

السنة الثالثة – الفصل الأول

الجهاز اللمفاوي والدم

**Blood and Lymphoreticular Tissues**

**(4 credit hours)**

**(500371)**

<b>SUBJECT</b>	<b>Lectures</b>	<b>Practical</b>
Anatomy and Histology	6	4
Physiology	11	3
Biochemistry	9	
Pathology	10	3
Immunology	2	
Microbiology	2	
Pharmacology	2	
Community Medicine	2	
Clinical	4	
<b>TOTAL</b>	<b>48</b>	<b>10</b>

**Schedule for theory lectures:**

<b>No.</b>	<b>lecture title</b>	<b>Lecturer</b>	<b>date</b>
<b>I.</b>	<b>ANATOMY AND HISTOLOGY (6 hours)</b>		
1, 2	Blood (Plasma, RBCs, WBCs: Basophils, Neutrophils, Lymphocytes, Monocytes, Megakaryocytes, ...)	Dr H Ramadan	
3	Bone Marrow (Haemopoiesis: Erythropoiesis & granulo-monpoiesis)	Dr H Ramadan	
4-6	Lymphoid organs (lymph nodes, spleen, thymus, tonsils & gut associated lymph, lymph vessels,....)	Dr H Ramadan	
<b>II.</b>	<b>PHYSIOLOGY (11 hours)</b>		
	<b><u>Body Fluids:</u></b>		
7	Body fluid compartments Intracellular fluid composition Extracellular fluid composition Interstitial fluid composition	Dr S Khraisha	
8	Plasma, volume composition & function	Dr S Khraisha	
9	Lymph, origin, circulation & function	Dr S Khraisha	
10	Fluid movements across membranes	Dr S Khraisha	
	<b><u>Blood:</u></b>		
11	Composition of formed elements & volume	Dr S Khraisha	
12	Erythropoiesis, RBCs production & control	Dr S Khraisha	
13	RBCs count & function	Dr S Khraisha	
14	WBCs origin & count	Dr S Khraisha	
15	White blood cell types & function	Dr S Khraisha	
16	Platelets, origin, count & function	Dr S Khraisha	

17	Hemostasis, extrinsic & intrinsic pathways, fibrinolysis & kinin system	Dr S Khraisha
<b>III.</b>	<b>BIOCHEMISTRY (9 Hours)</b>	
18	Heme synthesis (structure, synthesis & control)	Dr N Karadsheh
19	The synthesis of globin (DNA to RNA to protein, gene structure, regulation of globin synthesis)	Dr N Karadsheh
20	Structure of Hb (embryonic chains of Hbs, Post-translation & modification of Hb, 3° & 4° structure)	Dr N Karadsheh
21	Abnormal Hb (altered solubility, altered O <sub>2</sub> affinity, Concepts of molecular disease, examples: fetal Hb, HbC, HbS & thalassemias)	Dr N Karadsheh
22	Degradation of Hb (heme to bilirubin, sources of bilirubin, excretion of bilirubin)	Dr N Karadsheh
23	Plasma proteins (structure and function)	Dr N Karadsheh
24	Iron metabolism	Dr N Karadsheh
25	Clotting and Coagulation Proteins	Dr N Karadsheh
26	Other metabolic Pathways in RBCs	Dr N Karadsheh
<b>IV.</b>	<b>IMMUNOLOGY (2 Hours)</b>	
27	Tumor Immunology	Dr H Abu Ragheb
28	Autoimmunity, in anemias & ITP	Dr H Abu Ragheb
<b>V.</b>	<b>MICROBIOLOGY (2 Hours)</b>	
29	Bacteremia & Septicemia	Dr A Shehabi
30	Viral Hemorrhagic Diseases	Dr A Mahafza
<b>VI.</b>	<b>PATHOLOGY (11 Hours)</b>	
<b>31-33</b>	<b>RBCs disorders:</b>	<b>Dr M Tarawneh</b>
	A. Hemolytic anemias: (Hereditary spherocytosis, Sickle cell anemia, Thalassemia, G6PD Deficiency, Paroxysmal nocturnal Hemoglobinuria, Immuno-hemolytic anemias, Hemolytic anemias from mechanical trauma)	
	B. Anemias of diminished erythropoiesis: (Iron deficiency, Anemia of chronic disease, Megaloblastic anemias, Folate deficiency, Vitamin B <sub>12</sub> deficiency, Pernicious Anemia, Aplastic anemia, Myelophthisic anemia, Laboratory diagnosis of anemias)	
34	Polycythemia	Dr M Tarawneh
35	Non-neoplastic disorders of WBCs (Leukopenia, Neutropenia / Agranulocytosis, reactive leukocytosis, reactive lymphadenitis, acute nonspecific lymphadenitis, Chronic nonspecific lymphadenitis)	Dr M Tarawneh
36	Leukemias & myeloproliferative diseases	Dr M Tarawneh

- (Acute lymphoblastic lymphoma , Acute myeloblastic leukemia, Biphenotypic leukemias, Myelodysplastic syndromes  
Chronic myeloid leukemia, Chronic lymphocytic Leukemia, Hairy cell leukemia, Etiology and pathogenesis of leukemias & lymphomas  
Myeloproliferative disorders, Polycythemia vera  
Myeloid metaplasia with myelofibrosis  
Plasma cell dyscrasias and related disorders  
Histiocytoses, Langerhan's cell histiocytosis)
- 37 Neoplastic proliferations of white cells  
Malignant lymphomas Dr M Tarawneh  
(Small lymphocytic lymphoma, Follicular lymphomas, Mantle cell lymphomas, Diffuse large cell lymphomas, Lymphoblastic lymphoma  
Small nucleated ( Burkitt's )
- 38 Miscellaneous: Dr M Tarawneh  
Non-Hodgkin's Lymphoma  
Hodgkin's Lymphomas
- 39 Bleeding disorders: Dr M Tarawneh  
Disseminated intravascular coagulation  
Thrombocytopenia  
(Idiopathic thrombocytopenic purpura, Thrombotic microangiopathies, Thrombocytopenic purpura & hemolytic-uremic syndrome)
- 40 Coagulation disorders Dr M Tarawneh  
(Von willebrand disease, Factor VIII deficiency hemophilia A classic hemophilia, Factor IX deficiency, Hemophilia B, Christmas Disease)
- 41 Disorders that affect the spleen & thymus Dr M Tarawneh  
(Splenomegaly, Disorders of the thymus Hyperplasia, Thymoma)
- VII. PHARMACOLOGY (2 Hours)**
- 42 Unwanted coagulation Dr M Gharaibeh  
(Oral anticoagulants, Injectable anticoagulants, Heparin, Antiplatelet agents)
- 43 Fibrinolysis (thrombolysis) Dr M Gharaibeh  
(Fibrinolytic agents, Antifibrinolytic & homeostatic agents, Therapeutic uses of anticoagulants, Antiplatelet agents & fibrinolytic agents)
- VIII. COMMUNITY MEDICINE (2 Hours)**
- 44 Etiology, Incidence and prevention of, iron deficiency anemia, sickle cell anemia & thalassemia
- 45 Etiology, Incidence and prevention of leukemias & lymphomas
- IX. CLINICAL ASPECTS (3 Hours)**

46	Clinical approaches to anemia & polycythemia	Dr A Abbadi
47	Clinical approaches to bleeding & thrombosis disorders	Dr A Abbadi
48	Clinical approaches to hematological malignancies	Dr A Abbadi

**Schedule for Practical Sissions:**

<b><u>No.</u></b>	<b><u>Practical</u></b>	<b><u>hrs</u></b>	<b><u>lab.</u></b>
<b>I.</b>	<b>ANATOMY AND HISTOLOGY (4 labs)</b>		
1	Blood Cells	2 hrs	Histology
2	Bone Marrow	2 hrs	Histology
3	Lymoid Tissue 1	2 hrs	Histology
4	Lymphoid Tissue 2	2 hrs	Histology
<b>II.</b>	<b>PHYSIOLOGY (3 labs)</b>		
5	Blood cell counts (RBC & WBC)	2 hrs	Physiology
6	Blood clotting (Coagulation & bleeding time)	2 hrs	Physiology
7	Hb measurment & Fragility test	2 hrs	Physiology
<b>V.</b>	<b>PATHOLOGY (3 labs)</b>		
8	Examples of anemia	2 hrs	Pathology
9	Examples of leukemia	2 hrs	Pathology
10	Examples of lymphoma	2 hrs	Pathology