Master (MSC) Degree Program and Courses Specifications for Clinical Haematology

(According to currently applied credit points bylaws)

Internal Medicine Dept.
Faculty of medicine
Assiut University
2016-2017

Contents

Assiut University
Faculty of Medicine
Quality Assurance Unit (QAU)

Master degree of Clinical Haematology

A. Basic Information

- Program Title: Clinical Haematology
- Nature of the program: Single.
- Responsible Department: Internal Medicine Dept.
- Program Academic Director (Head of the Department):
  Pr. Dr Lobna Eltony

Coordinator (s): Principle coordinator:

- Prof. Dr. Osama A. Ibrahim

Assistant coordinator (s)

- Prof. Dr. Youseryia A. Ahmad
- Prof. Dr. Esam A.S. Elbeih
- Prof.Howayda Nafady
- Dr.Aadel H. Mekkawi
- Dr.Mohammad Ramadan
- Dr. Ahmad F. Thabet
- DR.Rania Hafez
- Dr. Safenaz Husein
- Dr: Mostafa Fesal

- Internal evaluators: Prof. Dr. Enas A. Alkareemi& Prof. Dr. Mohammad A. Sobh
- External evaluators:): Prof. Dr. Mohammad A. Mosa (Ain Shams Univ.)& Omar A. Fahmi (Cairo Univ.).
- Date of Approval by the Faculty of Medicine Council of Assiut University: 23 / 9 / 2014
- Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University: 22/ 10 / 2017
- Total number of courses: 7 courses + 1 Elective course

B. Professional Information

1- Program aims

I/1 The overall aim is to enable the student to acquire the skills and knowledge to provide good care for patients in haematology ward and outpatient clinic .
1/2. To enable the students to cooperate with colleagues in other medical and surgical specialties.
1/3 To be able to understand and properly use the hematological laboratory tests.

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, biochemistry, pathology , Pharmacology , clinical pathology 1, microbiology and immunology & related to Clinical Haematology.

B. Mention essential facts of clinically supportive sciences including Internal Medicine related to hematology, Clinical Hematology 1 (Introduction to Blood diseases) .

C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment the common diseases and situations related to Clinical Haematology.

D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Clinical Haematology..

E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the Clinical Haematology..

F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Clinical Haematology.

G. Mention the ethical and scientific principles of medical research methodology.

H. State the impact of common health problems in the field of Clinical Haematology on the society and how good clinical practice improve these problems.

2/2 Intellectual outcomes

A. Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Clinical Haematology.

B. Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Clinical Haematology.

C. Design and /or present a case or review (through seminars/journal clubs..) in one or more of common clinical problems releveant to the Clinical Haematology.

D. Formulate management plans and alternative decisions in different situations in the field of the Clinical Haematology.

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 Clinical Haematology.

C. Carry out patient management plans for common conditions related to Clinical Haematology.

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

E. Perform competently non invasive and invasive procedures considered essential for the Clinical Hematology.

F. Provide health care services aimed at preventing health problems related to Clinical Haematology.

G. Provide patient-focused care in common conditions related to Clinical Haematology. 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; aresponsiveness 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 clinical haematology

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 approved by the Faculty Council on 17-6- 2009. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.

4- Program External References (Benchmarks)

1. ACGME (Accreditation Council for Graduate Medical Education).
http://www.acgme.org/acWebsite/navPages/nav_Public.asp
2.Joint Royal Colleges of Physicians Training Board (MAY 2007), (http://www.gmc/uk.org/Haematology_3_Jul_07_v.Curr_0017.pdf_30541824**).**
The training programs is similar to that approved by Royal Colleges of Physicians Training Board (MAY 2007) regulations

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%.

- D-courses of the program:

Courses and student work load list	Course Code	Core CREDIT POINTs		
		Lectures	Training	Total
First Part				
Basic science courses (8CP)				
Course 1: Physiology and Biochemistry	BLO218A#			2
1) Unit 1 Physiology		1		
1) Unit 2 Biochemistry		1		
Course 2: Pharmacology & Pathology	BLO218B#			2
Unit 1 Pharmacology		1		
2) Unit 2 Pathology		1		
Course 3: Microbiology & immunology	BLO207	2		2
Course 4: Clinical pathology 1	BLO231	2		2
General clinical compulsory courses (6 points)				
Course 5. Internal Medicine related to hematology.	BLO218C	5		5
Course 6. Clinical Hematology 1 (Introduction to Blood diseases)	BLO218D	1		1
Elective courses*	2CP			
Clinical training and scientific activities:				

Clinical training in General Clinical compulsory courses (10 CP) Course 5. Internal Medicine related to hematology. Course 6. Clinical Hematology 1 (Introduction to Blood diseases)	BLO218C BLO218D		8 2	10
Clinical training and scientific activities in Speciality course (14 CP)			14	14
Total of the first part		16	24	40
Second Part	Speciality courses 24 CP Speciality Clinical Work 96 CP			
Speciality Courses **Course7: Clinical Hematology 2**	BLO218E#	24		24
Training and practical activities in Speciality (96 CP) **Clinical Hematology 2**	BLO218E#		96	96
Total of the second part		**24**	**96**	**120**
Thesis	**20 CP**			
Total of the degree	**180**			

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

Student work load calculation:

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

Elective Courses#:

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

- Quality assurance of clinical practice.
- Hospital management

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

Thesis:

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

6. Courses Contents (Annex 1)

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

See Annex 1 for detailed specifications for each course/ module

7-Admission requirements

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

I. General Requirements:

a. MBBCh Degree from any Egyptian Faculties of Medicine

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

II. Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is to give the resident two weeks before examination.

FEES:

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

8-Progression and completion requirements

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

The students are offered the degree when:

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

9- Program assessment methods and rules (Annex IV)

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

Weighting of assessments:

Courses		Degrees			
	Course code	Written Exam	Oral Exam*	Practical / Clinical Exam	Total
First part					
Course 1: Physiology and Biochemistry Unit 1 Physiology Unit 2 Biochemistry	BLO218A#	` 20 20	30 30	- -	50 50
Course 2: Pharmacology & Pathology Unit 1 Pharmacology Unit 2 Pathology	BLO218B#	 20 20	30 20	- 10	50 50
Course 3: Microbiology & immunology	BLO207	40	30	30	100
Course4: Clinical pathology 1	BLO231	40	40	20	100
Course 5. Internal Medicine related to hematology.	BLO218C.	150	30	70	250
Course6. Clinical Hematology 1 (Introduction to Blood diseases)	BLO218D	30	10	10	50
Total of the first part					700
Second Part					
Speciality Courses:					
Course7: Clinical Hematology 2	(BLO218E#)		200	400	

Paper 1Clinical haematology 2 Paper2 Clinical haematology 2 Paper 3Clinical haematology 2 [haematology related to internal medicine] Paper 4Clinical haematology 2 [Advanced clinical pathology 2+ problem solving + MCQ]		150 150 150 150 توضع هذة الورقة بالمشاركة مع وحدة امراض الدم المعملية وبنك الدم بقسم الباثولوجيا الإكلينيكية	شفوي واشعة وعينات وكراسة انشطة		
Total		600	200	400	1200
Elective course		50	50		100

* 25% of the oral exam for assessment of logbook

700 marks for first part

1200 for second part

Written exam 50% (600 marks).

Clinical /practical and oral exams 50% (600 marks)

- **Examination system:**
  - **First part:**
  - Written exam 3 hours in Physiology + Biochemistry + Oral exam
  - Written exam 1 hour in Pharmacology &Pathology+ Oral exam
  - Written exam 2 hours in Microbiology and immunology + Oral exam
    - Written exam 2 hours in Clinical pathology 1 + Oral exam + practical exam
    - Written exam 1 hours in Clinical hematology 1+ Oral exam
    - Written exam 3 hours in Internal Medicine + Oral exam+ Clinical exam

➢ **Second part:**

- Written exam 4 papers 3 hours for each in Clinical Haematology 2 + Oral exam+ Clinical exam

➢ **Elective courses**

- Written exam one paper 1 hour in Elective course + Oral & Practical exam

10-Program evaluation

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

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

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.
All course specifications for this program are in place.

Contributor	Name	Signature	Date
▪ **Program Principle Coordinator:**	**Prof. Osama Ibrahim**		
▪ **Head of the Responsible Department (Program Academic Director):**	Pr. Dr Lobna Eltony		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/

Course 1 Physiology and biochemistry

Course 1 Unit 1(Physiology)

1. Unit data

- **Unit title : Physiology**
- **Unit code: BLO218A#**
- **Specialty : Clinical Haematology**
- **Number of credit point: Didactic 1, (100%) practical 0 (0%) total 1**
- **Department (s) delivering the course: physiology in conjunction with Clinical Haematology.**
- **Coordinator (s): Staff members of physiology Department in conjunction with internal medicine Department as annually approved by both departments councils**
- **Date last reviewed: 20 / 9 / 2017**
- **Requirements (prerequisites) if any :**
  - **None**

2. Unit Aims

-The student should acquire the facts of physiology necessary for clinical hematology 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 Physiology of blood and haemostasis. Physiology of Cardiovascular system. Physiology of Respiratory system. Physiology of Liver and GIT system. Physiology of Kidney. Physiology of endocrine system.	-Lectures	-Written and oral examination - Log book

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 Clinical Haematology	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills = 0 credit points

D-General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Observation and supervision -Written and oral communication	Oral Exam Logbook Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Logbook

Systems-Based Practice

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

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Physiology of blood and hemostasis.	A	A	-	A-D
Physiology of Cardiovascular system.	A	A	-	A-D
Physiology of Respiratory system.	A	A	-	A-D
Physiology of Liver and GIT system.	A	A	-	A-D
Physiology of Kidney.	A	A	-	A-D
Physiology of endocrine system	A	A		

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation
3. 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: 50

8. List of references

i. Lectures notes

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

ii. Essential books

- Medical physiology (Guyton and Hall)
- Ganong's Review of medical physiology

iii. Recommended books

iv. Periodicals, Web sites, … etc

American Journal of internal Medicine

BMJ

NEJIM

v. others None

Course 1 Unit 2 Biochemistry

- **Unit2: Biochemistry**
- **Unit code: BLO218A#**
- **Speciality : Clinical Haematology**
- **Number of credit point: Didactic 1 (100%) practical 0(0%) total 1 .**
- **Department (s) delivering the course: 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: September 2017**
- **Requirements (prerequisites) if any :None**

2. Unit Aims

-The student should acquire the facts of biochemistry necessary for Clinical Hematology in clinical reasoning, diagnosis and management of systemic diseases.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe *details of Biochemistry of:* • Cell Biology and biomarkers • Nutrition and deficiency disorders • Enzyme deficiency disorders • Metabolic hematology disorders	-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 Internal Medicine.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

A- Practical skills = 0 credit point

D-General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Observation and supervision -Written and oral communication	Oral Exam Logbook Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Logbook

Systems-Based Practice

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

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
• Cell Biology and biomarkers	A	A	-	A-D
• Nutrition and deficiency disorders	A	A	-	A-D
• Enzyme deficiency disorders	A	A	-	A-D
• Metabolic hematology disorders	A	A	-	A-D

5. Course Methods of teaching/learning:

1. Observation
2. Didactic (lectures, seminars, tutorial)
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: 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

iii. Recommended books

Synopsis of Biochemistry

Lippincott's illustrated Review: Biochemistry

iv. Periodicals, Web sites, American Journal of internal Medicine, BMJ and NEJIM

v. others

9. Signature

Course Coordinator	
Unit 1 Coordinator: Prof. Marwa Abd -Elaziz	**Head of the Department: Prof. Lobna Eltony**
Date:	**Date:**
Unit 2 Coordinator: Prof. Taheia Hashem	**Head of the Department: Prof. Lobna Eltony**
Date:	**Date:**

Course 2 (Pharmacology and Pathology)

Course 1 Unit 1 Pharmacology

- **Unit title : Pharmacology**
- **Unit code: BLO218B#**
- **Speciality : Clinical Haematology**
- **Number of Credit points : Didactic 1 (100%) practical 0(0%) total 1 .**
- **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: 20 / 9 / 2017**
- **Requirements (prerequisites) if any :None**

2. Unit Aims

-The student should acquire the facts of **Pharmacology** necessary for Clinical Hematology in clinical reasoning, diagnosis and management of Clinical Hematology diseases.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Describe *Principals of:* -Pharmacology of Anaemia, Iron, folic acid and B12 supplementation -Outline the mechanisms of action of pharmacological platelet inhibitors - Pharmacological and nonpharmacological clotting inhibitors -Drugs causing BM suppression -Cancer chemotherapy for haematological malignancies	-Lectures	-Written and oral examination - Log book
B- Describe *details of:* -Hemoglobinopathies and use of Hydroxyurea - Hemolytic Disorders: Drug-Induced Hemolytic Anemia Medications in G6PD Deficiency - Medication Causes of Neutropenia -Medication Causes of Lymphadenopathy		

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 Clinical Haematology.	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-Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Observation and supervision -Written and oral communication	Oral Exam Logbook Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Logbook

Systems-Based Practice

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

Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Pharmacology of Anaemia, Iron, folic acid and B12 supplementation	A	A	-	A-D
Outline the mechanisms of action of pharmacological platelet inhibitors	A	A	-	A-D
- Pharmacological and nonpharmacological clotting inhibitors	A	A	-	A-D
Drugs causing BM suppression	A	A	-	A-D
Cancer chemotherapy for haematological malignancies	B	A		A-D
-Hemoglobinopathies and use of Hydroxyurea	B	A		A-D
- Hemolytic Disorders: Drug-Induced Hemolytic Anemia	B	A		A-D
Medications in G6PD Deficiency	B	A		A-D
- Medication Causes of Neutropenia	B	A		A-D
-Medication Causes of Lymphadenopathy	B	A		A-D

5. Course Methods of teaching/learning:

1. Observation
2. Didactic (lectures, seminars, tutorial)
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:

3. Written and oral examination
4. 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 Book of the department of pharmacology

iii. Periodicals, Web sites, American Journal of internal Medicine, BMJ and NEJIM

iv. others

Course 2 unit 2 Pathology

Unit data

- **Unit Title: Pathology**
- **Unit code: BLO218B#**
- **Speciality is Clinical Haematology**
- **Number of Credit points: Lectures 1.6 (80%), practical 0.4 (20%).total 2**

- **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: 20 / 9 / 2017
- **Requirements (prerequisites) if any :**

  None

2. Course aims

The student should acquire the pathological facts necessary for Internal medicine and clinical haematology.

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 - Inflammation - Immunity & hypersensitivity. - Tuberculosis & Bilharziasis - Pathology of tumors	-Lectures	-Written and oral examination - Log book
B-Describe Pathologic Details of: -Bone marrow diseases & interpret BM trephine biopsy -Lymphomas (Hodgkins' Disease and NHL) -Granulomas including TB lymphadenopathy -Introduction to immuno-histochemistry Diagnostic cytology	-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 clinical haematology.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Master of basic skills in the pathology of diseases related to clinical haematology.	-Laboratory work	-Assessment of practical skills -Log book
B. Use information technology to support decisions in common situations related to pathology of the clinical haematology diseases.		
C. Examine Pathological slides of common clinical hematology diseases as mentioned in A.A and A.B.		

D-General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A and A.B.	-Observation and supervision -Written and oral communication	Oral Exam Logbook Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Logbook

Systems-Based Practice

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

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-C	A-D
- Inflammation	A	A	A-C	A-D
- Immunity & hypersensitivity.	A	A	A&B	A-D
- Tuberculosis & Bilharziasis	A	A	A-C	A-D
- Pathology of tumors	A	A	A-C	A-D
Pathologic details of:				
Bone marrow diseases & interpret BM trephine biopsy	B		A-C	A-D
-Lymphomas (Hodgkins' Disease and NHL)	B	A	A-C	A-D
-Granulomas including TB lymphadenopathy	B	A	A-C	A-D
-Introduction to immuno-histochemistry	B	A	A&B	A-D
Diagnostic cytology	B	A	A-B	A-D

5. Course Methods of teaching/learning:

a. Observation and supervision
b. Didactic (lectures, seminars, tutorial)
c. Laboratory work
d. Written & oral communication
e. 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

iii. Recommended books

Robbins and Cotran's Pathologic basis of diseases

Robbin's Basic Pathology

iv. Periodicals, Web sites, … etc

www.biomedcentral.com

v. others

None

9. Signature

Course Coordinator	
Unit 1 Coordinator: **DR. Hanan Said**	**Head of the Department:** **Prof. Lobna Eltony**
Date:	**Date:**
Unit 2 Coordinator: **Dr. Abeer Refaiy**	**Head of the Department:** **Prof. Lobna Eltony**
Date:	**Date:**

Course 3 Microbiology and Immunology

1. Course data

- Course Title: Microbiology
- Course code: BLO207
- Speciality is Clinical haematology.
- Number of Credit points: Lectures 1.4 (70%), practical 0.6 (30%).total 2

Department (s) delivering the course: 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: 20 / 9 / 2017

- Requirements (prerequisites) if any :

  None

2. Course aims

The student should acquire the facts of microbiology necessary for clinical haematology.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of : - General bacteriology •Tuberculosis •General virology •Hepatitis viruses •Viruses inducing haematological diseases (HIV, CMV, EBV, Parvo virus) •Common systemic fungal infections	-Lectures -	-Written and oral examination - Log book
B- Describe Details of : • Immune reaction and autoimmunity •Infections in immune deficient patients •HLA typing and stem cell transplantation		

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 clinical haematology	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Master the basic skills in the microbiology related to clinical haematology.	-Laboratory work	-Assessment of practical skills -Log book
B. Use information technology to support decisions in common situations related to microbiology related to clinical haematology.		
C. Identify Pathogens of common infection in Internal Medicine and clinical haematology by examining slides under the microscopy.		

D-General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A and A.B.	-Observation and supervision -Written and oral communication	Oral Exam Logbook Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Logbook

Systems-Based Practice

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

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				
• General bacteriology	A	A	A&B	A-D
• Tuberculosis	A	A	A-C	A-D
• General virology				
• Hepatitis viruses	A	A	A&B	A-D
• Viruses inducing haematological diseases (HIV, CMV, EBV, Parvo virus)	A	A	A&B	A-D
• Common systemic fungal infections	A	A	A&B	A-D
• Infections in immune deficient patients	A	A	A-C	
• Immune reactions and autoimmunity	A	A	A&B	A-D
• HLA typing	A	A	A&B	A-D

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. arks: 100

8. List of references

i i. Lectures notes

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

ii. Essential books

Kaplan's
Synopsis of microbiology

iii. Recommended books

iv. Periodicals, Web sites, … etc

www.ASM.org

v. others : None

9. Signature

Course Coordinator	
Course Coordinator: Prof. Enas Abd El Megeed	**Head of the Department: Prof. Lobna Eltony**
Date:	**Date:**

Course 4 Clinical pathology 1

- **Course Title: Clinical pathology 1**
- **Course code: BLO231**
- **Speciality is Clinical Haematology**
- **Number of credit points : Lectures 1.6 (80%), practical 0.4 (20%).total 2.**

Department (s) delivering the course: 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: 20 / 9 / 2017
- **Requirements (prerequisites) if any :**

  None

2. Unit Aims

The student should acquire the facts of clinical pathology necessary for Clinical Haematology.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of clinical pathology of : • Making and staining of a peripheral blood film • Setting up the use of a light microscope • Analysis and interpretation of blood films and differential white blood cell count and red blood cell abnormalities • Interpretation of bone marrow aspirate • Diagnosis of malignant haematological disorders • Aplastic Anaemia and myelodysplastic syndromes • Interpretation of the results of Platelet function tests, haemostasis and cross matching • Interpretation of clinical chemistry reports • Introduction to flow-cytometry	-Lectures -Laboratory work	-Written and oral examination - 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 clinical haematology.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Master the basic skills in clinical pathology related to clinical haematology.	Laboratory work	-Assessment of practical skills -Logbook
B-Use information technology to support decisions related to clinical haematology.		
C. Identify common problems of clinical haematology by doing biochemical tests , microscopic examination and Training on blood film of blood components, bone marrow aspirate.		

D-General Skills

Practice-Based Learning and Improvement

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

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A and A.B.	-Observation and supervision -Written and oral communication	Oral Exam Logbook Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Logbook

Systems-Based Practice

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

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
• Making and staining of a peripheral blood film	A	A	A-C	A-D
• Setting up the use of a light microscope	A	A	A & B	A-D
• Analysis and interpretation of blood films and differential white blood cell count and red blood cell abnormalities	A	A	A - C	A-D
• Interpretation of bone marrow aspirate	A	A	A -C	A-D
• Diagnosis of malignant haematological disorders	A	A	A - C	A-D
• Aplastic Anaemia and myelodysplastic syndromes	A	A	A - C	A-D
• Interpretation of the results of Platelet function tests, haemostasis and cross matching	A	A	A & B	A-D
• Interpretation of clinical chemistry reports	A	A	A ,B	A-D
• Introduction to flow-cytometry	A	A	A & B	A-D

5. Course Methods of teaching/learning:

1 Laboratory work
2 Didactic (lectures, seminars, tutorial
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:

4- Written and oral examination
5- Assessment of practical skills)
6- Log book

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

iii. Marks: 100

8. List of references

i. Lectures notes

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

ii. Essential books

Crocker: The science of laboratory diagnosis

Harr: clinical laboratory Science Review

iii. Recommended books

Tietz textbook of clinical chemistry and molecular diagnosis

iv. Periodicals, Web sites, … etc

www.biomedcentral.com

v. others

None

9. Signature

Course Coordinator	
Course Coordinator: **Prof. Sanaa Sotohe**	**Head of the Department:** **Prof. Lobna Eltony**
Date:	**Date:**

Course 5 Internal Medicine related to Haemtology

Name of department: ***Internal Medicine, Clinical Haematology Unit***

- **Faculty of medicine**
- **Assiut University**
- **2016--2017**

1. Course data

- **Course Title: Internal Medicine related to Haemtology**
- **Course code: BLO218C**
- **Speciality:** Clinical Haematology
- **Number of credit points: Didactic 5(38.5%) practical 8(61.5%).total 13**
- **Department (s) delivering the course: Internal Medicine**
- **Coordinator (s):**

  Course coordinator: Prof. Dr Yousreyia A.A.

  Assistant coordinator (s) Dr Ahmad F. Thabet

  Date last reviewed: 20 / 9 / 2017
- **General requirements (prerequisites) if any :**

  Rotation of all branches of internal Medicine
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

1. To have sufficient knowledge about different Internal Medicine diseases
2. To be able to communicate with the patient, his relatives and cooperate with his colleagues.
3. To acquire the skill to interpret the results of the diagnostic tools

3. Course intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: 1-Cardiology A-Heart failure b- Rheumatic fever c- Valvular heart diseases D-Arrhythmia e- Hypertension f- Ischemic heart disease g- Cardiomyopathy 2-Endocrinology and nutrition and renal diseases a- Diabetes mellitus b- Thyroid diseases c- Adrenal gland diseases Renal failure Nephritis Nephrotic syndrome	Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations (service teaching)	OSCE at the end of each year -log book & portfolio - MCQ examination at the second year -Oral and written exam

3-Hepatology &Gastroenterology a- Liver cirrhosis and liver cell failure b- Gastritis, ileitis, colonic disorders, malabsorption & inflammatory bowel diseases c- GIT and liver in systemic disease d- Upper and lower GIT bleeding 4-Collagen vascular and systemic diseases a. SLE b. RA, Sjogren Syndrome and mixed CT disease c. Vasculitis 5- Pulmonary Medicine a. Obstructive lung diseases b. Restrictive lung disorders, Sarcoidosis & Idiopathic pulmonary fibrosis c. Lung in systemic diseases d. Pulmonary vascular disorders e. Pulmonary infections 6--Neurological diseases a- Cerebrovascular strokes b- Myelopathy c- Meningitis and encephalitis d-Neuropathies		
B. Mention the principles of (diagnostic/therapeutic/preventive tools) -Acid-Base & electrolyte a- Acidosis and alkalosis b- K and Na disorders C-disorders of Ca & Mg d-Imaging in internal Medicine e- hypo and hypervitaminosis		

C. State update and evidence based Knowledge of -Heart failure - Rheumatic fever Valvular heart diseases -Arrhythmia - Hypertension - Ischemic heart disease - Diabetes mellitus Liver cirrhosis and liver cell failure		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Internal Medicine		
E. Mention the basic ethical and medicolegal principles revenant to the Internal Medicine		
F. Mention the basics of quality assurance to ensure good clinical care in Internal Medicine		
G. Mention the ethical and scientific principles of medical research		
H-State the impact of common health problems in the field of Internal Medicine on the society.		

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 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 Internal Medicine		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the Internal Medicine		

B- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.		
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 Abdominal Ultrasonography -CT abdomen -urine analysis -blood gases Stool analysis Liver function test Upper and lower GI endoscopy Measure the blood sugar. Endocrinal profile Rheumatoid factor, ANF, LE cells. Sputum culture Pulmonary function - CT and MRI brain	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations (service teaching)	OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year
C. Interpret the following non invasive/invasive	Clinical	Procedure

diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A -X ray chest -cardiac markers -ECG Blood gases -kidney function test -Random blood sugar. Results of urine analysis Metabolic profile:[i.e. serum electrolytes]	round with senior staff	presentation - Log book - Chick list
D. Perform the following non invasive/invasive therapeutic procedures ECG -Blood gases -CVP Blood sugar estimation -Urinalysis -Application of intravenous cannula. -Insulin administration. 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 Proper drug regimens for GIT diseases -Abdominal paracentesis	Clinical round with senior staff	Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to 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 Internal Medicine		
H. Provide health care services aimed at		

preventing health problems related to Internal Medicine like Myocardial ischemia syndromes like chronic stable angina, acute coronary syndromes, coronary artery spasm ,hepatitis ,liver cirrhosis ,diabetes and others		
I. Provide patient-focused care in common conditions related to Internal Medicine while working with health care professionals, including those from other disciplines		

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.	Simulations Clinical round Seminars Lectures Case presentation Hand on workshops	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 Internal Medicine	Clinical round Seminars	Clinical Exam
K. Write a report in -Patients medical report - Discharge report -Death report …	Senior staff experience	Chick list
L. Council patients and families about Internal Medicine related 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

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Heart failure	A,C,D-H	A-D	A-I	A-Q
Rheumatic fever	A,C,D-H	A-D	A-I	A-Q
Valvular heart diseases	A,C,D-H	A-D	A-G,I	A-Q
Arrhythmia	A-H	A-D	A-I	A-Q
Hypertension	A-H	A-D	A-I	A-Q
Ischemic heart disease	A-H	A-D	A-I	A-Q
Cardiomyopathy	A-H	A-D	A-I	A-Q
Cerebrovascular strokes	A,B, D-H	A-D	A-I	A-Q
Myelopathy	A,B, D-H	A-D	A-I	A-Q
Meningitis and encephalitis	A,B, D-H	A-D	A-I	A-Q
Neuropathies	A-H	A-D	A-I	A-Q
Diabetes mellitus	A-H	A-D	A-I	A-Q
Thyroid diseases	A,B, D-H	A-D	A-I	A-Q
Adrenal gland diseases	A,B, D-H	A-D	A-I	A-Q
Renal failure	A,B, D-H	A-D	A-I	A-Q
Nephritis	A,B, D-H	A-D	A-I	A-Q
Nephrotic syndrome	A,B, D-H	A-D	A-I	A-Q
Liver cirrhosis and liver cell failure	A-H	A-D	A-I	A-Q
Gastritis, ileitis, colonic disorders, malabsorption & inflammatory bowel diseases	A,B, D-H	A-D	A-I	A-Q
GIT and liver in systemic disease	A-H	A-D	A-I	A-Q
Upper and lower GIT bleeding	A-H	A-D	A-I	A-Q
SLE	A,B, D-H	A-D	A-I	A-Q
RA, Sjogren Syndrome and mixed CT disease	A,B, D-H	A-D	A-I	A-Q
Vasculitis	A,B, D-H	A-D	A-I	A-Q
Obstructive lung diseases	A,B, D-H	A-D	A-I	A-Q

Restrictive lung disorders, Sarcoidosis & Idiopathic pulmonary fibrosis	**A,B, D-H**	**A-D**	**A-I**	**A-Q**
Lung in systemic diseases	**A,B, D-H**	**A-D**	**A-I**	**A-Q**
Pulmonary vascular disorders	**A,B, D-H**	**A-D**	**A-I**	**A-Q**
Pulmonary infections	**A,B, D-H**	**A-D**	**A-I**	**A-Q**
Acidosis and alkalosis	**B,D-H**	**A-D**	**A-I**	**A-Q**
K and Na disorders	**B,D-H**	**A-D**	**A-I**	**A-Q**
disorders of Ca & Mg	**B,D-H**	**A-D**	**A-I**	**A-Q**
Imaging in internal Medicine	**B,D-H**	**A-D**	**B-D**	**A,B**
hypo and hypervitaminosis	**B,D-H**	**A-D**	**A-I**	**A-Q**

Methods of teaching/learning

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Case presentation
5. Direct observation
6. journal club
7. Clinical rounds
8. Clinical rotation
9. Senior staff experience
10. Perform under supervision of senior staff
11. Postgraduate teaching

6. 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. 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: 250

8. List of references(course 4,5):

i. Lectures notes

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

ii. Essential books

1- Cecil – text book of Medicine, 22edition.
2- Oxford - text book of Medicine,
3- Davidson20 edition.
4- Current Medical Diagnosis & treatment, 2003.

iii. Recommended books

1. Harrisons - text book of Medicine ,15 edition
2. Hurst text book of cardiology
3. Macloid clinical methods.

iv. Periodicals, Web sites, … etc

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

9. Signature

Course Coordinator	
Principal Coordinator: Prof. Dr Yousreyia A.A.	**Head of the Department:** **Prof. Lobna El Tony**
Date:	**Date:**

Course 6 Clinical hematology 1

- **Course Title: Clinical Hematology 1**
- **Course code: BLO218D**
- **Speciality is Clinical Hematology**
- **Number of credit points: Lectures 1 (33.3%), practical 2 (66.7%).total 3.**
- **Department (s) delivering the course: Clinical Hematology in conjunction with Internal medicine department**
- **Coordinator (s): Staff members of clinical Hematology Department in conjunction with Internal medicine Department as annually approved by both departments councils**

  Date last reviewed: 20 / 9 / 2017
- **Requirements (prerequisites) if any :**
  - **None**

2. Course Aims

The student should acquire the facts of clinical Hematology 1

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of: -RBCs related disorders as anaemia -WBCs disorders and hematological malignancies -Coagulation disorders	-Lectures	-Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of Clinical Hematology 1 with clinical reasoning, diagnosis and management of common diseases related to clinical haematology.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Master the basic skills in of Clinical Hematology 1	Laboratory work	-Assessment of practical skills -Logbook
B-Use information technology to support decisions related to of Clinical Hematology 1		
C. Identify common problems of clinical haematology 1 by doing biochemical tests , microscopic examination and Training on blood film of blood components, bone marrow aspirate.		

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

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
-RBCs related disorders as anaemia	A	A	A-C	A-E
WBCs disorders and hematological malignancies	A	A	A-C	A-E
Coagulation disorders	A	A	A - C	A-E

5. Course Methods of teaching/learning:

1 Laboratory work
2 Didactic (lectures, seminars, tutorial
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

- Essential haematology 2016

iii. Recommended books

- Oxford clinical haematology

iv. Periodicals, Web sites, … etc

www.biomedcentral.com

9. Signature

Course Coordinator	
Course Coordinator: **Prof Osama Ebraheim.**	**Head of the Department:** **Prof Lobna El Tony**
Date:	**Date:**

Course 7 Clinical Haematology 2

Name of department: ***Internal Medicine, Clinical Haematology Unit***

- **Faculty of medicine**
- **Assiut University**
- **2016-2017**

1. Course data

- **Course Title:** Clinical Haematology 2
- **Course code:** BLO218E#
- **Speciality** Clinical Haematology
- **Number of credit points: 24 lectures (17.9%) practical 96 (82.1%) total 120**

- **Department (s) delivering the course: Staff member of haematology unit of clinical pathology department for Advanced clinical pathology 2**

- **Coordinator (s):**

1- Principal coordinator: Prof. Osama A. Ibrahi

2- Assistant coordinator (s)

- **Prof. Dr. Youseryia A. Ahmad**
- **Prof. Dr. Esam A.S. Elbeih.**
- **Prof. Howaida Nafady**
- **Dr.Aadel H. Mekkawi**
- **Dr.Mohammad Ramadan**
- **& Dr. Ahmad F. Thabet**
- **DR.Rania Hafez**
- **Dr. Safenaz Husein**

- **Date last reviewed: 20 / 9 / 2017**
- **General requirements (prerequisites) if any :**

Rotation of all branches of internal Medicine

2. Course Aims

1-The overall aim is to enable the student to acquire the skills and knowledge to provide good care for patients in haematology ward and outpatient clinic .
2-To enable the students to cooperate with colleagues in other medical and surgical specialties.
3-be able to understand and properly use the hematological laboratory tests.
4- To use blood products properly and work in bone marrow transplantation centers.
5- To share in hematological research work.

3. Course intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: ➢ **Red blood cell disorders** Megaloblastic anaemia Iron deficiency anaemia and microcytic and hypochromic anaemia Inherited hemolytic anemias Acquired hemolytic anemias Acquired and constitutional aplastic anemia Iron overload disorders Polycythaemia	Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations (service teaching) Observation, assisting and discussion with senior medical staff Laboratory and clinical multidisciplinary team meetings Personal study	OSCE at the end of each year -log book & portfolio - MCQ examination at the second year -Oral and written exam

➢ **Benign WBCs disorders** Leucopenias and leucocytosis Myelofibrosis Primary and secondary immunodeficiency diseases Reactive lymphocyte disorders and lymphadenopathy ➢ **Haematological Malignacies** Acute myeloid leukemias Myelodysplastic Syndrome Acute lymphoblastic leukaemia Chronic lymphocytic leukaemia Myelopoiferaive disorders: Chronic meyloid leukaemia, Polycythemia Vera, myelofibrosis and ET Hodgkin's disease and Non Hodgkins's lymphoma Multiple Myeloma and Plasma cell disorders Heavy chain disease and Waldenstrom Macroglobulinaemia and Hairy cell leukaemia ➢ **Haemostatic Disorders & Thrombophilia** Hemophilia, von Willebrand's disease and other hereditary coagulation disorders Acquired coagulation disorders (DIC & liver dis. Thrombotic thrombocytopenic Purpura and HUS Thrombocytopenias – acquired and hereditary Qualitative platelet disorders and Hereditary vW disease		

Vascular purpuras Hereditary and acquired thrombophilias Anticoagulation and its disorders Thrombocytosis reactive and ET Indications and hazards of transfusion Medicine - Transfusion of red blood cells		
B. Mention the principles of ➢ **Haemopoiesis RBCs and WBCs** -Iron, Vitamin B12 and folic acid metabolism - RBC & Hb physiology WBC & platelet physiology - Haemostasis system and its control - Cellular and humoral immunity -Cytogenetics and molecular basis of oncology -Application of nuclear medicine in haematology Platelet transfusion and Apharesis **Advanced clinical pathology 2** ➢ **Blood Bank and transfusion** **Medicine** Indications and hazards of transfusion Medicine - Transfusion of red blood cells Platelet transfusion and Apharesis Fresh frozen plasma , Old plasma and Cryoprecipitate Autologous blood transfusion and Intravenous immunoglobulin ➢ **Bone Marrow Transplantation** Bone marrow harvesting Stem cell transplant conditioning protocols Prepheral blood stem cell mobilization and harvesting Infusion of stem cell		

Autologous bone marrow and blood stem cell transplantation Allogenic bone marrow and blood stem cell transplantation Blood product support of stem cell transplantation Complications of stem cell transplantation ➢ **Laboratory Hematology for Specialist** Blood Films normal , benign and malignant Bone Marrow Aspirate Bone Marrow Biopsy Workup of Hemoglobinopathy Workup of Hemolytic Anemia Sickle Test Hemoglobin Electrophoresis Manual and Automated Hemostasis Testing Platelet Function Tests Workup of Hemophilia Workup of Thrombophilia Flowcytometry introduction , basis , clinical application and interpretation in benign and malignant hematological disorders		
C. State update and evidence based Knowledge of DIC Coagulation factor inhibitors congenital coagulation disorders including Haemophilia A, Haemophilia B and Von Willebrand Disease Acute myeloid leukaemia Acute lymphoblastic leukaemia Chronic myeloid leukaemia Chronic Lymphocytic leukaemia- Non-Hodgkins lymphoma Hodgkin lymphoma Myelopoiferaive disorders Multiple Myeloma and Plasma cell disorders Transfusion Therapy and BMT		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Clinical Haematology		
E. Mention the basic ethical and medicolegal principles revenant to the Clinical Haematology		

F. Mention the basics of quality assurance to ensure good clinical care in Clinical Haematology		
G. Mention the ethical and scientific principles of medical research		
H. State the impact of common health problems in the field of Clinical Haematology on the society.		

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 Clinical Haematology	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 Clinical Haematology		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the Clinical Haematology		

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.		
B-Order the following non invasive/invasive diagnostic procedures CSF cytological appearances Routine appropriate Lab investigations related to conditions mentioned in A.A Abdominal US Pleural aspiration Ascetic aspiration sample Report of coagulation profile PTT	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations (service teaching)	OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in

PROTHROMBIN TIME & CONCENTRATION. Platelet functions ESR LDH Coomb"s Test Complete blood count and Blood film Bone marrow aspirate and or biopsy immunophnotype and cytogenetic testing testing Fish technique for residual disease the lymph node biopsy splenic aspirate Histocompatibility & tissue typing		the third year
C. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A - Ultrasonoghraphy, X ray, CT and MRI Clotting factors Coagulation profile. Platelet function tests lymph node biopsy CSF cytological appearances Coomb"s Test Kidney Function Tests Bone marrow aspirate	Clinical round with senior staff	Procedure presentation - Log book - Chick list
D.Perform the following non invasive/invasive therapeutic procedures Complete blood count and Blood film ECG light microscope Describe the use of different stains -Blood gases -CVP -urine analysis Blood sugar estimation -Urinalysis -Application of intravenous cannula. -Insulin administration. -Pleural aspiration Abdominal Paracentesis	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation - Log book - Chick list

-Nasogastric tube and sungestaken tube application Lumber puncture Bone marrow aspirate		
E- Prescribe Proper drug regimens Anticoagulants medications. Cryopreciptate. stem cell transplantation Acute and Chronic GVHD Blood products Prescribe and administer complex chemotherapy regimens appropriately under supervision Safe and appropriate transfusion of blood products Prescribe and perform cenral venous line give intrathecal -chemotherapy prescribe /perform Pleural aspiration Management of neutropenic fever Management of DIC Anti-emetics Drug Interaction Antibiotic use	Clinical round with senior staff	Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to Clinical Haematology	Clinical round with senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to Clinical Haematology		
H-Provide health care services aimed at preventing health problems related to Clinical Haematology		
I. Provide patient-focused care in common conditions related to Clinical Haematology while working with health care professionals, including those from other disciplines		

D- <u>General Skills</u>

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	Procedure/case presentation -Log book and Portfolios

	communication	
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.	Simulations Clinical round Seminars Lectures Case presentation Hand on workshops	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 Internal Medicine	Clinical round Seminars	Clinical Exam
K. Write a report in -Patients medical report - Discharge report -Death report …	Senior staff experience	Chick list

L. Council patients and families about clinical haematology related 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

Course contents (topic s/modules/rotation
Course Matrix for clinical hematology

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Haemopoiesis RBCs and WBCs	B,D-H	A-D	A-I	A-R
Red blood cell disorders	A,C,D-H	A-D	A-I	A-R
Benign WBCs disorders	A,C,D-H	A-D	A-I	A-R
Hematological Malignancies	A,C,D-H	A-D	A-I	A-R
Haemostatic Disorders & Thrombophilia	A,C,D-H	A-D	A-I	A-R
Blood Bank and transfusion Medicine	B,D-H	A-D	A-I	A-R
Bone Marrow Transplantation	B,D-H	A-D	A-I	A-R
Laboratory Hematology for Specialist	B,D-H	A-D	A-I	A-R

5. Methods of teaching/learning(course 4,5):

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. Hand on work shop
13. Service teaching
14. Perform under supervision of senior staff
15. Postgraduate teaching

6. Methods of teaching/learning: for students with poor achievements(course 4,5):

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

7. Assessment methods(course 4,5):

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. Patient survey
7. 360o global rating
8. Check list evaluation of live or recorded performance
9. MCQ Exam

ii. Time schedule: At the end of second part

iii. Marks: 1200

8. List of references

i. Lectures notes

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

ii. Essential books

1- Essential haematology 2016

iii. Recommended books

1. Macloid clinical methods.
2. Oxford clinical haematology

iv. Periodicals, Web sites, … etc

- Blood

9. Signature

Course Coordinator	
Principals Coordinator: **Prof. Osama Ibraheim**	**Head of the Department:** **Prof. Lobna El Tony**
Date:	**Date:**

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for master degree *in* Clinical Haematology

***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* **Clinical Haematology**.

2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in **Clinical Haematology**

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

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

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

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 **Clinical Haematology 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 **Clinical Haematology**.

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 **Clinical Haematology**

2-1-D- Ethical and medicolegal principles relevant to practice in **Clinical Haematology**.

2-1-E -Quality assurance principles related to the good medical practice in **Clinical Haematology**

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 **Clinical Haematology**.

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

.**2.2- C**- Demonstrating systematic approach in studying clinical problems relevant to **Clinical Haematology**.

2-2-D- Making alternative decisions in different situations in

Clinical Haematology.

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 **Clinical Haematology** for patients with common diseases and problems.

2-3- C- Write and evaluate reports for situations related to the field of **Clinical Haematology**

2.4- General skills

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

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

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

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

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

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

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

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

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

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

2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.

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

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

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

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

Teaching methods for knowledge

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

Teaching methods for patient care

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

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).

- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)

- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for Master Degree students.

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

Annex 4, Glossary of Master Degree doctors assessment methods

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

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

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

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

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

- Procedure or Case Logs – MSc doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

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

- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.

- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.

- 360 Global Rating Evaluations – MSc doctors, faculty, nurses, clerks, and other clinical staff evaluate MSc doctors from different perspectives using similar rating forms.

- Portfolios – A portfolio is a set of project reports that are prepared by the MSc doctors to document projects completed during the MSc study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.

- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.

- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.

- Procedure or Case Logs – MSc doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

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

Annex 5, Program evaluation tools

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

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الماجستير مع المعايير الأكاديمية المعتمدة من كلية الطب – جامعة أسيوط لدرجة الماجستير في امراض الدم الاكلينيكية

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 **Clinical Haematology**	1- إجادة تطبيق أساسيات و منهجيات البحث العلمي و استخدام أدواته المختلفة
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in orthopaedic **Clinical Haematology**	2-تطبيق المنهج التحليلي و استخدامه في مجال التخصص
3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in **Clinical Haematology**.	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 **Clinical Haematology**.	5-تحديد المشكلات المهنية و إيجاد حلو لا 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 **Clinical Haematology**.	6-إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجيةالمناسبة 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 **Clinical Haematology**.	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 **Clinical Haematolog**	12–تنمية ذاته أكاديميا و مهنيا و قادرا علي التعلم المستمر

2. Academic standard

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.1.A -Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problems and topics.	2-1-أ-النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.
2.1.B- The relation between good clinical care of common health problems in **Clinical Haematology**	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 **Clinical Haematology**	2-1-ج-التطورات العلمية في مجال التخصص.
2.1. D- Ethical and medicolegal principles relevant to practice in **Clinical Haematology**	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 **Clinical Haematology**.	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 **Clinical Haematology**. 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to **Clinical Haematology**.	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 **Clinical Haematology**.	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 **Clinical Haematology**.	2-2-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية
2.2. C- Demonstrating systematic approach in studying clinical problems relevant to the **Clinical Haematology**.	2-2-د- إجراء دراسة بحثية و /أو كتابة دراسة علمية منهجية حول مشكلة بحثية
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-2هـ- تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-2-و- التخطيط لتطوير الأداء في مجال التخصص
2.2.D- Making alternative decisions in different situations in the field of **Clinical Haematology**	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 **Clinical Haematology** 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 **Clinical Haematology**	2-3-ب- كتابة و تقييم التقارير المهنية
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. 2.3.B- Demonstrate patient care skills relevant to that speciality for patients with common diseases and problems.	2-3-ج- تقييم الطرق و الأدوات القائمة في مجال التخصص
2.4.D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	2-4-أ-التواصل الفعال بأنواعه المختلفة
2.4.A-Demonstrate practice-based learning and improvement skills that investigation and involves evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.B- Use all information sources and technology to improve his practice.	2-4-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.B- Use all information sources and technology to improve his practice. 2.4.E-Demonstrate professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse	2-4-ج- التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية

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

Comparison between ARS and ILOS for master degree in Clinical Haematology

(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, Biochemistry, Pathology, Microbiology and clinical pathology related to Clinical Haematology. **2-1-B-** Mention essential facts of clinically supportive sciences including Internal Medicine related to haemtology, Clinical heamatology 1 related to Clinical Haematology. **2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Clinical Haematology
2-1-B The relation between good clinical care of common health problem in **Clinical Haematology** theelfare of society.	**2-1-H-** State the impact of common health problems in the field of **Clinical Haematology** 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 **Clinical Haematology**	**2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to **Clinical Haematology**. **2-1-D-** Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to **Clinical Haematology**.
2-1-D- Ethical and medicolegal Principles relevant to practice in	**2-1-E-** Mention the basic ethical and medicolegal principles that should be

Clinical Haematology	applied in practice and are relevant to the field of **Clinical Haematology**.
2-1-E-Quality assurance principles related to the good medical practice in **Clinical Haematology**	**2-1-F-** Mention the basics and standards of quality assurance to ensure good clinical practice in the field of **Clinical Haematology**
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- Intellectual skills:***
2-2-A-Correlation of different relevant sciences in the problem solving and management of common diseases of **Clinical Haematology**.	**2-2-A-** Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the **Clinical Haematology**
2-2-B-Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to **Clinical Haematology**.	**2-2-B-** Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to **Clinical Haematology**
2-2-C- Demonstrating systematic approach in studding clinical problems relevant to the **Clinical Haematology**.	**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 **Clinical Haematology**
2-2-D Making alternative decisions in different situations in the field of **Clinical Haematology**.	**2-2-D-** Formulate management plans and alternative decisions in different situations in the field of **Clinical Haematology**.

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

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

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

III-Program matrix
Knowledge and Understanding

Course	Program covered ILOs							
	2/1/A	**2/1/B**	**2/1/C**	**2/1/D**	**2/1/E**	**2/1/F**	**2/1/G**	**2/1/H**
Course 1 : Physiology and Biochemistry	✓							
course 2 : **Pharmacology &Pathology**	✓							
course 3 : **Microbiology and immunology**	✓							
course 4 : **Clinical pathology1**	✓							
***Course 5* Internal Medicine related to hematology.**	✓	✓	✓	✓	✓	✓	✓	✓
***Course 6* Clinical Hematology 1 (Introduction to Blood diseases)**	✓							
***Course 7* Clinical Hematology 2**	✓	✓	✓	✓	✓	✓	✓	✓

Intellectual
Practical Skills (Patient Care)
General Skills

Course	Program covered ILOs			
	2/2/A	2/2/B	2/2/C	2/2/D
Course 1 : Physiology and Biochemistry	✓			
course 2 : **Pharmacology &Pathology**	✓			
course 3 : **Microbiology and immunology**	✓			
course 4 : **Clinical pathology1**	✓			
Course 5 **Internal Medicine related to hematology.**	✓	✓	✓	✓
Course 6 **Clinical Hematology 1 (Introduction to Blood diseases)**	✓			
Course 7 **Clinical Hematology 2**	✓	✓	✓	✓

Annex 6, Program Correlations:

Staff members:

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Prof. Dr. Youseryia A. Ahmad
Prof. Dr. Esam A.S. Elbeih
Prof. Howaida Nafady

- **Dr.Aadel H. Mekkawi**
- **Dr.Mohammad Ramadan**
- **Dr. Ahmad F. Thabet**
- **DR.Rania Hafez**
- **Dr. Safenaz Husein**

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End of course specification