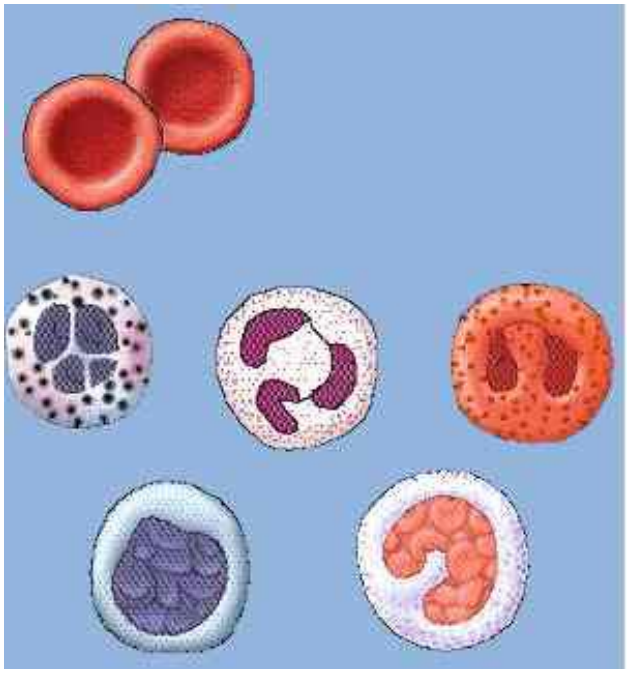
كلية الطب
الدراسات العليا
وحدة ضمان الجوده



أمراض الدم الإكلينيكيه

كراسة الأنشطه

Clinical Haematology

Master Degree

Credit point bylaws

2016-2017

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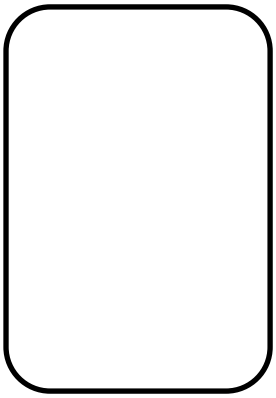
Personal photo



Name…….
Date of birth……..
Permanent Address……
Telephones………**Mobile phone(s)**……..
E mail……
Specialty before……
Date of acceptance for Master degree…/…/…
Previous Experiences

NAME OF HOSPITAL	PERIOD OF WORK	HOSPITAL DIRECTOR SIGNATURE	STAMP

ACADEMIC DETAILS
Degree Institute University Year of Passing
MBBS……/……/……University
MD……/……/……University
Others……/……/……University
……/……/……University
……/……/……University

INTRODUCTION

An introductory course forms part of the training in general medicine ward with special stress in five specialties in the 1st year. It includes training in emergency medicine, liver and gastrointestinal diseases, autoimmune and connective tissue diseases, heart diseases and diabetes mellitus and common endocrinal diseases. It also includes 2 months training in Clinical Haematology unit.In the 2nd and 3rd years of training focused on last 5 modules; the 1st 4 of them run parallel course.

Aim

On completion of the educational programme the trainee should :

- Participate in General Haematology Outpatient Clinics
- Be responsible for the day to day management of ward inpatients and day care patients
- Liaise with colleagues in Medicine and consult with other specialties
- Be exposed to all aspects of benign and malignant Haematology.
- Be able to understand the laboratory haematological practice .
- Be able to do common diagnostic and therapeutic techniques required in the practice of haematology
- Have fair communication skills required for the practice of clinical haematology.

The components of training are:

The trainee will spend in **General Medical ward , including medical emergencies**, one year rotating in 6 medical specialties at a minimum of 2 months duration. Throughout this period, the on-call duties shall be carried out in medicine. The aim of the training is to produce the multi-competent junior doctors able to recognize and manage general medicine patients.

• **Clinical hematology modules including laboratory hematology (2 years)**.

During the this period the trainee will:

- Participate in General Haematology Outpatient Clinics
- Be responsible for the day to day management of ward inpatients and day care patients
- Liaise with colleagues in Medicine and consult with other specialities
- Be exposed to all aspects of benign and malignant Haematology, including Thalassaemia, congenital bleeding disorders, thrombotic disorders, palliative care and remission treatments for haematological malignancies like leukaemias, lymphomas and myeloma.
- Electively the trainee be attached either to the Transfusion Department or a stem-cell transplantation centre for three months.
- Present one audit a year and participate in departmental meetings
- The trainee should be guaranteed a minimum of four hours protected time per week to regularly attend the academic meetings within the department.
- The trainee should do or share in at least 50% of the number of required cases.

External References:

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

Curriculum Structure:

Duration of program 36 months divided into

Program Structure

Program Time Table

Duration of program 3 years maximally 5 years divided into

- Part 1

Program-related essential courses and ILOs + elective courses
Students are allowed to set the exams of these courses after 12 months from applying to the M Sc degree.

- 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 should not be set before 12 months from registering the M Sc subject;
It could be discussed and accepted before passing the second part of examination)

- Part 2

Program –related specialized science courses and ILOs
Students are not allowed to set the exams of these courses before 3 years from applying to the MSc degree.

n.b. Fulfillment of the requirements in each course as described in the template and registered in the log book is a pre-request for candidates to be assessed and undertake part 1 and part 2 examinations.

Weighting the assessment

	Credit point	% from total
▪ Basic courses	24(14 didactic+10 training)	15.2%
▪ Humanity and social courses	-	
▪ Specialized courses	134 (24 didactic +110 training)	84.8%
▪ Others ▪ (Computer,---)	-	-

1st Part (Basic and Clinical Courses)

Modules / Units		Course Code	total Credit point	Lectures	training
Course 1	Physiology &Biochemistry	BLO218 A#	2	2	-
Course 2	Pharmacology& Pathology	BLO218B#	2	2	-
Course 3	Microbiology and Immunology	BLO207	2	2	-
Course 4	Clinical Pathology1	BLO231A	2	2	-
Course 5	Internal Medicine related to Haemtology	BLO218C	13	5	8
Course 6	Clinical Haematology 1 Introduction to Blood diseases	BLO218D	3	1	2

1st Part (Basic and clinical Courses) 700 Marks

Modules/ Units		Total	Total Written	Total Oral	Practical
Course 1	Physiology & Biochemistry	100	40	60	
Course 2	Pharmacology & Pathology	100	40	50 (20+30)	10 for pathology
Course 3	Microbiology and Immunology	100	40	30	30
Course 4	Clinical Pathology 1	100	40	40	20
Course 5	Internal Medicine related to Haemtology	250	150	30	70
Course 6	Clinical Haematology 1	50	30	10	10
1st Part total Marks		700	340	220	140

Examination papers for 1st part

Paper	
1	**Physiology & Biochemistry**
2	**Pharmacology & Pathology**
3	**Microbiology and Immunology**
4	**Clinical Pathology 1**
5	**Internal Medicine related to Haemtology**
6	**Clinical Haematology 1 Introduction to Blood diseases**

Elective course : 2 credit point
The student choose One of the following :

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

Clinical Hematology 2nd Part

Total 2nd Part (1200 Marks)			
	Written	**Oral, Clinical &laboratory hematology 600**	
Clinical haematology 2 paper 1 Clinical haematology 2 paper 2 Clinical haematology 2 paper 3 (haematology related to internal medicine) Clinical haematology 2 paper 4 (Advanced clinical pathology 2+ problem solving + MCQ)	**150** **150** **150** **150**	شفوى واشعةوعينات وكراسةانشطة	**PRACTICAL**
	600	**200**	**400**

Components of Training Programme

Modules/ Units' Titles' list
1- Basics of: Physiology, biochemistry, Pharmacology, pathology, clinical pathology, microbiology and immunology,
2- General medical specialties and medical emergencies
3-Haematopoiesis, Benign RBCs and WBCs diseases
4- Blood clotting and its disorders.
5-Haematological Malignancies
6-Basic Laboratory hematology
7-Transfusion therapy (blood bank) or Bone Marrow transplantation

Basic medical sciences

SPECIALITY	DIAGNOSIS
Pathology	Bone marrow diseases & interpret BM trephine biopsy
	Lymphomas (Hodgkins' Disease and NHL)
	Granulomas including TB lymphadenopathy
	Introduction to immuno-histochemistry
Clinical Pathology	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
Microbiology &	Infections in immune deficient patients
	Disinfection measures

immunology	**General bacteriology**
	Tuberculosis
	General virology
	Hepatitis viruses
	Viruses inducing haematological diseases (HIV, CMV, EBV, Parvo v..)
	Common systemic fungal infections
	Immune reactions and autoimmunity
	HLA typing
Clinical Chemistry	**Cell Biology and biomarkers**
	Nutrition and deficiency disorders
	Enzyme deficiency disorders
	Metabolic haematology disorders
Physiology	**Physiology of blood and hemostsis**
	Physiology of Cariovascular system
	Physiology of Respiratory system
	Physiology of Liver and GIT system
	Physiology of Kidney
	Physiology of endocrine system
Pharmacology	**Pharmacology of anaemia, iron, folic acid and B12 supplementation**
	Outline the mechanisms of action of pharmacological platelet inhibitors
	pharmacological and nonpharmacological clotting inhibitors
	Cancer chemotherapy for haematological malignancies
	Hemoglobinopathies and use of Hydroxyurea
	Hemolytic Disorders: Drug-Induced Hemolytic Anemia Medications in G6PD Deficiency
	Medication Causes of Neutropenia
	Medication Causes of Lymphadenopathy
	Drug Induced Platelet Dysfunction

Course 1unit 1 (Physiology)

Requirements

- **Credit points: 1 credit point.**
- **Attendance of at least 80% of lectures**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Physiology	0.5	Physiology	5 hours -Physiology of blood and haemostasis. -Physiology of Cardiovascular system. -Physiology of Respiratory system.	50%
	0.5		5 hours -Physiology of Liver and GIT system. -Physiology of Kidney. -Physiology of endocrine system.	50%
Student signature			Principle coordinator signature	Head of the department signature

Physiology lecture

Date	Attendance	Topic	Signature

Course 1unit 2(Biochemistry)

Requirements

- **Credit points: 1 credit point.**
- **Attendance of at least 80% of lectures**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Biochemistry	0.5	Biochemistry	5 hours - Cell Biology and biomarkers - Nutrition and deficiency disorders	50%
	0.5		5 hours - Enzyme deficiency disorders -Metabolic hematology disorders	50%
Student signature			Principle coordinator signature	Head of the department signature

Biochemistry lectures

Date	Attendance	Topic	Signature

Course 2unit 1(Pharmacology)

Requirements

- **Credit points: 1 credit point.**
- **Attendance of at least 80% of lectures**

Name of the course	**Credit points**	**Responsible department**	**Attendance**	**Percentage of Achieved points**
Pharmacology	0.5	Pharmacology	5 hours -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	50%
	0.5		5 hours Hemoglobinopathies and use of Hydroxyurea Hemolytic Disorders: Drug-Induced Hemolytic Anemia Medications in G6PD Deficiency - Medication Causes of Neutropenia Medication Causes of Lymphadenopathy	50%
Student signature			Principle coordinator signature	Head of the department signature

Pharmacology lectures

Date	Attendance	Topic	Signature

Course 2 unit 2 (Pathology)

Requirements

- **Credit points: 1 credit point.**
- **Attendance of at least 80% of lectures**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
pathology	0.5	Pathology	5 hours - Thrombosis and embolism - Inflammation - Immunity & hypersensitivity. - Tuberculosis, granulomas & Bilharziasis - Pathology of tumors	50%
	0.5		5 hours - Bone marrow diseases & interpret BM trephine biopsy -Lymphomas (Hodgkins' Disease and NHL) -Granulomas including TB lymphadenopathy -Introduction to immuno-histochemistry Diagnostic cytology	50%
Student signature			Principle coordinator signature	Head of the department signature

Pathology lectures

Date	Attendance	Topic	Signature

Course 3 (Microbiology & Immunology)

Requirements

- **Credit points: 2 credit point.**
- **Attendance of at least 80% of lectures**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Microbiology & Immunology	1	Microbiology & Immunology	10 hours •General bacteriology •Tuberculosis •General virology •Hepatitis viruses •Viruses inducing haematological diseases (HIV, CMV, EBV, Parvo virus) •Common systemic fungal infections	50%
	1		10 hours •Immune reaction and autoimmunity •Infections in immune deficient patients •HLA typing and stem cell transplantation	50%
Student signature			Principle coordinator signature	Head of the department signature

Microbiology & Immunology lectures

Date	Attendance	Topic	Signature

Course 4 (Clinical Pathology)

Requirements

- **Credit points: 2 credit point.**
- **Attendance of at least 80% of lectures**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Pathology	1	Clinical Pathology	10 hours • 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	50%
	1		10 hours •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	50%
Student signature			Principle coordinator signature	Head of the department signature

Clinical Pathology lectures

Date	Attendance	Topic	Signature

Clinical Pathology training

Date	Attendance	Topic	Signature

Course 5
(Internal Medicine related to Haemtology)

Requirements

- **Credit points: 13 credit point: 5** credit point for didactic (lectures, seminars, tutorial) and 8 point for training**.**
- **Attendance of at least 80% of the course**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Internal Medicine related to (Haematology	1	Internal Medicine	10 hours •endocrinology and nutrition - Diabetes mellitus - Thyroid diseases & -Parathyroid - Adrenal gland diseases	20%
	1		10 hours • Hepatology &Gastroenterology -Liver cirrhosis and liver cell failure -Gastritis, ileitis, colonic disorders, malabsorption & inflammatory bowel diseases -GIT and liver in systemic disease -Upper and lower GIT bleeding	20%
	1		10 hours Collagen vascular and systemic diseases -SLE -RA, Sjogren Syndrome and mixed CT disease	20%

	1		-Vasculitis 10 hours Cardiology -Heart failure - Rheumatic fever - Valvular heart diseases -Arrhythmia - Hypertension - Ischemic heart disease - Cardiomyopathy	20%
	0.5		5 hours Pulmonary Medicine -Obstructive lung diseases -Restrictive lung disorders, Sarcoidosis & Idiopathic pulmonary fibrosis -Lung in systemic diseases -Pulmonary vascular disorders - Pulmonary infections	10%
	0.5		**5 hours** -Neurological diseases -Cerebrovascular strokes - Myelopathy -Meningitis and encephalitis -Neuropathies	10%
Student signature			Principle coordinator signature	Head of the department signature

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Internal Medicine related to (Haemtology	1	Internal Medicine *Dept. Neurology	**1 week in Nephrology Unit** - **Log of 2 cases** a-Renal failure b-Nephritis c- Nephrotic syndrome	12.5%
	2		**2 weeks in Cardiology Unit** **- Log of 2 cases** a-Heart failure b- Rheumatic fever c- Valvular heart diseases d-Arrhythmia e- Hypertension - Log of 20 ECG.	25%
	2		**2 weeks Emergency Department**	25%
	3		**3 weeks in Internal Medicine Department** **-Log of 2 cases** **- Endocrinology** a- Diabetes mellitus b- Thyroid diseases c- Adrenal gland diseases d- Obesity **-Hepatology &Gastroenterology** a- Liver cirrhosis and liver cell failure **--Collagen vascular and systemic diseases** **-Neurological diseases** a- Cerebrovascular stroke b- Myopathy*	37.5%
Student signature			Principle coordinator signature	Head of the department signature

Course 6 (Clinical Haematology 1 Introduction to Blood diseases)

Requirements

- **Credit points: 3 credit point.** 1 credit point for didactic (lectures, seminars, tutorial) and 2 point for training.
- **Attendance of at least 80% of the course**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Haematology 1 Introduction to Blood diseases (didactic)	1	**Clinical Haematology** unit	10 hours • Basic of -RBCs related disorders as anaemia -WBCs disorders and hematological malignancies -Coagulation disorders	100%
Clinical training **Clinical Haematology 1 Introduction to Blood diseases**	1		Attendance of at least 2 weeks in the Outpatient clinic (3 hours /day)	50%
	1		Clinical teaching 2 hours /week for 15 week	50%
Student signature			Principle coordinator signature	Head of the department signature

Course 7 Specialized courses

Clinical Haematology 2

Requirements

- **Credit points: 134 credit point, 24** credit point for didactic (lectures, seminars, tutorial) and **110** point for training (14 credit point during year 1 and 96 credit point during year 2, 3).
- - Minimal rate of attendance 80% of training and didactic

Year 1

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical hematology unit	4	Clinical hematology unit	➢ Practice with clinical cases for at least 1 month in the Clinical hematology unit including interpretation of their different CBC and related laboratory investigation ➢ Log of hematological cases as mentioned below	28.6%
	5		➢ Night shift (From 2pm to 8am) 1/week	35.8%

			for 10 weeks	
	1		➢ Attendance of at least 2 weeks in the Outpatient clinic (3 hours /day)	7.1 %
	2		➢ Attendance of at least 30% of clinical rounds (2 hours /week for 30 week)	14.3%
	1		➢ Clinical teaching 2 hours /week for 15 week	7.1%
	1		➢ Formative assessment	7.1%
Student signature			Principle coordinator Signature	Head of the department signature

Year 2

(13 credit point for didactic) & (46 credit point for training)

1- 13 credit point for didactic (lectures, seminars, tutorial, conference)

Name of the course	Credit points	Responsible unit	Attendance	Percentage of Achieved points
54.2 % of Clinical haematology course	**13**	**Clinical hematology unit**	**Year 2**	100%
	9.25 CP		**Topics and attendance 92.25 hour attendance**	71.15%
Haemopoiesis RBCs and WBCs	**1.5**	Clinical hematology unit	Year 2	
	0.5		**5 Hours** - Iron, Vitamin B12 and folic acid metabolism - RBC & Hb physiology	
	0.5		**5 Hours** - WBC & platelet physiology - Haemostasis system and its control	
	0.5		**5 Hours** - Cellular and humoral immunity -Cytogenetics and molecular basis of oncology -Application of nuclear medicine in haematology	
Red blood cell disorders	**2.25**	Clinical hematology unit		
	0.25		**2.5 Hours** - Megaloblastic anaemia	
	0.25		**2.5Hours** - Iron deficiency anaemia and microcytic	

			hypochromic anaemia	
	0.5		**5 Hours** - Inherited hemolytic anaemias	
	0.25		**2.5 Hours** - Acquired hemolytic anaemias	
	0.5		**5 Hours** - Acquired and constitutional aplastic anaemia	
	0.25		**2.5 hours** - Iron overload disorders	
	0.25		**2.5Hours** Polycythaemia	
Benign WBCs disorders	**1.5**	Clinical hematology unit		
	0.25		2.5 hours Leucopenias and leucocytosis	
	0.5		5 **Hours** Myelofibrosis	
	0.25		**2.5 hours** Primary and secondary immunodeficiency diseases	
	0.5		**5 Hours** Reactive lymphocyte disorders and lymphadenopathy	
Haematological Malignacies	**4**	Clinical hematology unit		
	0.5		**5 hours** Acute myeloid leukemias	
	0.5		**5 hours** Myelodysplastic Syndrome	
	0.5		**5 hours** Acute lymphoblastic	

			leukaemia	
	0.5		**5 hours** Chronic lymphocytic leukaemia	
	0.5		**5 hours** Myelopoiferaive disorders: Chronic meyloid leukaemia, Polycythemia Vera, myelofibrosis and ET	
	0.5		**5 hours** Hodgkin's disease and Non Hodgkins's lymphoma	
	0.5		**5 hours** Multiple Myeloma and Plasma cell disorders	
	0.5		**5 hours** Heavy chain disease and Waldenstrom Macroglobulinaemia and Hairy cell leukaemia	
	2.5 **CP**		Seminars 2 hours- once / week for at least 8 month ➢ Attendance of at least -80% of the clinical seminars for residence ➢ Attendance of at least 70% of the clinical seminars for the external ➢ Presentation of at least 1 time in the seminar	19.2%
	0.5 **CP**		Conference or workshop	3.8%
	0.75 **CP**		Formative assessment(MCQ-)	5.85%
Student signature			Principle coordinator Signature	Head of the department signature

Year 2 (46 credit point for training)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical hematology unit	46	Clinical hematology unit	Year 2	
	16		➢ Practice with clinical cases for at least 4 month in the department including interpretation of their different CBC and related laboratory investigation ➢ Log of hematological	34.8%
	16		➢ Night shift (From 2 pm to 8 am) 2 night shift /week for 16 week	34.8%
	2		➢ Attendance of at least 30% of clinical hematology rounds (2 hours/day for 30 week)	4.4%
	6		➢ Attendance of at least 12 weeks in the Outpatient clinic(3 hours/day)	13%
	3		➢ Clinical teaching 6 hours /week/ for 15 week	6.5%
	3		➢ Formative assessment (Mini clinical exam)	6.5%
Student signature			Principle coordinator Signature	Head of the department signature

Year 3

(11 credit point for didactic & 50 credit point for training)

1- 11 credit point for didactic (lectures, seminars, tutorial, conference)

Name of the course	Credit points	Responsible unit	Attendance	Percentage of Achieved points
45.8 % of Clinical haematology course	**11**	**Clinical hematology unit**	**Year 3**	100%
	7.75 CP	Clinical hematology unit	**Topics and attendance 77. 5 hour attendance**	70.55 %
Haemostatic Disorders & Thrombophilia	**3.5**		Year 3	
	0.5		**5 hours** Hemophilia, von Willebrand's disease and other hereditary coagulation disorders	
	0.5		**5 hours** Acquired coagulation disorders (DIC & liver dis.)	
	0.25		**2.5 hours** Thrombotic thrombocytopenic Purpura and HUS	
	0.25		**2.5 hours** Thrombocytopenias – acquired and hereditary	
	0.5		**5 hours** Qualitative platelet disorders and Hereditary vW disease	
	0.25		**2.5 hours** Vascular purpuras	
	0.5		**5 hours** Hereditary and acquired thrombophilias	
	0.5		5 **hours** Anticoagulation and its disorders	

	0.25		**2.5 hours** Thrombocytosis reactive and ET	
Blood Bank and transfusion Medicine	**1**	Clinical hematology unit and blood banks		
	0.25		**2.5 hours** - Indications and hazards of transfusion Medicine - Transfusion of red blood cells	
	0.25		**2.5 hours** Platelet transfusion and Apharesis	
	0.25		**2.5 hours** Fresh frozen plasma , Old plasma and Cryoprecipitate	
	0.25		**2.5 hours** Autologous blood transfusion and Intravenous immunoglobulin	
Bone Marrow Transplantation	**1**	Clinical hematology unit and clinical pathology department		
	0.25		**2.5 hours** Bone marrow harvesting Stem cell transplant conditioning protocols	
	0.25		**2.5 hours** Prepheral blood stem cell mobilization and harvesting Infusion of stem cell	
	0.25		**2.5 hours** Autologous bone marrow and blood stem cell transplantation Allogenic bone marrow and blood stem cell transplantation	
	0.25		**2.5 hours** Blood product support of stem cell transplantation Complications of stem cell transplantation	
Laboratory Hematology for Specialist	**2.25**	Clinical hematology units of clinical pathology and internal medicine department		
	0.25		**2.5 hours** Blood Films normal , benign and malignant	

	0.25		**2.5 hours** Bone Marrow Aspirate Bone Marrow Biopsy	
	0.25		**2.5 hours** Workup of Hemoglobinopathy Workup of Hemolytic Anemia Sickle Test	
	0.5		**5 hours** Hemoglobin Electrophoresis Manual and Automated Hemostasis Testing	
	0.5		**5 hours** Platelet Function Tests Workup of Hemophilia Workup of Thrombophilia	
	0.5		**5 hours** Flowcytometry introduction , basis , clinical application and interpretation in benign and malignant hematological disorders	
	2 **CP**		Seminars 2 hours- once / week for at least 7 month ➢ Attendance of at least -80% of the clinical seminars for residence ➢ Attendance of at least 70% of the clinical seminars for the external ➢ Presentation of at least 1 time in the seminar	18.2%
	0.5 **CP**		Conference or workshop	4.5%
	0.75 **CP**		Formative assessment(MCQ-)	6.75%
Student signature			Principle coordinator Signature	Head of the department signature

Year 3 (50 credit point for training)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical hematology unit	50	Clinical hematology unit	Year 3	
	16		➢ Practice with clinical cases for at least 8 month in the department including interpretation of their different CBC and related laboratory investigation ➢ Log of hematological CASES	34.8%
	16		➢ Night shift (From 2 pm to 8 am) 2 night shift /week for 16 week	34.8%
	1.5		➢ Attendance of at least 30% of clinical hematology rounds (6 hours/week for 23 week)	4.3%
	1.5		➢ Attendance of at least 30% of laboratory hematology rounds (6 hours/week for 23 week)	
	6		➢ Attendance of at least 12 weeks in the Outpatient clinic(3 hours/day)	12.9%
	6		➢ Clinical teaching 6 hours /week/ for 30 week	6.45%
	3		➢ Formative assessment	6.45%
Student signature			Principle	Head of the

			coordinator Signature	department signature

Internal Medicine subspecialties and emergency medicine		
Emergency medicine	**CV strokes**	**20**
	Metabolic Comas	**20**
	Shock 2ry to medical problem	**20**
	Metabolic Acidosis & electrolyte imbalance	**20**
	Acute abdomen	**20**
	Life-threatening infections	**20**
	Severe immune deficiency	**10**
	Acute Myocardial Infarction	**10**
	Meningitis and encephalitis	**10**
	Convulsions	**10**
Liver and GIT diseases	**Liver cirrhosis**	**20**
	HC failure	**20**
	Obstructive jaundice	**10**
	Ascites	**20**
	Upper GIT bleeding	**20**
	Lower GIT bleeding	**10**
	Severe GIT infections	**10**
	Infectious and inflammatory bowel diseases	**10**
Autoimmune diseases	**SLE**	**20**
	RA and mixed CT disease	**20**
	Polyarthritis & Rh. fever	**10**
	Polyarteritis and polymyalgia	**10**
	Gout	**10**
	Vasculitis	
Heart diseases	**Rheumatic heart diseases**	**20**
	Infective endocarditis	**10**
	Heart Failure (left and right side HF)	**20**
	Ischemic heart Diseases	**20**
	Hypertension and renovascular diseases	**20**
	Arrhythmias	**20**
	Cardiomyopathy	**10**
Pulmonary disease	**COPD & ILD**	**20**
	Respiratory failure & artificial ventillation	**20**
	Suppurative Lung Diseases	**20**
	Pleural and mediastinal diseases	**20**
	Malignant lung diseases	**10**
	Severe opportunistic lung infections	**.10**
Diabetes Mellitus & Endocrine diseases	**Control of hyperglycemia in DM**	**20**
	Diabetic Comas	**20**
	Management of chronic complication of DM	**20**
	Hyper and Hypothyroidism	**20**
	Adrenal disorders	**20**
	Disorders of calcium and bone	**10**
	Hypothalamic and Pituitary diseases	**10**

CLINICAL AND LABORATORY HAEMATOLOGY			
SPECIALITY	**DIAGNOSIS**	**NO. CASES**	**LEC. OR SEMINAR**
Haemopoiesis RBCs and WBCs	**Iron, Vitamin B12 and folic acid metabolism**	**-**	**1**
	RBC & Hb physiology	**-**	**1**
	WBC & platelet physiology	**-**	**1**
	Haemostasis system and its control	**-**	**1**
	Cellular and humoral immunity	**-**	**1**
	Cytogenetics and molecular basis of oncology	**.**	**1**
	Application of nuclear medicine in haematology	**.**	**1**
Red blood cell disorders	**Megaloblastic anaemia**	**20**	**1**
	Iron deficiency anaemia	**40**	**1**
	Inherited hemolytic anaemias	**40**	**1**
	Acquired hemolytic anaemias	**30**	**1**
	Acquired and constitutional aplastic anaemia	**30**	**1**
	Iron overload disorders	**10**	**2**
	Polycythaemia	**10**	**1**
Benign WBCs disorders	**Leucopenias and leucocytosis**	**20**	**1**
	Primary and secondary immunodeficiency diseases	**10**	**1**
	Reactive lymphocyte disorders and lymphadenopathy	**20**	**1**
	Myelofibrosis	**20**	**1**
Haematological Malignacies	**Acute myeloid leukemias**	**20**	**2**
	Myelodysplastic Syndrome	**30**	**2**
	Acute lymphoblastic leukaemia	**10**	**1**
	Chronic lymphocytic leukaemia	**10**	**1**
	<u>Myelopoiferaive disorders:</u> Chronic meyloid leukaemia, Polycythemia Vera, myelofibrosis and ET	**20**	**2**
	Hodgkin's disease and Non Hodgkins's lymphoma	**30**	**2**
	Multiple Myeloma and Plasma cell disorders	**10**	**1**
	Heavy chain disease and Waldenstrom Macroglobulinaemia	**5**	**1**
	Hairy cell leukaemia	**2**	
Haemostatic Disorders & Thrombophilia	**Hemophilia, von Willebrand's disease and other hereditary coagulation disorders**	**20**	**2**
	Acquired coagulation disorders (DIC & liver dis.)	**20**	**2**
	Thrombotic thrombocytopenic Purpura and HUS	**5**	**1**
	Thrombocytopenias – acquired and hereditary	**30**	**3**
	Qualitative platelet disorders and Hereditary vW disease	**20**	**1**
	Vascular purpuras	**5**	**1**
	Hereditary and acquired thrombophilias	**5**	**1**
	Anticoagulation and its disorders	**10**	**1**
	Thrombocytosis reactive and ET	**5**	**1**
Blood Bank and transfusion	**Indications and hazards of transfusion Medicine**	**10**	**1**
	Transfusion of red blood cells	**20**	
	Platelet transfusion	**20**	

Medicine and	**Apharesis**	**10**	**1**
	Fresh frozen plasma	**20**	
	Old plasma	**10**	
	Cryoprecipitate	**20**	
	Autologous blood transfusion	**5**	1
	Intravenous immunoglobulin	**5**	
Bone Marrow Transplantation	**Bone marrow harvesting**	**10**	
	Stem cell transplant conditioning protocols	**10**	
	Prepheral blood stem cell mobilization and harvesting	**10**	
	Infusion of stem cell	**10**	2
	Autologous bone marrow and blood stem cell transplantation	**10**	
	Allogenic bone marrow and blood stem cell transplantation	**10**	
	Blood product support of stem cell transplantation	**10**	
	Complications of stem cell transplantation	**10**	
Laboratory Hematology for Specialist	**REPORTING OF BLOOD FILMS AND MARROW ASPIRATES**		**1**
	Blood Films normal , benign and malignant	**40**	**3**
	Bone Marrow Aspirate	**20**	**3**
	Bone Marrow Biopsy	**10**	**1**
	HEMOGLOBINOPATHY LABORATORY:		**2**
	Workup of Hemoglobinopathy	**10**	
	Workup of Hemolytic Anemia	**10**	
	Sickledex Test	**10**	
	Hemoglobin Electrophoresis	**10**	
	High Performance Liquid Chromatography	**10**	
	HEMOSTASIS LABORATORY		**2**
	Manual and Automated Hemostasis Testing	**5**	
	Platelet Function Tests	**10**	
	Workup of Hemophilia	**10**	
	Workup of Thrombophilia	**10**	
	RESIDENTS OWN CHECK LIST OF ABNORMAL MORPHOLOGY	**5**	
	Flowcytometry introduction , basis , clinical application and interpretation in benign and malignant hematological disorders.	**20**	**3**

LOGBOOK Module

A-Clinical Rotation, Outpatient clinic, Case log and Night Shift

Clinical Rotation

Duration from -to	Location	Signature of supervisor		Duration from -to	Location	Signature of supervisor

Outpatient clinic

Date/ Duration from -to	Signature of supervisor		Date/ Duration from -to	Signature of supervisor

Clinical rounds log

Date	Attendance	Case presentation	Signature of supervisor

Clinical rounds log

Date	Attendance	Case presentation	Signature of supervisor

Clinical rounds log

Date	Attendance	Case presentation	Signature of supervisor

Night Shift

Date	Signature of supervisor		Date	Signature of supervisor

Night Shift

Date	Signature of supervisor		Date	Signature of supervisor

Night Shift

Date	Signature of supervisor		Date	Signature of supervisor

B- Clinical Seminars log

First: Attendance

Date	Attendance	Topic	Signature

B- Clinical Seminars log

First: Attendance

Date	Attendance	Topic	Signature

B- Clinical Seminars log book

First: Attendance

Date	Attendance	Topic	Signature

B- Clinical Seminars

Second: Case or topic presentation

Date	Topic	Case	Signature

Post graduate teaching
First: lectures

Date	Title of lecture	Signature of Staff member

Post graduate teaching
First: lectures

Date	Title of lecture	Signature of Staff member

Post graduate teaching
Second: Tutorial

Date	Title of Tutorial	Signature of Staff member

Post graduate teaching
Second: Tutorial

Date	Title of Tutorial	Signature of Staff member

Post graduate teaching
Third: Clinical Teaching

Date	Title of Clinical Teaching	Signature of Staff member

Post graduate teaching
Third: Clinical Teaching

Date	Title of Clinical Teaching	Signature of Staff member

Medical emergencies CV strokes

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ER : Emergency Room
W : Ward
OPD : Out-Patient Department

Module

Cases with Metabolic Comas

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Shock 2ry to medical problem

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Metabolic Acidosis & electrolyte imbalance

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Acute abdomen

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Life-threatening infections

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Acute Myocardial Infarction

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Severe immune deficiency

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Meningitis and encephalitis

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Convulsions

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Obstructive jaundice

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Lower GIT bleeding

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Infectious and Inflammatory Bowel Diseases

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Liver cirrhosis

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HC failure

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Ascites

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Upper GIT bleeding

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Acute abdomen

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Gastritis, ileitis, colonic disorders, malabsorption & inflammatory bowel diseases

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Vasculitis

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Autoimmune and CT diseases (SLE, RA, ,)

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Obstructive lung diseases

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Restrictive lung disorders &Idiopathic pulmonary fibrosis

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Pulmonary vascular disorders

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Pulmonary infections

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Diabetes mellitus and its complications

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Thyroid disorders

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Adrenal gland disorders

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hypo and hypervitaminosis

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Gout

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Infective endocarditis

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Rheumatic heart diseases

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Heart Failure (left and right side HF)

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Ischemic heart Diseases

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Hypertension and renovascular diseases

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Cardiomyopathy

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Suppurative Lung Diseases

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COPD

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Respiratory failure & artificial ventillation

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Pleural and mediastinal diseases

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Malignant lung diseases

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Severe opportunistic infections

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Control of hyperglycemia in DM

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Diabetic Comas

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Management of chronic complication of DM

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Hyper and Hypothyroidism

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Adrenal disorders

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Disorders of calcium and bone

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Hypothalamic and Pituitary diseases

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Haematology Module

Deficiency Anaemias

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Haemolytic Anaemias

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Refractory Anaemias & Anaemias of chronic diseases

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Leukocyte disorders & immune deficiency

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Purpura and bleeding disorders

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Congenital and acquired clotting disorders

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Acute leukaemias

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Chronic leukaemias & Myeloproliferative disorders

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Lymphadenopathy & lymphoma

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Haematology Modules in the 2nd & 3rd years

Deficiency Anaemias

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
1								
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Deficiency Anaemias

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
22								
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Haemolytic Anaemias

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
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No	date and name	Where did the patient seen			Comments			signature
		ER	W	OPD	Observe	Share	Do	
22								
22								
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Refractory Anaemias & Anaemias of chronic diseases

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
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20								

No	date and name	Where did the patient seen			Comments			signature
		ER	W	OPD	Observe	Share	Do	
22								
22								
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36								
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Leukocyte disorders & immune deficiency

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
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20								

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
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Purpura and bleeding disorders

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
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No	date and name	Where did the patient seen			Comments			signature
		ER	W	OPD	Observe	Share	Do	
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Congenital and acquired clotting disorders

No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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Acute leukaemias

No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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Chronic leukaemias & Myeloproliferative disorders

No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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Lymphadenopathy & lymphoma

No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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CONSULTATIONS

No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
Anemia, Thalassemia Service And Genetic Counseling								
1								
2								
3								
4								
Bleeding Abnormal Coagulation before or after Surgery								
1								
2								
3								
4								
5								
6								
Thrombosis								
1								
2								
3								
4								
5								
6								
Acute hemolysis								
1								
2								
3								
4								
5								
6								

Optional Haematology Modules

Transfusion Therapy and Blood Bank

No	date and name	Where did the patient seen			Comments			Signature
					Observe	Share	Do	
		ER	W	OPD				
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Extra cases from different diseases

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
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Extra cases from different diseases

No	date and name	Where did the patient seen			Comments			signature
					Observe	Share	Do	
		ER	W	OPD				
1								
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Bone Marrow Transplantation
Allogenic or Autologous BMT

No	date and name	Which centre For BMT	Comments			signature
			Observe	Share	Do	
1						
2						
3						
4						
5						
6						
7						
8						
9						

Interpretation of investigation log Book

PROCEDURE	NO. CASES
Chest x ray (Interpret)	50
ECG (Interpret)	50
Abdominal U/S (Interpret)	20
CT scan (chest & Abdomen) (Interpret)	40
Peripheral Blood smear (Interpret)	150
Bone Marrow biopsy (Interpret)	100
Flowcytometry (Interpret)	20
Plasma protein & Hb electrophoresis	40
Bacteriological, biochemical, immunological and cytological analysis of body fluids	100
HLA matching (Interpret)	10

The trainee should do or share in at least 50% of the number of required cases.

Procedure log Book

PROCEDURE	NO. CASES
Use of Blood cell separator (different protocols)	20
Abdominal paracentesis (insertion)	10
Thoracic paracentesis (insertion)	10
Peripheral Blood smear (DO)	50
Bone Marrow aspirate and/or biopsy	20
Lumbar puncture	10
Insertion of femoral and/or Hickman Catheter and arterial blood sampling	20
Dealing with Immune Deficient patients	20

The trainee should do or share in at least 50% of the number of required cases.

	Comments			
	Exellent	Good	Fair	Bad
training course in communication skills				
Presentation of data at departmental meetings				
Presentation of data at scientific meetings				
Attendance at communication skills course				
Producing a report for both professional and non-professional audiences				
Dealing with visitors and extra laboratory enquiries				
Chairing a meeting				
Details of presentations may be appended here if wished.				
Writing medical reports for governmental and higher center referral patients				

COMMUNICATION SKILLS
Follow up patients

Date and name of Evaluation		Comments			
		Exellent	Good	Fair	Bad
1					
2					
3					
4					
5					
6					
7					
8					

Degrees in 3 months Examination

	Date and name of Examination	Comments			
		Exellent	Good	Fair	Bad
1					
2					
3					
4					
5					
6					
7					
8					
9					

Follow up MS thesis every 3 months

	Date and name of Evaluation	Comments			
		Exellent	Good	Fair	Bad
1					
2					
3					
4					
5					
6					
7					
8					

Seminars lectures or group discussion presented by the Trainee

Appendix 1TIME TABLE FOR 3 YEARS HAEMATOLOGY MASTER DEGREE CURRICUCUUM

BMS : basic medical sciences, BLS: basic laboratory sciences

CHM: clinical hematology modules& LHM: laboratory hematology module

Year		BMS	BLS	CHM	THESIS	LHM	Transfusion & BMT
1st	1	*					
	2	*					
	3	*					
	4	*					
	5	*					
	6	*	*				
	7	*	*	*			
	8	*	*	*			
	9	*	*	*			
	10	*	*	*			
	11	*	*	*			
	12	Exam	Exam	*			
2nd	1			*	*		
	2			*	*		
	3			*	*		
	4			*	*		
	5			*	*		
	6			*	*		
	7			*	*	*	
	8			*	*	*	
	9			*	*	*	
	10			*	*	*	
	11			*	*	*	
	12			*	*	*	
3rd	1			*			*
	2			*			*
	3			*			*
	4			*			*
	5			*			
	6			*			
	7			*			
	8			*			
	9			*			
	10			*			
	11			*			
	12			*			

Elective course 1

Requirements

- **Credit points:** 2 credit point.
  - Minimal rate of attendance 80% of lectures and 80% of training

Name of the elective course: ----------

Elective Course 1 Lectures

Date	Attendance	Topic	Signature

Elective Course 1 Practical skills

Date	Attendance	Topic	Signature

Declaration

Course Structure Mirror	Responsible (Module) Coordinator Name:	Signature	Date
First part			
Course 1			
Course 2			
Course 3			
Course 4			
Course 5			
Course 6			
Second part			
Clinical haematology			
- Elective Course (s) Certificate (s) Dates:			
- Master Degree Thesis Acceptance Date:			
- Fulfillment of required credit points prior to final examination			
- Master Degree Principle Coordinator:			
Date approved by Department Council:			

يعتمد ،
رئيس القسم