

Module (Course Syllabus) Catalogue 2020-2021

College/ Institute	<i>Erbil Medical Technical Institute</i>	
Department	Medical Laboratory techniques	
Module Name	Hematopathology	
Module Code	HEP303	
Degree	Technical Diploma <input type="checkbox"/>	Bachelor <input type="checkbox"/> High Diploma <input type="checkbox"/> Master <input checked="" type="checkbox"/> PhD <input type="checkbox"/>
Semester	Third Semester	
Qualification	Master's degree	
Scientific Title	Assistant lecturer	
ECTS (Credits)	5	
Module type	Prerequisite <input checked="" type="checkbox"/>	Core <input type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours	4	
Weekly hours (Theory)	(2) hr Class	(56) Total hrs Workload
Weekly hours (Practical)	(2) hr Class	(69) Total hrs Workload
Number of Weeks	15	
Lecturer (Theory)	12	
E-Mail & Mobile NO.	Dldar.ismael@epu.edu.iq (07503146146)	
Lecturer (Practical)		
E-Mail & Mobile NO.		
Websites	https://academicstaff.epu.edu.iq/faculty/dldar.ismael	

Course Book

Course Description	This course aims to provide a comprehensive theoretical knowledge of medical physiology including the physiology of cell, organ and tissue, disorder, diagnosis and/or treatment of disease and disorder of human organ system and advanced practical training in this diverse field.			
Course objectives	<p>Up on completion of the course the students will</p> <ol style="list-style-type: none"> 1. have advanced knowledge on systematic of medical physiology. 2. be able to understand structure, physiology, and principles and most body organ. 3. Have advanced skills on processing blood and physiological analysis and disease diagnosis. 			
Student's obligation	<p>The student attention in all theoretical and practical lectures in academic year.</p> <ol style="list-style-type: none"> 2- Completion of all tests. 3- Attendance in exams 4. Write or prepare reports. 			
Required Learning Materials	Hall, Data show, Hematology lab.			
Evaluation	Task	Weight (Marks)	Due Week	Relevant Learning Outcome
	Paper Review	1	1	
	Assignments	Homework	4	
		Class Activity	2	
		Report	1	
		Seminar	1	
		Essay		
		Project		
	Quiz	4		
	Lab.	12		
	Midterm Exam	9		
	Final Exam	10		

	Total			
Specific learning outcome:	<ul style="list-style-type: none"> • On successful completion of this program, graduates will be able to: • Identify, evaluate and apply major theoretical traditions in medical physiology studies. • Understand how the human body work. <i>Personal save.</i>			
Course References:	<ul style="list-style-type: none"> • Text book of Medical Physiology, 11th edition, C. Guyton, M.D. • Color Atlas of Hematology, Practical Microscopic and Clinical Diagnosis, Harald Theml, M.D. 			
Course topics (Theory)	Week	Learning Outcome		
History of the science of hematology and introduction and approach to hematology	1			
Haemopoiesis	2			
Composition of blood	3			
Normal erythrocytes and leukocytes	4			
Hemostasis and coagulation cascade	5			
Overview of Hematopathology	6			
White blood cell disorder: Leukopenia and leukocytosis	7			
Abnormalities of red blood cells: Microcytic, normocytic and macrocytic anemias	8			
Platelet: Thrombocytopenia and thrombocytosis	9			
Bleeding disorder	10			
Thrombosis	11			
Hemochromatosis	12			
Practical Topics	Week	Learning Outcome		
Safety and Guidelines for	1			
Laboratory Health Workers	2			

Microscope (Components and principles of function)	3	
Hematopoiesis	4	
Normal blood cells	5	
Abnormal blood cells	6	
Blood cells (continuation)	7	
Peripheral blood film:	8	
Staining methods	9	
Laboratory hematology automation	10	
	11	
	12	

Examination question samples:

Example questions

Q1/ Choose the one best answer, (A), (B), (C), (D) to each following sentences:

- The average person has approximately of blood per kilogram body weight.
(A) 50 ml/kg (B) 70 l/kg (C) 70 ml/kg (D) 5 ml/kg
- Thrombopoietin is growth factor that regulates the proliferation and differentiation of
:
(A) WBCs (B) RBCs (C) plasma cells (D) PLTs
- is a form of anemia that occurs when there is an absence of intrinsic factor
(A) IDA (B) Anemia of chronic disease (C) Folate deficiency anemia
Pernicious anemia

Q2/ Complete these sentences with a word in an appropriate form:

(Globin, heme, IDA, thalassemia trait, coagulation cascade, fibrinolysis, sideroblastic anemia)

- The mitochondria are the main sites of synthesis.
- In lab diagnosis of both MCV and MCH reduced, serum iron reduced, TIBC raised, serum transferrin receptor raised, serum ferritin reduced and bone marrow iron stores absent.
- In lab diagnosis of MCV, and MCH reduced very low, serum iron and TIBC are raised; transferrin receptor variable, serum ferritin normal, bone marrow iron stores is present.
- Is a complex process by which blood form clot. It is an important part of homeostasis.
- In the iron becomes abnormally deposited in RBC which makes them unable to transport oxygen properly.

Q3/ Match the sentences halves, adding an appropriate word:

A	B
Eosinophils	Bence Jones proteins
Neutrophils	Normocytic normochromic anemia
MCV 80-100fl and MCH \geq 27 pg	Day life between 6hrs-few days
MCV >95 fl	Macrocytic anemia
Multiple myeloma	Bilobed
	Immune defense against parasites and immune regulation

Q4/ Answer this question with put (True) or (false):

1. Site of hematopoiesis in fetus 2-7 months is liver and bone marrow.
2. The normal maturation series of erythropoiesis starts at basophilic norm oblast.
3. The HbF structure is consisted of $\alpha_2\beta_2$.
4. Hemophilia B is a recessive X-linked genetic disorder and abnormal bleeding may result from vascular disorder.
5. Lymphoma is a cancer of the blood that originate in the lymph gland

Q5/ A. Draw the typical structure of red blood cell membrane?

B. Main causes of anemia?

Extra notes:

Increasing students' activities by making seminars is highly recommended

External Evaluator