



# Paramedical Program

Specialization	Medical Laboratories
Course Number	020807262
Course Title	Diagnostic hematology
Credit Hours	(3)
Theoretical Hours	(2)
Practical Hours	(3)



❖ تطبق هذه الخطة الدراسية اعتباراً من بداية العام الجامعي 2009/2008



### Brief Course Description:

This course deals with both normal conditions and the pathophysiology of various anemias as related to the laboratory involvement in diagnosis and treatment. It introduces the students to the laboratory tests used for differential diagnosis. Moreover, this course guides the students to apply information in detecting analytical discrepancies and insure valid results.

### Course Objectives:

Upon the completion of the course, the student should be able to:

1. Identify the production, components, and functions of the blood cells.
2. Recognize the production, structure and destruction of hemoglobin.
3. Identify normocytic normochromic anemias.
4. Identify microcytic hypochromic anemias.
5. Identify macrocytic anemias.
6. Identify other RBC diseases.
7. Discuss the role of laboratory in diagnosis of disorders involving erythrocytes and blood forming tissue.
8. Apply all lab tests used to diagnose RBC diseases.

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## Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1	ANEMIAS	<ol style="list-style-type: none"> <li>1. Iron deficiency anemia.</li> <li>2. Megaloblastic anemia.               <ol style="list-style-type: none"> <li>a-Pernicious anemia.</li> <li>b-B 12 deficiency.</li> <li>c-Folic acid deficiency.</li> </ol> </li> <li>3. Hemolytic anemia.               <ol style="list-style-type: none"> <li>a- Aquired Hemolytic anemia</li> <li>b- Herdetry Hemolytic anemia as:                   <ol style="list-style-type: none"> <li>thalassaemia; Sickle cell anemia</li> <li>- Hemoglobinopathies</li> <li>- Deficient enzymes activity in the erythrocyte</li> <li>- Spherocytosis and Elliptocytosis</li> </ol> </li> </ol> </li> <li>4. Hemolytic anemia               <ol style="list-style-type: none"> <li>- Auto immune hemolytic anemia and cold aglutinins</li> <li>- Hemolytic disease of new born(HDN)</li> </ol> </li> <li>5. A plastic anemia:</li> <li>6.Polycythaema</li> <li>7.Myelofibrosis</li> </ol>	



2	WHITE BLOOD CELLS	<ul style="list-style-type: none"> <li>- Classification of leukemia and causes</li> <li>- Chronic granalocytic leukemia, clinical Features, diagnosis and treatment.</li> <li>- Acute leukemias: classification, pathogenesis, diagnosis, treatment, Laboratory features for leukemia.</li> <li>- Lymphoma: clinical features, diagnosis, and treatment.</li> </ul>	
3	PLATELETS	<ol style="list-style-type: none"> <li>1.Haemorrhagic diseases.due to coagulated factors disorders.</li> <li>2.Diseases due to coagulated factors disorders. <ul style="list-style-type: none"> <li>• -Haemophilia disease.</li> <li>• -Von-Willbrand disease.</li> </ul> </li> <li>3.Aquired coagulated disorders. <ul style="list-style-type: none"> <li>- Disseminated intravascular coagulation.</li> <li>-Fibrinolysis.</li> <li>- Limiting of blood coagulation in vivo and vitro.</li> </ul> </li> </ol>	
4	Seminal fluid.	seminal fluid analysis and importance.	
5	PRACTICAL PARTT	<ol style="list-style-type: none"> <li>1. Bleeding time.(BT)</li> <li>2.Coagulation time (clotting)(CT)</li> <li>3. Prothrombin time.(PT)</li> <li>4. Activated partial thromboplastin time (APTT).</li> </ol>	



		<p>5. D- Dimer.</p> <p>6. Thrombin time.</p> <p>7. Practical study for clot formation.</p> <p>8. Fibrin split products.</p> <p>9. Seminal fluid analysis by: • Physical examination. • Microscopical examination.</p> <ul style="list-style-type: none"> <li>• Sperm morphology.</li> <li>• Sperm count.</li> <li>• Motility.</li> </ul> <p>10- Slides for different types of anemia &amp; leukemia.</p>	
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**Evaluation Strategies:**

Exams		Percentage	Date
Exams	First Exam	20%	--/--/----
	Second Exam	20%	--/--/----
	Practical Exam	10%	--/--/----
	Final Exam	35%Theory 15%Practical	--/--/----

**Teaching Methodology:**

- ❖ Lectures
- ❖ Slides and posters
- ❖ Practice inside labs

**Text Books & References:****Reference**

- 1- Winerob's clinical hematology, 13th ed, 2013, John p. Greer, Daniel A. Arber & Bertil glader.
- 2- William's hematology. Kenneth Kaushansky, Linda Burns, Michael A. Caligiuri. 2015.
- 3- clinical hematology : Theory & Procedures. 6th ed. 2017 . Mary Louise Tuegeon . Wolters Kluwer. LWWW.
- 4- Rodak's Hematology: principles & applications Keohane, larry smith Jeanine Walenga. 5th ed. 2015 Elsevier.



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