appropriate Lab investigations related to conditions mentioned in A.A** **- Blood urea and serum creatinine** **-Hemodialysis** **-Peritoneal dialysis**	**-Clinical round with senior staff** **Observation** **-Post graduate teaching**	**-Procedure presentation** **- Log book** **- Chick list**
C. Interpret the following non invasive/invasive diagnostic procedures **- Routine appropriate Lab investigations related to conditions mentioned in A.A** **-chest X ray .** **-Abdominal Ultrasonography.** **-Blood gases**	**Clinical round with senior staff**	**Procedure presentation** **- Log book** **- Chick list**
D. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. **- Abdominal Ultrasonography** **-Blood gases** **–Dialysis**	**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 : **- Prescribe proper treatment for conditions mentioned in A.A** **-Dialysis** **- Proper correction of electrolyte and acid base disturbance**	**Clinical round with senior staff**	**- Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Nephrology Critical care .	**Clinical round with senior staff**	

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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	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.	Clinical round Seminars Lectures Case presentation	Global rating Procedure/case presentation Log book Portfolios Chick list
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 nephrology critical care	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report - Discharge report	Senior staff experience	Chick list
L. Council patients and families about: -Renal failure care	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.	**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**

Unit (Module) 4 Endocrinology and Diabetic critical care

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: **- Acute complications of diabetes** ▪ **DKA** ▪ **Hypoglycemia** ▪ **Hyperosmolar non ketotic coma** ▪ **Lactic acidosis** **-Thyrotoxic crisis** **-Myxoedema coma** **-Adissonian crisis**	**Didactic; Lectures Seminars**	**-log book & portfolio -Oral and written exam**
B. Mention the principles of : **a. Central venous line placement** **b. Noninvasive mechanical ventilation** **c. Airway management** **d. Endotracheal intubation** **e. Haemodynamic monitoring**		
C. State update and evidence based Knowledge of Diabetic emergencies		
D. Memorize the facts and principles of the relevant		

basic and clinically supportive sciences related endocrine critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to endocrine critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of endocrine critical care		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems related to endocrine emergencies on the society and how good 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 endocrine emergencies	**-Clinical rounds** **Senior staff experience**	**-Logbook and Portfolios** **-Procedure and case presentation**
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to endocrine care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the endocrine emergencies		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - Complete laboratory investigations. - Blood glucose, acetone in urine -Thyroid function. -Insulin pump	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A -- Blood glucose, acetone in urine -Thyroid function.	Clinical round with senior staff	-Procedure presentation - Log book - Chick list
D. Perform the following non invasive/invasive diagnostic and therapeutic procedures.	Clinical round with senior	-Procedure

- Blood sugar estimation **-Urinalysis** **-Application of intravenous cannula.** **--Insulin administration.**	**staff** **-Perform under supervision of senior staff**	**presentation** **- Log book** **- Chick list**
E. Prescribe the following non invasive/invasive therapeutic procedures: **-Prescribe proper treatment for conditions mentioned in A.A**	**Clinical round with senior staff**	**-** **Procedure presentation** **- Log book** **- Chick list**
F. Carry out patient management plans for common conditions related to Endocrinal emergencies	**Clinical round with senior staff**	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Endocrinal emergencies		
H-Provide health care services aimed at preventing health problems related to Endocrinal emergencies		
I-Provide patient-focused care in common conditions related to Endocrinal emergencies ., while working with health care professionals, including those from other disciplines like: **Conditions mentioned in A.A.**		

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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	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.	**Clinical round Seminars Lectures Case presentation**	**Global rating Procedure/case presentation Log book Portfolios Chick list**
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 general diseases	**Clinical round Seminars**	**Clinical Exam**
K. Write a report : -Patients medical report - Discharge report	**Senior staff experience**	**Chick list**
L. Council patients and families about: -Diabetic care	**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.	**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**

Unit (Module) 5 Hematology Critical care unit

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: ▪ **Neutropenic fever** ▪ **DIC.** ▪ **Sickle cell crisis , aplastic crisis and heamolytic crisis** ▪ **Anemic heart failure**	**Didactic; Lectures Seminars**	**-log book & portfolio -Oral and written exam**
B. Mention the principles of : ▪ **Chemotherapeutic protocols of different heamatological malignancies.** ▪ **Blood transfusion** ▪ **Hemodynamic monitoring**		
C. State update and evidence based Knowledge of Aplastic crisis		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related hematology critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to hematology critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of haematoogy critical care		
G. Mention the ethical and scientific principles of medi research methodology.		
H. State the impact of common health problems related to hematoogical emergencies on the society and how good 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 hematological critical care cases.	-Clinical rounds Senior staff experience	-Logbook and Portfolios -Procedure and case presentation
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to hematological critical care.		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to hematological critical care.		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - Complete laboratory investigations. - Blood picture -Bone marrow aspirate.	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A and A.B	Clinical round with senior staff	-Procedure presentation - Log book - Chick list
D. Perform the following non invasive/invasive Diagnostic and therapeutic procedures. -Plasmapharesis	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 : -Prescribe proper treatment for conditions in A.A	Clinical round with senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to Hematology care units.	Clinical round with senior staff	

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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	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.	**Clinical round Seminars Lectures Case presentation**	**Global rating Procedure/case presentation Log book Portfolios Chick list**
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 general diseases	**Clinical round Seminars**	**Clinical Exam**
K. Write a report : -Patients medical report - Discharge report	**Senior staff experience**	**Chick list**
L. Council patients and families about: --Conditions mentioned in A.A - Hazards of blood transfusion	**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.	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

Unit (Module) 6 Chest critical care unit

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: ▪ **Status asthmaticus.** ▪ **Acute severe Bronchial asthma** ▪ **Respiratory failure (acute and chronic)** ▪ **Pneumothorax**	**Didactic; Lectures Seminars**	**-log book & portfolio -Oral and written exam**
G. Mention the principles of : ▪ **OXYGEN THERAPY** ▪ **Intubation and CEPAP.** ▪ **Mechanical ventilation (non invasive and invasive)**		
C. State update and evidence based Knowledge of Respiratory failure		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related Chest critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to Chest critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of chest critical care		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems related To respiratory emergencies on the society and how good 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 chest critical care	-Clinical rounds Senior staff experience	-Logbook and Portfolios -Procedure and case presentation
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to chest critical care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to chest critical care		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A - Complete laboratory investigations. -X ray -Blood gases -Pulmonary function test -Intubation ,CEPAP Mechanical ventilation	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures - Routine appropriate Lab investigations related to conditions mentioned in A.A -Chest X-ray -Blood gases	Clinical round with senior staff	-Procedure presentation - Log book - Chick list
D-Perform the following non invasive/invasive therapeutic procedures: Emergency airway management Endotracheal suction Percutanous tracheotomy under supervision Weaning from invasive and non invasive mechanical ventalation		
E. Carry out patient management plans for common emergencies related to Chest.	Clinical round with senior staff	

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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	**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.	**Clinical round Seminars Lectures Case presentation**	**Global rating Procedure/case presentation Log book Portfolios Chick list**
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 chesty critical care	**Clinical round Seminars**	**Clinical Exam**
K. Write a report : -Patients medical report - Discharge report	**Senior staff experience**	**Chick list**
L. Council patients and families about: -bronchial asthma Respiratory failure	**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.	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

Unit (Module) 7 Neurology critical care unit

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: ▪ Cerebro vascular stroke ▪ Status epilepticus ▪ Care of comatosed patient	Didactic; Lectures Seminars	-log book & portfolio -Oral and written exam
B. Mention the principles of : ▪ Brain Imaging (CT and MRI) ▪ Glasgow coma scale		
C. State update and evidence based Knowledge of Cerebrovascular stroke		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related neurological critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to neurological critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of neurological critical care		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems related to neurological emergencies on the society and how good 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 neurological critical care	**-Clinical rounds** **Senior staff experience**	**-Logbook and Portfolios** **-Procedure and case presentation**
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to neurological critical care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to neurological critical care		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A X ray CT BRAIN and MRI CSF Ryle and urinary catheter	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive/invasive diagnostic procedures X ray CT BRAIN and MRI CSF	Clinical round with senior staff	-Procedure presentation - Log book - Chick list
D-Perform the following non invasive/invasive therapeutic procedures: Emergency airway management Endotracheal suction Weaning from invasive and non invasive mechanical ventilation		

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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	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.	Clinical round Seminars Lectures Case presentation	Global rating Procedure/case presentation Log book Portfolios Chick list
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 chesty critical care	Clinical round Seminars	Clinical Exam
K. Write a report : -Patients medical report - Discharge report	Senior staff experience	Chick list
L. Council patients and families about: -Cerebro vascular stroke Epilepsy	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.	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

Unit (Module) 8 Rheumatology critical care unit

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: ▪ Lupus nephritis ▪ Lupus cerebritis ▪ Other rheumatological emergencies ▪ Sun stroke ▪ Food and drug poisoning ▪ scleroderma and Reynaud's phenomena ▪ TTP	Didactic; Lectures Seminars	-log book & portfolio -Oral and written exam
B. Mention the principles of : ▪ Complications of SLE ▪ Hypo and hyperthermia		
C. State update and evidence based Knowledge of rheumatological emergencies		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related rheumatologicaly critical care		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to related to rheumatological critical care		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of rheumatological critical care		

G. Mention the ethical and scientific principles of medica research methodology.		
H. State the impact of common health problems related to rheumatological emergencies on the society and how good 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 rheumatological critical care	-Clinical rounds Senior staff experience	-Logbook and Portfolios -Procedure and case presentation
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to rheumatological critical care		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the general diseases related to rheumatological critical care		

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 -log book & portfolio -Clinical exam in this branch.
B. Order the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A -ECG, Chest X ray -ESR -CRP -Echocardiography -Immunological profile -Plasmapharesis -Ct brain	-Clinical round with senior staff Observation -Post graduate teaching	-Procedure presentation - Log book - Chick list
B. Interpret the following non invasive/invasive diagnostic procedures: -Routine appropriate Lab investigations related to conditions mentioned in A.A -ECG, Chest X ray	-Clinical round with senior staff Observation -Post graduate	-Procedure presentation - Log book - Chick list

-ESR -CRP -Echocardiography -Immunological profile -Plasmapharesis -Ct brain	teaching	
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures. -ECG -Plasmapharesis -Echocardiography	Clinical round with senior staff -Perform under supervision of senior staff	-Procedure presentation - Log book - Chick list

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(audit, 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.		
E. Facilitate learning of junior students and other health care professionals.	**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.	**Clinical round Seminars Lectures Case presentation**	**Global rating Procedure/case presentation Log book Portfolios Chick list**
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 rheumatology critical care	**Clinical round Seminars**	**Clinical Exam**
K. Write a report : -Patients medical report - Discharge report	**Senior staff experience**	**Chick list**
L. Council patients and families about: -Rheumatologic emergencies	**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.	**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 Coronary critical care				
Acute coronary syndrome	A, D-H	A-D	A-J	A-R
Hypertensive urgency and emergencies	A, D-H	A-D	A-J	A-R
Pericardial tamponade	A, D-H	A-D	A-J	A-R
Pulmonary edema	A, D-H		A-J	A-R
Cardiogenic shock	A, D-H	A-D		
Cardiac rhythm disturbance (Dysrrhythmia)	B,C,D-H	A-D	A-J	A-R
Unit 2 HEPATOLOGY AND GIT Critical care				
▪ Hepatic encephalopathy.	A,C,D-H	A-D	A-J	A-K,M-R
▪ GIT bleeding	A,C,D-H	A-D	A-J	A-K,M-R
▪ Fulminant hepatitis	A,C,D-H	A-D	A-J	A-R
▪ Spontaneous bacterial peritonitis and others	A,C,D-H	A-D	A-J	A-K,M-R
Acute Abdomen	A,C,D-H	A-D	A-J	A-K,M-R
▪ Management of hypovolemic shock	B.D-H	A-D	A-J	A-K,M-R
▪ Fluid therapy	B.D-H	A-D	A-J	D,E,F
▪ Blood transfusion	B.D-H	D	A-J	D,E,F
▪ Central venous line placement	B.D-H	D	A-J	D,E,F
▪ Airway management	B.D-H	D	A-J	D,E,F

▪ Endotracheal intubation	B.D-H	D	A-J	D,E,F
Hemodynamic monitoring	B.D-H	D	A-J	D,E,F
Unit 3 Nephrology and Dialysis critical care				
▪ Acute renal failure	A,D-H	A-D	A-F	A-R
▪ uremic encephalopathy.	A,D-H	A-D	A-F	A-R
▪ dialysis complications	A,D-H	A-D	A-F	A-R
▪ Electrolyte disturbance.	B,D-H	A-D	A-F	A-R
▪ Acid base disturbance	B,D-H	A-D	A-F	A-R
UNIT 4 Endocrinology and Diabetic critical care				
▪ DKA	A, D-H	A-D	A-I	A-R
▪ Hypoglycemia	A, D-H	A-D	A-I	A-R
▪ Hyperosmolar non ketotic coma	A, D-H	A-D	A-I	A-R
▪ Lactic acidosis	A, D-H	A-D	A-I	A-R
▪ DKA	A, D-H	A-D	A-I	A-R
▪ Hypoglycemia	A, D-H	A-D	A-I	A-R
▪ Hyperosmolar non ketotic coma	A, D-H	A-D	A-I	A-R
▪ Lactic acidosis	A, D-H	A-D	A-I	A-R
-Thyrotoxic crisis	A, D-H	A-D	A-I	A-K,M-R
Myxoedema coma	A, D-H	A-D	A-I	A-K,M-R
-Adissonian crisis	A, D-H	A-D	A-I	A-K,M-R
Central venous line placement	B, D-H	A-D	A-I	A-K,M-R
Noninvasive mechanical ventilation	B, D-H	A-D	A-I	A-K,M-R
Airway management	B, D-H	A-D	A-I	A-K,M-R
Endotracheal intubation	B, D-H	A-D	A-I	A-K,M-R
Unit 5 Hematology Critical care unit				
▪ Neutropenic fever	A,D-H	A-D	A-E	A-R
▪ DIC.	A,D-H	A-D	A-E	A-R
▪ Sickle cell crisis ,	A,C,D-H	A-D	A-E	A-R

aplastic crisis and heamolytic crisis				
-Anemic heart failure	A,D-H	A-D	A-E	A-R
▪ Chemotherapeutic protocols of different heamatological malignancies.	B, D-H	A-D	A-E	A-R
▪ Blood transfusion	B, D-H	A-D	A-E	A-R
Hemodynamic monitoring	B, D-H	A-D	A-E	A-R
Unit 6 CHEST CRITICAL CARE UNIT				
▪ Status asthmaticus.	A,D-H	A-D	A-E	A-R
▪ Acute severe Bronchial asthma	A,D-H	A-D	A-E	A-R
▪ Respiratory failure (acute and chronic)	A,D-H	A-D	A-E	A-R
Pneumothorax	A,D-H	A-D	A-E	A-R
▪ OXYGEN THERAPY	B,D-H	A-D	A-E	A-R
▪ Intubation and CEPAP.	B,D-H	A-D	A-E	A-R
Mechanical ventilation (non invasive and invasive)	B,D-H	A-D	A-E	A-R
Unit 7 NEUROLOY CRETICAL CARE				
▪ Cerebro vascular stroke	A,D-H	A-D	A-D	A-R
▪ Status epilepticus	A,D-H	A-D	A-D	A-R
Care of comatosed patient	A,D-H	A-D	A-D	A-R
▪ Cerebro vascular stroke	A,D-H	A-D	A-D	A-R
▪ Brain Imaging (CT and MRI)	B,D-H	A-D	A-D	A-R
▪ Glasgow coma scale	B,D-H	A-D	A-D	A-R
Unit 8 Rheumatology care unit				
▪ Lupus nephritis	A-C,D-H	A-D	A-D	A-R
▪ Lupus cerebritis	A-C,D-H	A-D	A-D	A-R
▪ Other rheumatological emergencies	A-C,D-H	A-D	A-D	A-R

▪ Sun stroke	A-C,D-H	A-D	A-D	A-R
▪ Food and drug poisoning	A-C,D-H	A-D	B	A-R
▪ Complications of SLE	B,D-H	A-D	A-D	A-R
Hypo and hyperthermia	B,D-H	A-D	A-D	A-R
*scleroderma and Reynaud's phenomena	A-C,D-H	A-D	A-D	A-R
*TTP	A-C,D-H	A-D	A-D	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. Case log
13. Observation and supervision
14. Written & oral communications
15. Simulation
16. Hand on work shop
17. Service teaching
18. Perform under supervision of senior staff
19. 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 second part

iii-Marks: 720

8. List of references

i. Lectures notes

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

ii. Essential books

Paul L Marino:The ICU Book(4th Edition.2014)

iii. Recommended books

* Textbook of critical care (Shoemaker,7th Edition,2016)

*Intensive care medicine(Irwin and Rippe)8th Edition

iv. Periodicals, Web sites, … etc

- American Journal of critical care
- Journal of critical care

- Europen and American guidelines of individual critical illness

v. Others

9. Signatures

Course Coordinator: ……. ……..	**Head of the Department: ……**
Date: ……..	**Date: ……..**

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for master degree in Critical Care Medicine

***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 critical care medicine*

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 ***critical care medicine***

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 *critical care medicine*

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 ***critical care medicine***

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 ***critical care medicine***

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 ***critical care medicine*** 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 *critical care medicine*

2-1-D- Ethical and medicolegal principles relevant to practice in *in critical care medicine*

2-1-E -Quality assurance principles related to the good medical practice in *critical care medicine*

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 *critical care medicine*

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

2.2- C- Demonstrating systematic approach in studying clinical problems relevant to *critical care medicine*

2-2-D- Making alternative decisions in different situations in *critical care medicine*

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 *Internal Medicine* for patients with common diseases and problems.

2-3- C- Write and evaluate reports for situations related to the field of *critical care medicine*

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 practi

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 طب الحالات الحرجة

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 *critical care medicine.*	1- إجادة تطبيق أساسيات و منهجيات البحث العلمي واستخدام أدواته المختلفة
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in *critical care medicine.*	2-تطبيق المنهج التحليلي واستخدامه 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 *critical care medicine.*	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 *critical care medicine.*	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 *critical care medicine.*	**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 *critical care medicine.*	**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 *critical care medicine.* 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 *critical care medicine* 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 *critical care medicine.*	2-1-ج-التطورات العلمية في مجال التخصص.
2.1. D- Ethical and medicolegal principles relevant to practice in the *critical care medicine.*	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 *critical care medicine.*	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 *critical care medicine.* 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related *critical care medicine.*	**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 *critical care medicine.*	**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 *critical care medicine.*	**2-2-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية**
2.2. C- Demonstrating systematic approach in studying clinical problems relevant to the *critical care medicine.*	**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	**2-2-و- التخطيط لتطوير الأداء في مجال**

that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	التخصص
2.2.D- Making alternative decisions in different situations in the field of *critical care medicine..*	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 *critical care medicine.* 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 *internal medicine.*	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	2-4-أ-التواصل الفعال بأنواعه المختلفة

exchange and teaming with patients, their families, and other health professionals.	
2.4.A-Demonstrate practice-based learning and improvement skills investigation that involves 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-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 practic 2.4.E-Demonstrate professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	2-4-ج- التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية
2.4.A-Demonstrate practice-based learning and improvement skills	2-4-د- استخدام المصادر المختلفة للحصول

that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, , improvements in patient care and risk management.	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 internal medicine.

(ARS)	(ILOs)
2-1- Knowledge and understanding **2-1-A-** Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.	***2-1- Knowledge and understanding*** **2-1-A**- Explain the essential facts and principles of relevant basic sciences including, Physiology, Pathology, Microbiology , and pharmacology ,Clinical pathology and Clinical Biochemistry related to *critical care medicine.* **2-1-B-** Mention essential facts of clinically supportive sciences including basics of Internal medicine and anesthesia -related to *critical care medicine.* **2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to *critical care medicine.*
2-1-B The relation between good clinical care of common health problem in the *critical care medicine.* society.	**2-1-H-** State the impact of common health problems in the field of *critical care medicine.* on the society and how good clinical practice improve these problems.
2-1-C- Up to date and recent developments in common problems related to the field of critical care medicine.	**2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related critical care medicine. **2-1-D-** Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of

	common diseases related to critical care medicine.
2-1-D- Ethical and medicolegal Principles relevant to practice in the critical care medicine. field.	**2-1-E-** Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of critical care medicine.
2-1-E-Quality assurance principles related to the good medical practice in the critical care medicine field.	**2-1-F-** Mention the basics and standards of quality assurance to ensure good clinical practice in the field of critical care medicine.
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 critical care medicine.	***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 critical care medicine.
2-2-B-Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to critical care medicine.	**2-2-B-** Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to critical care medicine.

2-2-C- Demonstrating systematic approach in studding clinical problems relevant to the critical care medicine 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 critical care medicine field.
2-2-D Making alternative decisions in different situations in the field of the critical care medicine.	**2-2-D-** Formulate management plans and alternative decisions in different situations in the field of the critical care medicine.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills: **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 critical care medicine for patients with common diseases and problems.	***2/3/1/Practical skills (Patient Care :)*** **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 critical care medicine. **2-3-1-C-** Carry out patient management plans for common conditions related to critical care medicine. **2-3-1-D-** Use information technology to support patient care decisions and patient education in common clinical situations related to critical care medicine. **2-3-1-E-** Perform competently non invasive and invasive procedures considered essential for the critical care medicine. **2-3-1-F-** Provide health care services aimed at preventing health problems related to critical care medicine. **2-3-1-G-** Provide patient-focused care in common conditions related to critical care medicine, 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 critical care medicine.	**-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	**2-3-2-E-** Facilitate learning of students other health care professionals including

others.	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	**2-3-2-M**-Work effectively in relevant health care delivery settings and systems including good administrative and time management

the ability to effectively use system resources to provide care that is of optimal value.	**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	Programs 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 : Pharmacology	✓							
course 2 : Physiology	✓							
course 3 : Pathology and clinical pathology	✓							
*Course 4 :*Clinical Biochemistry and Microbiology	✓							
Course 5 Basics of Internal medicine 1	✓	✓	✓	✓	✓	✓	✓	✓
Course 6 Anaethesia	✓	✓	✓	✓	✓	✓	✓	✓
Course 7 Advanced internal medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course 8 critical care medicine	✓	✓	✓	✓	✓	✓	✓	✓

Intellectual

Course	Programs covered ILOs			
	2/2/A	2/2/A	2/2/A	2/2/A
Course 1 : Pharmacology	✓			
course 2 : Physiology	✓			
course 3 : Pathology and clinical pathology	✓			
Course 4 :Clinical Biochemistry and Microbiology	✓			
Course 5 Basics of Internal medicine	✓	✓	✓	✓
Course 6 Anesthesia	✓	✓	✓	✓
Course 7 Advanced Internal medicine	✓	✓	✓	✓
Course 8 critical care medicine	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Programs 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 : Pharmacology								
course 2 : Physiology								
course 3 : Pathology and clinical pathology								
Course 4 Clinical Biochemistry and Microbiology								
Course 5 Basics of Internal medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course 6 Anesthesia	✓	✓	✓	✓	✓	✓	✓	✓
Course 8 Advanced internal medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course 8 critical care medicine	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Programs 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 : Pharmacology				✓			✓	
course 2 : Physiology				✓			✓	
course 3 : Pathology and clinical pathology				✓			✓	
Course 4 :Clinical Biochemistry and Microbiology				✓			✓	
Course 5 Basics of Internal medicine 1	✓	✓	✓	✓	✓	✓	✓	✓
Course 6 Anesthesia	✓	✓	✓	✓	✓	✓	✓	✓
Course 7 Advanced internal medicine	✓	✓	✓	✓	✓	✓	✓	✓
Course 8 critical care medicine	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Programs 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 : Pharmacology		✓			✓		
course 2 : Physiology		✓			✓		
course 3 : Pathology and clinical pathology		✓			✓		
Course 4 :Clinical Biochemistry and Microbiology		✓			✓		
Course 5 Basics of Internal medicine	✓	✓	✓	✓	✓	✓	✓
Course 6 Anesthesia	✓	✓	✓	✓	✓	✓	✓
Course 7 Advanced Internal medicine	✓	✓	✓	✓	✓	✓	✓
Course 8 critical care medicine	✓	✓	✓	✓	✓	✓	✓

Equipments and Specialized Units:

- Patients' wards: 166 beds.
- Daily Internal medicine out patients' clinics (new patients, follow up post discharge appointments, discharged critical care patients Follow up clinic)
- Weekly nephrology out patient clinic.
-Twice weekly gastroenterology and hepatology out patients clinic.
-Once weekly gastrointestinal motility out patients clinic.
-Trice weekly hematology out patient clinic.
-Twice weekly cardiology out patient clinic.
- Twice weekly endocrinology out patient clinic.
-Once weekly obesity out patient clinic .
- Gastroenterology and hepatology ICU (14 beds)
- Echocardiology unit.
-Diagnostic and therapuitic (liver and kidney biopsy) Abdominal ultrasonography unit.
-Motility study unit .
-Diagnostic and therapuitic Endoscopy and ERCP unit.
-Renal dialysis unit.
-ICU (12 beds).
-ICU (8 beds).
-Hemalology ICU (8 beds).
-Hematology unit (16 beds).
-Internal medicin beds (110 beds).
- Scientific Library (Internal Medecin Text Books and periodicals), MD, MSc thesis,
- Seminar room with data show.
- Electronic Library of Scientific Seminars, case presentations.
- Minor procedures skill teaching unit (Liver and renal biopsy.,Diagnostic and therapuitic ascetic fluid tapping,)
- Data base filing of all the cases, procedures and out patient clinic data.

Annex 7, Additional Information

Staff members:

أ.د/ محمد على تهامى
.د/ يسرية عبد الرحمن أحمد
أ.د/ عبد الله اسماعيل على كيلانى
أ.د/ نبويه محمود توفيق
أ.د/ إيناس أحمد رضا الكريمى
أ.د/ البدرى ابراهيم ابو النور
أ.د/ نور الدين عبد العظيم الحفني
أ.د/ محمد عباس صبح
أ.د/ محمد مصطفى عشماوى
أ.د/ عصام عبد المنعم صادق البيه
أ.د/ لبنى فرج التونى
أ.د/ فاطمة ابو بكر عبد المعز
أ.د/ محمد حسام الدين حسن مغربى
أ.د./ اشرف انور ثابت الشاذلى
أ.د./ محمود على محمود عشرى
أ.د./ علاء الدين عبد المنعم
أ.د./ سلوى صلاح الجندى
أ.د./ هالة خلف الله الشريف
أ.د./ إيمان مختار سويفى
أ.د./ نبيلة فائق أمين
أ.د./ محمد اليمنى قبيص
أ.د./ حسين احمد الامين همام
أ.د./ اسامه احمد ابراهيم
أ.د./هويدا عبد الحكيم نفادي
أ.د./ مصطفى عبد الله هريدى
أ.د./ عمر محمد عمر شحات
أ.د./ هالة مصطفى كامل
د./ رفعت فتحى عبد العال
د./ منى محمد سليمان
د./ عفت عبد الهادى تونى
د./ عصام الدين عبد المحسن محمد
د./منال السيد عز الدين
د./ محمد رمضان عبد الحميد
د./زين العابدين أحمد سيد
د./محمد زين الدين حافظ
د./لبنى عبد الواحد أحمد
د./أحمد فراج ثابت

Opportunities within the department

-Internal medicine beds (110 beds).

Gastroenterology and hepatology ICU (14 beds)

-ICU medicine (12 beds).

-ICU cardiology (8 beds).

-Hemalology ICU (8 beds).

-Hematology unit (16 beds).

- Scientific Library

- Seminar room with data show

- Electronic Library of Scientific Seminars, case presentations.

- Data base filing of all the cases, procedures and out patient clinic data.

Department quality control insurance for completing the program

- Evaluation by the Department head and stuff members.
- Regular assessments.
- Log book monitoring.
- Recent equipments and Specialized Units.

(End of the program specifications)